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SYSTEMATIQUE DE LA PHOTOIONISATION ET DE LA RECOMBINAISON RADIATIVE DANS LES SEQUENCES ISOELECTRONIQUES DU POTASSIUM, DU RUBIDIUM, DU CUIVRE ET DE L'ARGENT.

SOUTENUE LE 15 Janvier 1988 DEVANT LA COMMISSION D'EXAMEN

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TITLE : SYSTEMATIC TRENDS OF PHOTOIONISATION AND RADIATIVE RECOMBINATION FOR THE POTASSIUM, RUBIDIUM, COPPER AND SILVER ISOELECTRONIC SEQUENCES

ABSTRACT :

In the framework of a non-relativistic single electron model, photoionisation cross sections from ground and excited $n\ell$ states have been computed for the K, Rb, Cu and Ag isoelectronic sequences, by the use of a parametric central potential.

The evolution of the non-hydrogenic behaviour of photoionisation cross sections near threshold is studied along Rydberg series and along the isoelectronic sequences, and emphasis is put on the occurrence of minima and maxima in the photoionisation cross section curves. Systematic trends along an isoelectronic sequence and in addition along the sequence of neutral alkali atoms Li through Cs, and the comparison of the behaviour along the different K, Rb, Cu and Ag isoelectornic sequences are analysed in terms of the quantum defect theory.

Through the principle of the detailed balance radiative recombination rate coefficients have been obtained along the isoelectronic sequences, rather for relatively low temperatures. Markedly and peculiar non-hydrogenic features are outlined and the systematics of recombination along the isoelectronic sequences are analysed.

Comparisons for both photoionisation and recombination results are made with mainly those of the hydrogenic model, and with other available theoretical or experimental results.

TABLE DES MATIERES

Tables donnant les défauts quantiques, les éléments de matrice dipolaires et les sections efficaces de photoionisation, partielles et totales, pour les divers éléments des séquences isoélectroniques de K, Rb, Cu et Ag.

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INTRODUCTION

Les processus de photoionisation à partir des états fondamentaux ou excités des atomes et des ions ainsi que les processus inverses de recombinaison radiative jouent un grand rôle dans les transferts radiatifs intervenant dans les plasmas de laboratoire, d'astrophysique et de fusion thermonucléaire contrôlée. L'interprétation des spectres de recombinaison, l'étude de l'équilibre entre l'ionisation et la recombinaison, les diagnostics de plasmas par émission et l'évaluation des pertes par rayonnement dûes à des impuretés nécessitent la détermination des sections efficaces de photoionisation et de capture et des coefficients de recombinaison radiative.

Les progrès dans la technologie des lasers et dans les techniques des jets atomiques ont conduit récemment à un développement considérable des expériences mettant en jeu des atomes excités. En particulier l'utilisation de lasers à colorant permet de préparer sélectivement les atomes dans des niveaux excités. Parmi ces nouvelles expériences, certaines ont pour but l'étude de la photoionisation à partir des états excités et d'autres sont destinées à comprendre des mécanismes plus compliqués, comme par exemple ceux d'ionisation collisionnelle d'atomes très excités. Les expériences du premier type permettent de mesurer des sections efficaces de photoionisation. La plupart de ces expériences ont été réalisées dans les alcalins (**Duong** et al. 1978, **Kollath** 1980, **Smith** et al. 1980). Les valeurs de sections efficaces ainsi obtenues sont très peu nombreuses, les expériences n'étant souvent réalisées que pour quelques longueurs d'onde bien définies. Notons aussi le développement récent de mesures de sections efficaces de photoionisation obtenues par utilisation simultanée d'un rayonnement synchrotron et d'une excitation laser (**Koch** 1982, **Wuilleumier** 1982). La seconde classe d'expériences mettant en jeu des processus d'ionisation à partir d'états atomiques excités ne donnent en général pas un accès direct aux sections efficaces de photoionisation. Par contre l'interprétation des expériences nécessite la connaissance préalable de ces grandeurs atomiques radiatives. Citons par exemple les expériences d'ionisation collisionnelle d'atomes de rubidium excités (**Cheret** et al. 1982a,b).

En ce qui concerne la photoionisation des états excités des ions, les résultats expérimentaux sont très rares à cause des difficultés expérimentales encore non surmontées. De même les résultats expérimentaux relatifs à la recombinaison radiative sur des états excités sont peu nombreux ; ils se rapportent pour la plupart à des plasmas d'alcalins (**Agnew** and **Summers** 1965, **Rothe** 1969, 1971).

Parallèlement à l'essor des méthodes expérimentales, il y a un regain d'intérêt considérable pour les études théoriques de photoionisation des états excités et de recombinaison radiative des atomes et des ions. Et ceci pour répondre à la demande des expérimentateurs mais aussi, d'un point de vue plus fondamental, pour mieux comprendre les phénomènes physiques mis en jeu. En effet si les caractéristiques générales de la photoionisation des atomes et des ions dans leur état fondamemntal sont bien connues grâce à de nombreuses études expérimentales et théoriques (**Manson** 1977, **Starace** 1982) il n'en est pas de même pour la photoionisation à partir de niveaux atomiques excités. Lorsque nous avons abordé ce travail, les seules études globales visant à analyser la systématique de la photoionisation à partir de niveaux excités étaient celles réalisées au laboratoire dans les alcalins légers Li, Na et K (**Aymar** et al. 1976, **Aymar** 1978). Ces études ainsi que celles plus ponctuelles réalisées dans Cs par **Msezane** and **Manson** (1975) ont mis en évidence des caractères non hydrogénoïdes nouveaux par rapport à ceux apparaissant pour la photoionisation des états fondamentaux d'atomes ou ions : apparition de plusieurs minima dans les sections efficaces partielles correspondant aux transitions $n\ell \rightarrow \varepsilon(\ell+1)$ et apparition d'un minimum dans certaines sections efficaces associées aux transitions $n\ell \rightarrow \varepsilon(\ell-1)$. De nombreuses questions se posaient alors. Les caractéristiques nouvelles mises en évidence pour la photoionisation de certains états excités des alcalins étaient-elles générales et les retrouvait-on pour la photoionisation des états excités des ions ? Dans ce domaine, il n'existait aucune étude globale de systématique. Pouvait-on prévoir l'existence et le nombre de minima apparaissant dans les courbes de sections efficaces ? Enfin quelles étaient les conséquences de ces caractères non hydrogénoïdes sur les coefficients de recombinaison radiative sur des états excités ? Concernant ce processus inverse de celui de photoionisation aucune étude globale de systématique n'avait été réalisée.

Notre but est d'étendre et de généraliser les études théoriques antérieures en considérant un grand nombre de systèmes simples, atomes ou ions à un électron de valence.

Notre étude porte sur la photoionisation, au voisinage du seuil, des états excités de nombreux éléments des séquences isoélectroniques de K et Rb et des séquences isoélectroniques de leurs éléments homologues Cu et Ag. Notre travail concerne aussi l'étude de la recombinaison radiative dans ces mêmes éléments. Rappelons que les alcalins K et Rb ont pour état fondamental m_0s ($m_0 = 4$ pour K et $m_0 = 5$ pour Rb). Les éléments de transition Cu et Ag ont pour état fondamental $(m_0-1)d^{10}m_0s$ ($m_0 = 4$ pour Cu et $m_0 = 5$ pour Ag) et sont donc tout à fait semblables aux alcalins puisque notre étude ne porte que sur la photoionisation de l'électron de valence. Les études réalisées pour les atomes neutres ont été étendues à de nombreux ions de leurs séquences isoélectroniques ; un grand nombre de ces ions apparaissent dans les plasmas de laboratoire, d'astrophysique ou dans ceux de fusion thermonucléaire contrôlée (**Hinnov** 1976, **Shull** and **Steenberg** 1982).

Nous avons calculé les sections efficaces de photoionisation au voisinage des seuils d'ionisation où les caractères non hydrogénoïdes apparaissent le plus marqués. Nous nous sommes placés dans le cadre d'un modèle à potentiel central, à l'approximation dipolaire non relativiste, en utilisant la méthode du potentiel central paramétrique. Ce modèle convient bien aux systèmes à un électron de valence et sa simplicité permet des études intensives de systématique.

Les coefficients de recombinaison radiative sont déduits des sections efficaces de photoionisation calculées uniquement au voisinage des seuils par le principe de microréversibilité. Ils sont en conséquence évalués à des températures relativement peu élevées.

Le but de ces calculs très extensifs est de dégager les caractères non hydrogénoïdes spécifiques à la photoionisation des états excités et à la recombinaison radiative sur des états excités. Notre objectif est aussi d'étudier de manière systématique l'évolution des caractères non hydrogénoïdes le long d'une série de Rydberg d'un élément donné et le long des diverses séquences isoélectroniques et de comparer le comportement le long des diverses séries et séquences étudiées. Ces études de systématique ont pu être menées à bien en analysant les caractères non hydrogénoïdes apparaissant dans les sections efficaces partielles de photoionisation par une méthode nouvelle basée sur la théorie du défaut quantique.

Dans le chapitre I nous rappelons des généralités sur la photoionisation atomique et la recombinaison radiative. Puis nous décrivons les divers modèles théoriques permettant de calculer les grandeurs atomiques caractéristiques de ces processus. Nous donnons aussi les résultats des études antérieures obtenus à l'aide de ces modèles en insistant sur la systématique des caractères non hydrogénoïdes pour les systèmes à un électron de valence.

Les modèles théoriques de calcul des grandeurs atomiques que nous avons utilisés et celui permettant l'analyse de la systématique des caractères non hydrogénoïdes sont présentés dans le chapitre II. Dans ce même chapitre, nous présentons et discutons l'ensemble de nos résultats. Ce chapitre a pour but de synthétiser les résultats déjà publiés dans quatre articles présentés en annexes. Des tables donnant les valeurs des défauts quantiques, des éléments de matrice dipolaires et des sections efficaces de photoionisation pour les éléments étudiés sont regroupés en appendice dans un fascicule séparé.

CHAPITRE I

RAPPELS THEORIQUES CONCERNANT LA PHOTOIONISATION ATOMIQUE ET LA RECOMBINAISON RADIATIVE

Dans le cadre de ce travail nous étudions la systématique de la photoionisation des états excités et de la recombinaison radiative à l'intérieur des séquences isoélectroniques des alcalins K et Rb, et des séquences isoélectroniques de leurs éléments homologues Cu et Ag. Les sections efficaces de photoionisation sont calculées au voisinage des seuils d'ionisation, et l'énergie des photoélectrons n'excède pas 20 Rydbergs. Les énergies de photons incidents mises en jeu couvrent un domaine spectral relativement large en raison de la diversité des degrés d'ionisation et des seuils d'ionisation, mais elles restent inférieures à 100 Rydbergs.

Les coefficients de recombinaison radiative sont déduits des sections efficaces de photoionisation calculées uniquement au voisinage des seuils. Ces coefficients sont en conséquence évalués à des températures relativement peu élevées, n'excédant pas 8×10^4 K.

Dans le chapitre I, nous rappelons des généralités sur la théorie de la photoionisation aux basses énergies et à l'approximation dipolaire non relativiste et sur la théorie de la recombinaison radiative, puis des généralités sur les divers modèles théoriques utilisés pour le calcul des grandeurs caractéristiques de ces deux processus physiques. Nous les complétons en donnant quelques résultats, obtenus antérieurement à l'aide de ces divers modèles, pour la photoionisation et la recombinaison radiative d'atomes et d'ions, et plus particulièrement de systèmes à un seul électron de valence. Les rappels relatifs à la photoionisation et à la recombinaison radiative sont regroupés respectivement dans les parties A et B de ce chapitre. Ces rappels vont permettre de bien situer notre étude et de mieux cerner les objectifs que nous nous assignons dans ce travail.

A. PHOTOIONISATION DES ATOMES ET DES IONS

Nous rappelons dans la section I de cette partie A les définitions et la signification physique des grandeurs fondamentales qui caractérisent la photoionisation. Nous donnons ainsi l'expression générale de la section efficace de photoionisation et les formes particulières auxquelles elle se ramène moyennant quelques approximations. Les modèles théoriques atomiques utilisés pour le calcul des sections efficaces de photoionisation et leur importance relative sont décrits dans les sections II et III. Nous présentons enfin dans la section IV les résultats généraux obtenus antérieurement sur la photoionisation des états fondamentaux et excités d'atomes et d'ions, surtout des alcalins et de leurs séquences isoélectroniques et d'autres systèmes électroniques qui leur sont homologues. Nous insistons plus particulièrement sur la systématique des caractères non hydrogénoïdes de la photoionisation.

I. DEFINITIONS - FORMULES GENERALES

Considérons l'interaction d'un rayonnement incident monochromatique avec une cible atomique. Lorsqu'un faisceau de photons d'énergie $h\nu$ d'un tel rayonnement traverse la cible, son intensité I_0 subit un affaiblissement qui est dû à diverses interactions élémentaires entre les atomes ou ions de la cible et les photons : diffusion élastique et inélastique, création de paires, effet photoélectrique, etc... Après avoir traversé l'épaisseur x de cible, l'intensité du faisceau passe de I_o à I selon la relation (**Ditchburn** and **Öpik** 1962, **Samson** 1982)

$$I = I_o \exp(-\tau x) \qquad (I.1)$$

où τ est le coefficient d'absorption linéaire de la cible. Pour atteindre à partir de là les grandeurs caractéristiques à l'échelle atomique, il faut avoir une connaissance précise de la cible atomique et savoir quels processus élémentaires sont en jeu.

1) Grandeurs caractéristiques de la photoionisation

Pour des énergies de photons inférieures à 10 keV, ce qui est largement le cas de notre étude, le processus prédominant est l'effet photoélectrique ou photoionisation (**Pratt** et al. 1973). Sous l'action des photons, les atomes ou ions de la cible perdent un ou plusieurs électrons qui passent des états liés dans le continuum. Dans le cas où un seul électron est éjecté après absorption d'un photon, le processus de photoionisation est le suivant :

$$X_i^{(z-1)+} + h\nu \rightarrow \left(X_j^{z+} + e^-\right)_f \quad . \qquad (I.2)$$

L'atome ou ion $X^{(z-1)+}$ de charge (z-1)e initialement dans l'état i passe à l'état final f composé de l'ion X^{z+} de charge ze dans l'état j et de l'électron éjecté. Pour que le processus se produise il faut que l'énergie $h\nu$ soit égale ou supérieure à l'énergie seuil ou potentiel d'ionisation I_i. L'électron est éjecté avec l'énergie cinétique ε telle que :

$$\varepsilon = h\nu - I_i \quad . \qquad (I.3)$$

Nous considérons dans la suite que le phénomène global observé en photoionisation est dû à l'effet purement additif des phénomènes élémentaires du type (I.2), et que chaque photon incident ne rencontre dans son parcours qu'un seul atome ou ion à l'état libre.

De la mesure du coefficient d'absorption linéaire du matériau de la cible à l'aide de l'expression (I.1) on déduit la section efficace de photoionisation que nous définissons maintenant.

Considérons une cible homogène de section de surface S, d'épaisseur dx soumise par unité de temps à un rayonnement monochromatique formé d'un flux homogène de N_p photons par unité de surface. Soient $\tau_{i\to f}$ la probabilité pour qu'un photon soit absorbé par parcours unité, N_i le nombre d'atomes ou d'ions par unité de volume de cible dans leur état initial, et $w_{i\to f}$ la probabilité par unité de temps pour qu'un atome ou ion soit ionisé. Le nombre dN_p de photons absorbés par unité de temps est :

$$dN_p = N_p S \tau_{i\to f} dx \tag{I.4}$$

en considérant l'affaiblissement du flux de photons. Ce même nombre dN_p est obtenu aussi en considérant les atomes ou ions de la cible qui sont ionisés

$$dN_p = N_i S \; w_{i\to f} \, dx \quad . \tag{I.5}$$

Des deux expressions (I.4) et (I.5) on déduit $N_p \tau_{i\to f} = N_i w_{i\to f}$ et les deux définitions équivalentes de la section efficace de photoionisation $\sigma_{i\to f}$:

$$\sigma_{i\to f} = \frac{\tau_{i\to f}}{N_i} = \frac{w_{i\to f}}{N_p} \quad . \tag{I.6}$$

La première définition indique très clairement la signification physique de la section efficace. Elle a les dimensions d'une surface et représente la probabilité d'absorption, rapportée à un parcours unité, de chaque photon incident dans le cas où le milieu cible ne lui offrirait qu'un atome ou ion par unité de volume. La section efficace est d'ordinaire exprimée en cm², en barns (1 b = 10^{-24} cm²) ou mégabarns (1 Mb = 10^{-18} cm²).

Il est rare que les photons ne provoquent qu'un seul processus élémentaire (I.2) pour une cible non polarisée ; il y a donc lieu de sommer sur les états initiaux et finals possibles pour obtenir la section efficace

$$\sigma = \sum_{i,f} \sigma_{i\to f} \quad . \tag{I.7}$$

C'est cette grandeur qui est directement reliée au coefficient linéaire d'absorption $\tau = \sum_{i,f} \tau_{i\to f}$ défini par la relation (I.1)

$$\sigma = \frac{\tau}{N_i} = \frac{A}{N_a}\frac{\tau}{\rho} \tag{I.8}$$

où A est la masse atomique de l'absorbant et ρ sa masse volumique, et N_a le nombre d'Avogradro. Les mesures expérimentales du coefficient d'absorption ne peuvent donc conduire à des valeurs absolues de la section efficace que si la cible est connue parfaitement, c'est-à-dire principalement pour les gaz (**Marr** 1967).

La deuxième définition de la section efficace donnée par la relation (I.6) en rapport avec la probabilité par unité de temps $w_{i\to f}$ permet d'établir l'expression générale de la section efficace, à partir de laquelle les calculs théoriques peuvent être effectués.

2) Expression de la section efficace de photoionisation

L'établissement détaillé de cette expression est exposé dans de nombreux ouvrages (**Heitler** 1954, **Bethe** and **Salpeter** 1957, **Sobel'man** 1972) ou articles de revue (**Stewart** 1967, **Burke** 1976, **Starace** 1982), et nous n'en donnons ici que les grandes lignes.

2.1) Formule générale

La probabilité par unité de temps $w_{i\to f}$ est la probabilité pour que $X^{(z-1)+}$ passe de l'état initial discret i à l'état final f du continuum composé de X^{z+} dans l'état discret j et d'un électron éjecté, suite à l'absorption d'un photon suivant le schéma (I.2). Les principes de base de l'électrodynamique quantique permettent d'obtenir l'expression de la probabilité de transition par unité de temps $w_{i\to f}$.

Le système électronique $X^{(z-1)+}$ et le champ électromagnétique des photons sont couplés par l'intermédiaire du Hamiltonien d'interaction H_{int}. En considérant l'action de H_{int} comme faible la probabilité de transition par unité de temps est obtenue au premier ordre de la théorie des perturbations dépendantes du temps à l'aide de la règle d'or de Fermi (**Messiah** 1962, **Cohen-Tannoudji** et al. 1973)

$$w_{i\to f} = \frac{2\pi}{\hbar}|\langle\psi_f|H_{int}|\psi_i\rangle\rho_{E_f} \quad . \qquad \text{(I.9)}$$

Dans la relation (I.9), les vecteurs d'états initial $|\psi_i\rangle$ et final $|\psi_f\rangle$ sont les états propres de l'équation de Schrödinger de $X^{(z-1)+}$

$$H|\psi\rangle = E|\psi\rangle \qquad \text{(I.10)}$$

avec les énergies E_i et E_f telles que la relation

$$E_f - E_i = h\nu \qquad \text{(I.11)}$$

exprime la conservation de l'énergie. L'état initial $|\psi_i\rangle$ est normalisé à l'unité et l'état final $|\psi_f\rangle$ est normalisé par unité d'énergie suivant (**Bethe** and **Salpeter** 1957) :

$$\langle\psi_f|\psi_{f'}\rangle = \pi\delta(E_f - E_{f'}). \qquad \text{(I.12)}$$

La densité d'états correspondant à l'énergie E_f de l'état final ρ_{E_f} (équation I.9) s'identifie avec la densité des états dans le continuum. La relation de normalisation (I.12) donne $\rho_{E_f} = \frac{1}{\pi}$.

A l'approximation non relativiste qui convient bien aux basses énergies des électrons et en négligeant les effets de spin, le Hamiltonien H (équation I.10) du système électronique $X^{(z-1)+}$ de numéro atomique Z et de nombre d'électrons N a pour expression (**Heitler** 1954, **Sobel'man** 1972)

$$H = \sum_{j=1}^{N} \left(\frac{\vec{p}_j^{\,2}}{2m} - \frac{Ze^2}{r_j}\right) + \sum_{j>k=1}^{N} \frac{e^2}{r_{jk}} \quad . \qquad \text{(I.13)}$$

Dans la relation (I.13), e est la charge élémentaire de l'électron, m sa masse, $\vec{p}_j$ l'impulsion de l'électron j, $r_j = |\vec{r}_j|$ le module de son rayon vecteur $\vec{r}_j$ rapporté au noyau considéré comme immobile, et $r_{jk} = |\vec{r}_j - \vec{r}_k|$.

En considérant qu'un seul photon de vecteur d'onde $\vec{k}$, de polarisation $\vec{\varepsilon}$ et d'énergie $h\nu$ est absorbé, on a pour H_{int} (équation I.9) dans l'approximation non relativiste :

$$H_{int} = \sum_{j=1}^{N} \frac{e}{mc}\vec{p}_j.\vec{A}_j \qquad \text{(I.14)}$$

où c est la vitesse de la lumière et $\vec{A}_j$ le potentiel vecteur du champ électromagnétique agissant sur l'électron j. En développant $\vec{A}_j$ en ondes planes polarisées (**Messiah** 1962, **Sobel'man** 1972) et en utilisant les relations (I.6), (I.7), (I.9) et (I.14) on trouve l'expression générale de la section efficace de photoionisation :

$$\sigma(h\nu) = \frac{2e^2}{m^2c\nu} \sum_{i,f} |\langle\psi_f| \sum_{j=1}^{N} \vec{\varepsilon}.\vec{p}_j \exp(i\vec{k}.\vec{r}_j)|\psi_i\rangle|^2 \quad . \qquad \text{(I.15)}$$

Cette formule générale dépend explicitement de la direction $\vec{k}$ des photons incidents, mais se simplifie dans le cas d'approximations particulières.

2.2) L'approximation dipolaire

Lorsqu'il s'agit de photons de faibles énergies, on utilise l'approximation dipolaire ou "approximation des grandes longueurs d'onde" (**Bethe** and **Salpeter** 1957). Elle correspond au cas où les dimensions atomiques sont petites par rapport à la longueur d'onde du rayonnement monochromatique incident, et s'exprime par la condition $\vec{k}.\vec{r}_j << 1$ ($j = 1, \ldots, N$). Toutes les exponentielles de la formule (I.15) sont alors assimilables à l'unité et la section efficace de photoionisation s'écrit :

$$\sigma = \sigma_V(h\nu) = \frac{2e^2\hbar^2}{m^2c\nu}\sum_{i,f}|\langle\psi_f|\vec{\varepsilon}.\sum_{j=1}^{N}\vec{\nabla}_j|\psi_i\rangle|^2 \qquad (I.16)$$

et ne dépend plus de la direction $\vec{k}$ des photons incidents. La formule (I.16) est dite formule "vitesse du dipôle" de la section efficace puisqu'elle fait intervenir l'opérateur $\vec{p} = \sum_{j=1}^{N}\vec{p}_j = -i\hbar\sum_{j=1}^{N}\vec{\nabla}_j$ qui est proportionnel à l'opérateur somme des vecteurs vitesses des électrons. On peut utiliser une autre expression, dite formule "longueur du dipôle" en tenant compte des propriétés de commutation du Hamiltonien H (équation I.13). Pour un opérateur A ne dépendant pas explicitement du temps t, la dérivée totale par rapport à t est telle que (**Sobel'man** 1972) :

$$i\hbar\frac{dA}{dt} = [A,H] \quad . \qquad (I.17)$$

Pour l'opérateur $\vec{r} = \sum_{j=1}^{N}\vec{r}_j$, on obtient :

$$\frac{i\hbar}{m}\sum_{j=1}^{N}\vec{p}_j = \left[\sum_{j=1}^{N}\vec{r}_j,\ H\right] \qquad (I.18)$$

et puis, d'après l'équation (I.10)

$$\langle\psi_f|\vec{\varepsilon}.\sum_{j=1}^{N}\vec{p}_j|\psi_i\rangle = -\frac{im}{\hbar}(E_i - E_f)\langle\psi_f|\vec{\varepsilon}.\sum_{j=1}^{N}\vec{r}_j|\psi_i\rangle . \qquad (I.19)$$

En utilisant la relation (I.11) la formule "longueur du dipôle" de la section efficace de photoionisation s'écrit :

$$\sigma = \sigma_L(h\nu) = \frac{8\pi^2\nu e^2}{c}\sum_{i,f}|\langle\psi_f|\vec{\varepsilon}.\sum_{j=1}^{N}\vec{r}_j|\psi_i\rangle|^2 . \qquad (I.20)$$

Il est à noter que la formule "accélération du dipôle" de la section efficace peut être aussi obtenue à l'aide des propriétés de commutation de H (**Stewart** 1967, **Manson** 1976), mais elle est beaucoup moins utilisée que les deux autres formules "vitesse" et "longueur" du dipôle.

Des expressions (I.16) et (I.20) on déduit pour une cible non polarisée l'expression générale de la section efficace de photoionisation, en moyennant sur tous les états initiaux de même énergie E_i et en sommant sur tous les états finals de même énergie E_f (**Burgess** and **Seaton** 1960, **Stewart** 1967) :

$$\sigma(h\nu) = \frac{4}{3}\pi\alpha a_o^2(h\nu)\frac{1}{g_i}S_{fi} . \qquad (I.21)$$

En considérant la relation (I.21) on a en particulier pour $\sigma_L(h\nu)$:

$$S_{fi}^{L} = \sum_{i,f}|\langle\psi_f|\sum_{j=1}^{N}\vec{r}_j|\psi_i\rangle|^2 \qquad (I.22)$$

et pour $\sigma_V(h\nu)$:

$$S_{fi}^{V} = \frac{4}{(h\nu)^2}\sum_{i,f}|\langle\psi_f|\sum_{j=1}^{N}\vec{\nabla}_j|\psi_i\rangle|^2 . \qquad (I.23)$$

Dans l'équation (I.21), α est la constante de structure fine, a_0 le rayon de Bohr, $h\nu$ l'énergie du photon incident exprimée en Rydbergs, g_i la dégénérescence du niveau d'énergie initial. La grandeur S_{fi} est exprimée en unités atomiques (**Bethe** and **Salpeter** 1957). Le facteur 1/3 dans (I.21) provient de la sommation sur la polarisation $\vec{\varepsilon}$ du photon incident.

La détermination de la section efficace de photoionisation suppose la connaissance des états $|\psi_i\rangle$ et $|\psi_f\rangle$ de l'élément $X^{(z-1)+}$ de numéro atomique Z et de nombre d'électrons N. Pour un système à plus d'un électron, le Hamiltonien H (équation I.13) n'est pas séparable en variables monoélectroniques à cause des termes biélectroniques $\frac{e^2}{r_{jk}}$. Il n'y a pas alors de solutions exactes $|\psi_i\rangle$ et $|\psi_f\rangle$ à l'équation de Schrödinger (I.10). Il y a lieu de recourir à des solutions approchées, moyennant certaines hypothèses typiques des différents modèles atomiques théoriques utilisés. La relation (I.19) n'est en général plus vérifiée et les formules "longueur" et "vitesse" du dipôle de la section efficace donnent des résultats différents. Selon la formule retenue différentes régions de l'espace de configuration ont une importance relative plus grande que d'autres dans les calculs. Ainsi la formule "longueur" du dipôle est plus appropriée aux rayons moyens, et la formule "vitesse" du dipôle plutôt aux rayons petits. Les différences de résultats entre ces deux formules mesurent le degré d'approximation des solutions approchées dans tout l'espace de configuration.

2.3.) Forces d'oscillateur et autres grandeurs caractéristiques

La section efficace de photoionisation est liée à d'autres grandeurs fondamentales.

La densité de forces d'oscillateur $\frac{df(h\nu)}{d(h\nu)}$ qu'on définit dans le spectre du continuum (**Bethe** and **Salpeter** 1957, **Starace** 1982) lui est directement proportionnelle :

$$\frac{df(h\nu)}{d(h\nu)} = (4\pi^2\alpha a_0^2)^{-1}\sigma(h\nu). \qquad (I.24)$$

Cette notion de densité de forces d'oscillateur complète la notion habituelle de forces d'oscillateur des transitions dans le spectre discret (**Bethe** and **Salpeter** 1957, **Stewart** 1976). La distribution des forces d'oscillateur dans tout le spectre, discret et continu, est importante (**Fano** and **Cooper** 1968) du fait des règles de somme très utiles auxquelles elles obéissent (**Shore** and **Menzel** 1968).

La section efficace de photoionisation est directement reliée à la distribution angulaire des photoélectrons émis, qui est si importante en spectroscopie d'électrons (**Cooper** and **Zare** 1968, **Manson** 1976, **Starace** 1982). De fait, si on considère l'état final $|\psi_f\rangle$ comme étant constitué d'un ion et d'un électron émis dans une direction bien définie la même expression (I.16) ou (I.20) désigne aussi la section efficace différentielle de photoionisation $\frac{d\sigma}{d\Omega}$, $d\Omega$ étant l'élément d'angle solide d'éjection du photoélectron. La section efficace différentielle $\frac{d\sigma}{d\Omega}$ permet d'obtenir la distribution angulaire des photoélectrons (**Cooper** 1976), et la section efficace de photoionisation σ s'en déduit par intégration sur tous les angles d'éjection (**Sobel'man** 1972, **Burke** 1976). A l'approximation dipolaire, on obtient pour une polarisation linéaire des photons incidents et un élément cible non polarisé, la relation générale (**Cooper** and **Zare** 1968) :

$$\frac{d\sigma}{d\Omega}(h\nu) = \frac{\sigma(h\nu)}{4\pi}\Big[1 + \beta(h\nu)P_2(\cos\Theta)\Big] \quad . \qquad (I.25)$$

Dans la relation (I.25), $\beta(h\nu)$ est le paramètre d'asymmétrie, $P_2(\cos\Theta)$ le polynôme de Legendre d'ordre 2, et Θ l'angle entre le vecteur polarisation $\vec{\varepsilon}$ des photons et le vecteur d'onde $\vec{k}_e$ du photoélectron émis.

Signalons enfin que la section efficace de photoionisation est reliée à la section efficace de recombinaison radiative par le principe de microréversibilité (**Massey** 1969), la recombinaison radiative étant le processus inverse du processus de photoionisation, ainsi que nous le verrons dans la partie B de ce chapitre.

Nous avons rappelé dans cette section I les définitions et formules générales des grandeurs caractéristiques du processus de photoionisation. La détermination de la section efficace de photoionisation pour l'élément $X^{(z-1)+}$ ayant plus d'un électron n'est possible qu'avec les solutions approchées de l'équation de Schrödinger. Nous présentons dans la suite les différents modèles atomiques théoriques utilisés dans les calculs de photoionisation, en précisant leur domaine de validité, leurs limites et les résultats qu'ils ont permis d'obtenir. Ces différents modèles se répartissent en deux grandes catégories : le modèle à particules indépendantes et les modèles au-delà du modèle à particules indépendantes.

II. MODELE A PARTICULES INDEPENDANTES

Les méthodes théoriques les plus simples utilisent le modèle à particules indépendantes (**Fano** and **Cooper** 1968). Nous rappelons des généralités sur ce modèle, l'expression particulière de la section efficace de photoionisation et les différents types de modèle à particules indépendantes utilisés dans les calculs de photoionisation.

1) Généralités sur le modèle à particules indépendantes

1.1) Hypothèses de base

La principale hypothèse de base est que chaque électron du système électronique $X^{(z-1)+}$ se meut sur une orbitale bien définie, à laquelle correspond une fonction d'onde monoélectronique φ appelée spin-orbitale. La spin-orbitale a la forme pour un électron lié

$$\varphi_{n\ell m_\ell m_s}(\vec{x}) \equiv \langle \vec{x} | n\ell m_\ell m_s \rangle = \frac{P_{n\ell}(r)}{r} Y_{\ell m}(\Theta,\varphi)\delta(\sigma,m_s) \qquad (I.26)$$

et pour l'électron libre éjecté :

$$\varphi_{\varepsilon\ell' m_{\ell'} m_{s'}}(\vec{x}) \equiv \langle \vec{x} | \varepsilon\ell' m_{\ell'} m_{s'} \rangle = \frac{P_{\varepsilon\ell'}(r)}{r} Y_{\ell' m_{\ell'}}(\Theta,\varphi)\delta(\sigma,m_{s'}) \qquad (I.27)$$

où $\vec{x} = (\vec{r},\sigma)$ représente les variables d'espace et de spin. Les coordonnées sphériques d'un électron sont (r,Θ,φ), $\ell(\ell')$ et $m_\ell(m_{\ell'})$ les moments angulaires orbital et magnétique, $Y_{\ell m}(\Theta,\varphi)$ et $Y_{\ell' m_{\ell'}}(\Theta,\varphi)$ les harmoniques sphériques normalisées, $\delta(\sigma,m_s)$ et $\delta(\sigma,m_{s'})$ les fonctions de spin normalisées ; n est le nombre quantique principal d'un électron lié de fonction d'onde radiale $P_{n\ell}(r)$ et ε l'énergie cinétique de l'électron libre de fonction d'onde radiale $P_{\varepsilon\ell'}(r)$.

L'attribution d'une orbitale bien précise à chaque électron conduit à considérer que dans le processus de photoionisation de $X^{(z-1)+}$ (I.2), le $N^{ième}$ électron passe d'une orbitale discrète à une orbitale du continuum tandis que la répartition des (N-1) électrons du coeur qui ne participent pas à la photoionisation reste inchangée. La détermination des fonctions d'onde radiales $P_{n\ell}(r)$ et $P_{\varepsilon\ell'}(r)$ dépend du type de modèle à particules indépendantes choisi. Leur obtention à l'aide par exemple d'un potentiel central V(r) sera discutée plus loin (§ 2). Auparavant, nous donnons l'expression de la section efficace en considérant d'abord le cas le plus simple du modèle à un électron, puis le cas plus général.

1.2) Expression de la section efficace dans le modèle à un électron

Le modèle à un électron est caractérisé par l'emploi d'un Hamiltonien monoélectronique $\dot{h}$ en lieu et place du Hamiltonien H de $X^{(z-1)+}$ (équation I.13). Au cours du processus de photoionisation (I.2), l'électron passe d'un état initial discret

$$\langle\vec{r}|\psi_i\rangle \equiv \langle\vec{r}|n\ell m_\ell\rangle = \frac{P_{n\ell}(r)}{r}Y_{\ell m_\ell}(\Theta,\varphi) \text{ d'énergie } E_i \equiv \varepsilon_{n\ell} < 0 \text{ à}$$

un état final du continuum

$$\langle\vec{r}|\psi_f\rangle \equiv \langle\vec{r}|\varepsilon\ell' m_{\ell'}\rangle = \frac{P_{\varepsilon\ell'}(r)}{r}Y_{\ell' m_{\ell'}}(\Theta,\varphi) \text{ d'énergie } \varepsilon > 0$$

telle que (équation I.11) :

$$E_f \equiv \varepsilon = h\nu + \varepsilon_{n\ell}. \qquad \text{(I.28)}$$

L'expression longueur du dipôle de la section efficade photoionisation (équations I.21, I.22 et I.28) s'écrit :

$$\sigma_{n\ell}(\varepsilon) = \frac{4}{3}\pi\alpha a_o^2(\varepsilon-\varepsilon_{n\ell})\frac{1}{2\ell+1}\sum_{m_\ell=-\ell}^{+\ell}\sum_{\ell'}\sum_{m_{\ell'}=-\ell'}^{+\ell'}|\langle\varepsilon\ell' m_{\ell'}|\vec{r}|n\ell m_\ell\rangle|^2 .$$

En passant aux composantes sphériques (**Shore** and **Menzel** 1968) de $\vec{r} = \sum_{q=-1}^{+1}(-1)^q rC_q^{(1)}\vec{e}_{-q}$ et en utilisant le théorème de Wigner-Eckart (**Sobel'man** 1972)

$$\sigma_{n\ell}(\varepsilon) = \frac{4}{3}\pi\alpha a_o^2(\varepsilon-\varepsilon_{n\ell})\frac{1}{2\ell+1}\sum_{\ell'}|\langle\varepsilon\ell'\| rC^{(1)}\| n\ell\rangle|^2, \text{ ou encore}$$

$$\sigma_{n\ell}(\varepsilon) = \frac{4}{3}\pi\alpha a_0^2(\varepsilon-\varepsilon_{n\ell})\frac{1}{2\ell+1}\sum_{\ell'} R^2_{n\ell,\ell'}(\varepsilon)|\langle\ell'\,\|\,C^{(1)}\,\|\,\ell\rangle|^2 \quad .$$

L'élément de matrice réduit $\langle\ell'\,\|\,C^{(1)}\,\|\,\ell\rangle$ conduit aux règles de sélection des transitions dipolaires électriques bien connues

$$\ell' = \ell \pm 1 \quad . \tag{I.29}$$

En remplaçant les éléments de matrice réduits par leurs valeurs on trouve :

$$\sigma_{n\ell}(\varepsilon) = 0.855\times10^{-18}(\varepsilon-\varepsilon_{n\ell})\left(\frac{\ell}{2\ell+1}R^2_{n\ell,\ell-1}(\varepsilon)+\frac{\ell+1}{2\ell+1}R^2_{n\ell,\ell+1}(\varepsilon)\right) \quad (\text{cm}^2) \tag{I.30}$$

$$\text{où} \qquad R_{n\ell,\ell'}(\varepsilon) = \int_0^\infty P_{n\ell}(r)rP_{\varepsilon\ell'}(r)dr \tag{I.31}$$

est l'élément de matrice de transition dipolaire en unités atomiques. Les fonctions d'onde radiales $P_{n\ell}(r)$ et $P_{\varepsilon\ell'}(r)$ sont normalisées respectivement à l'unité et par intervalle d'énergie en Rydbergs (équation I.12) :

$$\int_0^\infty P_{\varepsilon\ell'}(r)P_{\varepsilon'\ell'}(r)dr = \pi\delta(\varepsilon-\varepsilon'). \tag{I.32}$$

Le facteur numérique dans l'équation (I.30) dépend du choix de la normalisation (I.32), qui implique que la fonction radiale du continuum a pour forme asymptotique

$$P_{\varepsilon\ell'}(r) \underset{r\to\infty}{\rightarrow} \varepsilon^{-1/4}\sin\left(\Theta(r) + \delta_{\ell'}(\varepsilon)\right) \quad . \tag{I.33}$$

Les grandeurs $\Theta(r)$ et $\delta_{\ell'}(\varepsilon)$ seront définies ultérieurement, dans la section 2.1.2.

La section efficace totale de photoionisation $\sigma_{n\ell}(\varepsilon)$ est la somme des sections efficaces partielles de photoionisation $\sigma_{n\ell,\ell-1}(\varepsilon)$ et $\sigma_{n\ell,\ell+1}(\varepsilon)$ correspondant aux deux continua $(\ell-1)$ et $(\ell+1)$ du photoélectron pour $\ell \neq 0$, et se réduit à la seule $\sigma_{n\ell,\,\ell+1}(\varepsilon)$ pour $\ell = 0$.

1.3) Expression générale de la section efficace

Pour un système $X^{(z-1)+}$ avec un nombre N élevé d'électrons, les solutions approchées $|\psi_i\rangle$ et $|\psi_f\rangle$ de H (équation I.13) caractérisant les états initial et final du processus de photoionisation (I.2) sont dans un modèle à particules indépendantes des déterminants de Slater (**Slater** 1960) ou des combinaisons linéaires de ces déterminants, construits à partir des N spin-orbitales monoélectroniques. Dans l'hypothèse des particules indépendantes où une orbitale bien précise est attribuée à chaque électron, l'interaction de configurations est négligée. En ce qui concerne la photoionisation il suffit de ne considérer que les transitions dans lesquelles le $N^{ième}$ électron dit électron actif est éjecté d'une des sous-couches $(n\ell)$ vers le continuum $(\varepsilon\ell')$, passant d'une orbitale discrète à une orbitale libre. Dans le même temps, la distribution des (N-1) autres électrons dits électrons passifs entre les différentes sous-couches reste inchangée. Donc l'approximation $|\psi_i\rangle$ ne comporte que des orbitales discrètes et celle $|\psi_f\rangle$ en comporte une seule de libre.

La section efficace de photoionisation de la sous-couche $(n\ell)$ de potentiel d'ionisation $I_{n\ell}$ peut s'écrire sous la forme très générale (**Bates** 1946, **Burgess** and **Seaton** 1960) :

$$\sigma_{n\ell}(\varepsilon) = \frac{4}{3}\pi\alpha a_0^2(\varepsilon+I_{n\ell})\,\mathcal{C}_p \sum_{\ell'=\ell\pm 1} C_{\ell'} R^2_{n\ell,\ell'}(\varepsilon) \quad . \qquad \text{(I.34)}$$

Dans l'équation (I.34), $h\nu = \varepsilon + I_{n\ell}$ d'après l'équation (I.3). Les deux continua du photoélectron sont $\ell' = \ell \pm 1$ comme dans le cas simple du modèle à un électron (I.29). Les coefficients $C_{\ell'}$ sont purement angulaires et dépendent des états initial et final. La distribution des électrons passifs reste inchangée dans l'hypothèse des particules indépendantes, mais leurs fonctions d'onde peuvent être différentes dans les états initial et final. Le coefficient

$$C_p = \prod_{t=1}^{N-1} \left| \int_0^\infty P^i_{(n\ell)_t}(r) P^f_{(n\ell)_t}(r) dr \right|^2 \qquad (I.35)$$

est lié à cette distorsion, et sa différence par rapport à l'unité évalue l'importance de la relaxation du coeur du système électronique formé des (N-1) électrons passifs.

Les éléments de matrice de transitions dipolaires $R_{n\ell,\ell'}(\varepsilon)$ sont calculés à partir des fonctions d'onde liée $P_{n\ell}(r)$ et libre $P_{\varepsilon\ell'}(r)$ de l'électron actif ; ces fonctions peuvent éventuellement dépendre des termes spectroscopiques caractérisant les états initial $|\psi_i\rangle$ et final $|\psi_f\rangle$.

2) Différents modèles à particules indépendantes, non relativistes

Le calcul de la section efficace de photoionisation (I.30 et I.34) se ramène donc à celui des coefficients angulaires, et des fonctions d'onde radiales $P_{n\ell}(r)$ et $P_{\varepsilon\ell'}(r)$. Les coefficients angulaires sont facilement calculables en utilisant l'algèbre de Racah (**Armstrong** 1959). La détermination de $P_{n\ell}(r)$ et $P_{\varepsilon\ell'}(r)$ dépend du type de modèle à particules indépendantes considéré. Nous mentionnons les types de modèles non relativistes les plus couramment utilisés dans les calculs de photoionisation.

2.1) Modèles à champ central

Dans l'approximation du champ central (**Slater** 1929, 1960) le Hamiltonien approché H_o du système $X^{(z-1)+}$ s'écrit en unités atomiques (les énergies sont exprimées en Rydbergs)

$$H_o = \sum_{j=1}^{N} \left[-\Delta_j + V(r_j) \right] \qquad (I.36)$$

où $V(r_j)$ est le potentiel central moyen exercé sur chaque électron j par le noyau et les autres électrons. Les orbitales monoélectroniques introduites par les équations (I.26) et (I.27) sont fonctions propres du hamiltonien monoélectronique

$$h_j = -\Delta_j + V(r_j) \qquad (I.37)$$

où $V(r_j)$ est défini pour tout r, et est choisi de manière à être une bonne approximation des effets du coeur (noyau, (N-1) électrons) sur l'électron actif. Le modèle à champ central est un modèle à un électron. Le potentiel central V(r) est caractérisé par les conditions aux limites :

$$V(r) \underset{r \to 0}{\to} -\frac{2Z}{r}, \quad V(r) \underset{r \to \infty}{\to} -\frac{2z}{r} \qquad (I.38)$$

où Z est la charge nucléaire de $X^{(z-1)+}$,
et $z = Z-N+1$ est la charge résiduelle de l'ion final X^{+z} après ionisation.

2.1.1) Modèle hydrogénoïde

Le modèle à champ central le plus simple est le modèle hydrogénoïde pour lequel chaque électron du système électronique de numéro atomique Z est soumis au champ central coulombien du noyau

$$V(r) = -\frac{2Z}{r} \qquad (I.39)$$

quelque soit r. C'est le seul modèle qui soit soluble exactement (**Bethe** and **Salpeter** 1957). Nous rappelons son domaine d'utilisation, le comportement hydrogénoïde bien connu (**Hall** 1936, **Fano** and **Cooper** 1968) et les formules d'approximation pour la section efficace de photoionisation (**Sobel'man** 1972).

a) Comportement hydrogénoïde et lois d'échelle

Pour le système hydrogénoïde on obtient des expressions analytiques pour les éléments de matrice de transition $R_{n\ell,\ell'}(\varepsilon)$ (équation I.31) et la section efficace $\sigma_{n\ell}(\varepsilon)$ (équation I.30) (**Gordon** 1929, **Menzel** and **Pekeris** 1935, **Burgess** 1964). La section efficace $\sigma^{z}_{n\ell}(\varepsilon)$ d'un ion hydrogénoïde de charge $z \equiv Z$ est reliée à la section efficace de l'hydrogène H par la relation :

$$\sigma^{z}(\varepsilon) = \sigma^{H}(\varepsilon/z^{2})/z^{2} \quad . \tag{I.40}$$

Nous rappelons quelques points importants du comportement hydrogénoïde. Les éléments de matrice de transition $R^{z}_{n\ell,\ell'}(\varepsilon)$ sont toujours des fonctions monotones, positives et décroissantes de ε. Les sections efficaces partielles $\sigma^{z}_{n\ell,\ell'}(\varepsilon)$ et totale $\sigma^{z}_{n\ell}(\varepsilon)$ ont alors un maximum au seuil de photoionisation $\varepsilon = 0$, d'où elles décroissent de façon monotone et tendent vers zéro quand ε croît. Pour $\ell \neq 0$, la contribution de $\sigma^{z}_{n\ell,\ell+1}(\varepsilon)$ est toujours dominante et le rapport $\sigma^{z}_{n\ell,\ell-1}(\varepsilon)/\sigma^{z}_{n\ell,\ell+1}(\varepsilon)$ est toujours inférieur à 1 et croît avec n. Pour une série de Rydberg $n\ell$ donnée, les valeurs des sections efficaces au seuil $\sigma^{z}_{n\ell,\ell'}(0)$ et $\sigma^{z}_{n\ell}(0)$ croissent avec n. Pour un n donné, $\sigma^{z}_{n\ell}(0)$ croît avec ℓ jusqu'à atteindre un maximum puis décroît. Pour $\ell \leq 3$, la section efficace $\sigma^{z}_{n\ell}(\varepsilon)$ décroît avec ε d'autant plus rapidement que n est grand.

b) Validité et limites

Le modèle hydrogénoïde constitue une bonne approximation pour la photoionisation d'électrons de couches assez internes de systèmes électroniques complexes, et correspondant au domaine spectral des rayons X durs (**Hall** 1936). Ces électrons internes sont en effet soumis à un potentiel moyen coulombien du fait que les effets d'écran sur le noyau sont faibles, et donc que l'interaction coulombienne du noyau devient prépondérante.

Le modèle hydrogénoïde constitue aussi un cas limite pour les atomes très ionisés à l'intérieur des séquences isoélectroniques lorsque le degré d'ionisation augmente. En effet d'après l'équation (I.13), l'interaction coulombienne du noyau devient de plus en plus prépondérante sur l'interaction répulsive des électrons lorsque la charge Z augmente, le nombre d'électrons N restant constant.

Le modèle hydrogénoïde n'est cependant guère approprié au voisinage du premier seuil de photoionisation des atomes peu ionisés et pour de faibles énergies de photons incidents, correspondant plutôt aux rayons X mous et à l'ultraviolet lointain (**Fano** and **Cooper** 1968). En effet des caractères non hydrogénoïdes marqués apparaissent alors ; tels par exemple les minima et maxima des courbes de sections efficaces de photoionisation mis en évidence expérimentalement (**Ederer** 1964, **Marr** and **Creek** 1968), dont l'existence ne peut être prévue par le modèle hydrogénoïde. De fait les électrons des couches peu profondes et externes se meuvent dans un potentiel moyen sensiblement non coulombien. Il y a lieu dans ces conditions d'utiliser un modèle plus réaliste et plus élaboré que le modèle hydrogénoïde, pour rendre compte et prévoir le comportement non hydrogénoïde des sections efficaces de photoionisation. Ceci fera l'objet des sections qui suivent.

Auparavant, nous considérons les formules d'approximation déduites du modèle hydrogénoïde qui nous serviront dans la suite (section B.II). Le modèle hydrogénoïde constitue une bonne approximation pour la photoionisation et la recombinaison radiative des états très excités de systèmes à plusieurs électrons, en particulier de systèmes à un seul électron de valence. Pour ces processus il y a souvent besoin de calculer un grand nombre de sections efficaces de photoionisation. Les expressions analytiques de $\sigma^z_{n\ell}(\varepsilon)$ deviennent de plus en plus compliquées et difficiles à calculer directement lorsque n croît (**Burgess** 1964). On peut alors utiliser des expressions approchées plus simples.

c) Modèle de Kramers et approximation de Kramers-Gaunt

La section efficace de photoionisation à partir de la couche n définie par

$$\sigma^z_n(\varepsilon) = \frac{1}{n^2}\sum_{\ell}(2\ell+1)\sigma^z_{n\ell}(\varepsilon)$$

est approximée dans le modèle de Kramers par l'expression semi-classique (**Kramers** 1923, **Sobel'man** 1972) :

$$\sigma^{Kr}_n(z,\varepsilon) = \frac{64\pi\alpha a_o^2}{3\sqrt{3}}\,\frac{z^4}{n^5}\,\frac{1}{(\varepsilon-\varepsilon_n)^2} \quad . \qquad (I.41)$$

Cette expression donne des résultats corrects près du seuil $\varepsilon = 0$ quelque soit n, mais n'est pas satisfaisante dès qu'on s'éloigne du seuil. Une importante amélioration est obtenue à l'aide du facteur $g_n(z,\varepsilon)$ de Kramers-Gaunt (**Gaunt** 1930, **Sobel'man** 1972) défini par

$$\sigma^z_n(\varepsilon) = g_n(z,\varepsilon)\sigma^{Kr}_n(z,\varepsilon) \qquad (I.42)$$

dont le développement asymptotique est bien connu (**Menzel** and **Pekeris** 1935, **Burgess** 1958, **Seaton** 1959). Les diverses corrections apportées au modèle de Kramers qui correspond lui-même à $g_n(z,\varepsilon) = 1$ améliorent le comportement au-delà du seuil de la section efficace de photoionisation.

2.1.2) Méthode du défaut quantique

La méthode du défaut quantique (**Seaton** 1955, 1958) a permis à **Burgess** et **Seaton** (1960) de généraliser la méthode de calcul des probabilités de transitions discrètes de **Bates** et **Damgaard** (1949) ou approximation de Coulomb, en l'étendant aux calculs de sections efficaces de photoionisation. De fait, la contribution la plus importante à l'élément de matrice de transition $R_{n\ell,\ell'}(\varepsilon)$ (équation I.31) provient presque entièrement de régions où les valeurs de la variable radiale r sont grandes, et où l'électron se meut principalement dans le champ asymptotique coulombien du coeur (équation I.38). Dans la méthode du défaut quantique, l'électron actif est donc soumis au potentiel central V(r) tel que

$$\text{pour } r > r_o,\ V(r) = -\frac{2z}{r} \quad . \tag{I.43}$$

Les fonctions d'onde radiales de cet électron dans la transition $n\ell \rightarrow \varepsilon\ell'$ sont déterminées uniquement pour $r > r_o$. La fonction $P_{n\ell}(r)$ s'exprime à partir des fonctions régulières et irrégulières de Coulomb et du défaut quantique $\mu_{n\ell}$ relié à l'énergie monoélectronique $\varepsilon_{n\ell}$ par :

$$\varepsilon_{n\ell} = -\frac{z^2}{(n-\mu_{n\ell})^2} \quad . \tag{I.44}$$

La fonction $P_{\varepsilon\ell'}(r)$ a pour forme asymptotique (I.33) où

$$\Theta(r) = \varepsilon^{1/2}r-\frac{\ell'\pi}{2}+\frac{z}{\varepsilon^{1/2}}\ln(2\varepsilon^{1/2}r)+\arg\Gamma\left(\ell'+1-\frac{iz}{\varepsilon^{1/2}}\right)$$

représente la phase asymptotique d'une fonction radiale du continuum pour un électron soumis partout au seul potentiel coulombien $V(r) = -\frac{2z}{r}$ (équation I.39). Pour un électron soumis à un potentiel V(r) tel que $V(r) = -\frac{2z}{r}$ uniquement lorsqu'il est loin du coeur (équations I.38 et I.43), il s'introduit un déphasage supplémentaire $\delta_{\ell'}(\varepsilon)$ dû à la partie non coulombienne du potentiel aux faibles valeurs de r.

Dans la méthode du défaut quantique le déphasage $\delta_{\ell'}(\varepsilon)$ peut être obtenu par extrapolation dans le continuum des défauts quantiques de la série $n\ell'$

$$\delta_{\ell'}(\varepsilon) = \pi\mu_{\ell'}(\varepsilon). \tag{I.45}$$

Cette extrapolation n'a de sens que si $\exp(-2\pi z/\sqrt{\varepsilon}) << 1$. Le défaut quantique $\mu_{n\ell}$ et le déphasage $\delta_{\ell'}(\varepsilon)$ mesurent l'écart par rapport au modèle hydrogénoïde.

Burgess et **Seaton** (1960) ont établi une formule très générale pour le calcul des sections efficaces de photoionisation. Cette formule a été revue par **Peach** (1967), étendue à des états plus excités et à un domaine d'énergie ε plus grand. L'élément de matrice de transition $R_{n\ell,\ell'}(\varepsilon)$ est présenté sous la forme oscillatoire :

$$R_{n*\ell,\ell'}(\varepsilon') = \sqrt{\frac{2}{\pi}}\, \frac{n_*^{5/2}}{z^2}\left[1+\frac{2}{n_*^3}\, \left.\frac{\partial\mu_\ell(\varepsilon)}{\partial\varepsilon}\right|_{\varepsilon=\varepsilon_{n\ell}}\right]^{-1/2}(1+n_*^2\,\varepsilon')^{-2}\times$$

$$G(n_*\ell;\varepsilon'\ell')\cos\pi\left[n_*+\mu_{\ell'}(\varepsilon')+\chi(n_*\ell;\varepsilon'\ell')\right] \qquad \text{(I.46)}$$

où $n^* = n-\mu_{n\ell}$, $\varepsilon' = \varepsilon/z^2$ et $\mu_\ell(\varepsilon)$ est obtenu par extrapolation des défauts quantiques $\mu_{n\ell}$ de la série $n\ell$. Les fonctions G et χ sont tabulées par **Peach** (1967).

La méthode du défaut quantique a été largement utilisée pour la photoionisation à partir des états fondamentaux des atomes neutres et des ions (**Burgess** and **Seaton** 1960, **Peach** 1967), à partir des états excités surtout des alcalins (**Moskvin** 1963, **Norcross** and **Stone** 1966, **Devdariani** and **Klyucharev** 1977) et des gaz rares (**Harquist** 1981). Les résultats obtenus sont en assez bon accord avec ceux des autres méthodes théoriques, surtout si les éléments de matrice de transition (I.46) sont peu sensibles au comportement des fonctions d'onde aux petites valeurs de $r < r_o$, et s'ils ne s'annulent pas, aux grandes valeurs de $r > r_o$. Autrement il y a lieu de recourir à d'autres types de modèle introduisant un potentiel central défini pour tout r.

Nous nous servirons de la méthode du défaut quantique pour une analyse systématique de nos résultats de photoionisation dans le chapitre II.

2.1.3) Potentiels centraux paramétriques

Dans le cas du modèle à champ central les fonctions d'onde radiales dans les états initial et final, respectivement $P_{n\ell}(r)$ et $P_{\varepsilon\ell'}(r)$, sont solutions de l'équation de Schrödinger radiale :

$$\left[\frac{d^2}{dr^2}-\frac{\ell(\ell+1)}{r^2}-V(r)+E\right]P_{E\ell}(r) = 0 \quad (E = \varepsilon_{n\ell} \text{ ou } \varepsilon) \qquad (I.47)$$

dans l'hypothèse où l'électron dans l'état final est soumis au même potentiel central que l'électron dans l'état initial. Notons que l'utilisation de deux potentiels différents pour décrire le mouvement de l'électron lié et celui de l'électron libre permet de tenir compte parfois de certains effets de relaxation.

Les potentiels centraux paramétriques dépendent de paramètres. Ceux-ci sont souvent déterminés par comparaison de grandeurs calculées aux valeurs expérimentales ; en général il s'agit des énergies, et on parle alors de potentiels semi-empiriques. Les paramètres peuvent aussi être déterminés par minimisation de l'énergie de l'état fondamental de l'atome ou de l'ion considéré, et il s'agit alors de potentiels ab-initio. Nous ne citerons ici que quelques types de potentiels utilisés pour calculer les sections efficaces de photoionisation des états excités des alcalins.

a) Des calculs de sections efficaces de photoionisation à partir des états fondamentaux de Cs (**Norcross** 1973) et des états peu excités des alcalins Li-Cs (**Hofsaess** 1977) ont été effectués à l'aide du potentiel de Thomas-Fermi avec facteur d'échelle (**Stewart** and **Rotenberg** 1965) :

$$V(r) = \begin{cases} -\dfrac{2Z}{r}\left(\varphi(x)+\dfrac{z}{Z}\,\dfrac{x}{x_0}\right) & x \leq x_0 \\ -\dfrac{2z}{r} & x > x_0 \end{cases} \qquad (I.48)$$

où $x = r/\mu$, $\mu = 0.8853\ Z^{-1/3}$. La fonction $\varphi(x)$ est la fonction Thomas-Fermi de l'ion de rayon ionique x_o déduite de l'équation :

$$\frac{d^2\varphi(x)}{dx^2} = \varphi(x)^{3/2}x^{-1/2}$$

avec les conditions aux limites :

$$\varphi(0) = 1,\ \varphi(x_o) = 0 \text{ et } \left.\frac{d\varphi(x)}{dx}\right|_{x=x_o} = -\frac{z}{x_o Z} \quad .$$

Le potentiel de Thomas-Fermi (I.48) peut être modifié en introduisant le facteur d'échelle $\lambda_{n\ell}$, paramètre ajustable avec alors $x = \frac{r}{\mu\lambda_{n\ell}}$.

b) L'étude de la photoionisation à partir de l'état fondamental et à l'intérieur de la séquence isoélectronique de Li a été faite (**Tiwari** et al. 1975) à l'aide du potentiel analytique (**Green** et al. 1969) :

$$V(r) = -\frac{2}{r}\left[(Z-1)\Omega(r)+1\right] \qquad (I.49)$$

avec $\quad \Omega(r) = \left[H(e^{r/d}-1)+1\right]^{-1}$

où le paramètre de forme H et le paramètre facteur d'échelle d sont ajustables.

c) Le potentiel paramétrique de **Klapisch** (1971) a été employé par **Aymar** et al. (1976) dans la photoionisation le long de séries de Rydberg des alcalins légers Li, Na et K. C'est ce potentiel que nous utilisons dans notre étude et nous en rappellerons les caractéristiques dans le chapitre II.

2.1.4) Potentiels semi-empiriques avec effets de polarisation du coeur

Allant au-delà du simple modèle à particules indépendantes qui ne tient pas compte explicitement des corrélations entre les électrons du système électronique et considère le coeur comme statique, l'interaction entre l'électron de valence et les moments induits des électrons du coeur peut être prise en considération de manière effective. La théorie des perturbations stationnaires au premier ordre introduit un terme de potentiel de polarisation du coeur $V_{pol}(r)$ (**Weisheit** and **Dalgarno** 1971, **Caves** and **Dalgarno** 1972, **Weisheit** 1972a,b) comme correction qui s'ajoute au potentiel central $V_o(r)$ de l'ion coeur. La forme asymptotique de $V_{pol}(r)$ est :

$$V_{pol}(r) \underset{r\to\infty}{\simeq} -\frac{\alpha_d}{2r^4} - \frac{\alpha_q - 6\beta a_o}{2r^6} + \dots \qquad \text{(I.50)}$$

où on introduit les polarisabilités statiques dipolaire (α_d) et quadrupolaire (α_q) du coeur, ainsi que la polarisabilité dipolaire dynamique (β). De plus pour éviter la divergence lorsque $r \to 0$, les termes de polarisation sont multipliés par des fonctions de coupure. Des formes très diverses de $V_{pol}(r)$ ont été choisies (**Beigman** et al. 1970, **Weisheit** 1972a,b, **Black** and al. 1972, **Chichkov** and **Shevelko** 1981). Ces potentiels sont associés à divers potentiels $V_o(r)$, souvent du type Thomas-Fermi avec facteur d'échelle (**Norcross** 1973, **Hofsaess** 1977).

La théorie des perturbations stationnaires au premier ordre permet également de tenir compte des effets de la polarisation du coeur sur l'élément de matrice de transition dipolaire (**Hameed** et al. 1968, **Weisheit** and **Dalgarno** 1971, **Weisheit** 1972a,b) sous diverses formes (**Norcross** 1973). Dans la formulation longueur du dipôle, $R_{n\ell,\ell'}(\varepsilon)$ (équation (I.31) est modifié et devient (**Weisheit** 1972a,b) :

$$R_{n\ell,\ell'}(\varepsilon) = \int_0^\infty P_{n\ell}(r)\left[r\left\{1-\frac{\alpha_d}{r^3}f_c(r_c)\right\}\right]P_{\varepsilon\ell'}(r)dr \qquad (I.51)$$

où r_c est le rayon de coupure effectif du coeur et $f_c(r_c)$ une fonction de coupure.

Nous avons tenu compte des effets de polarisation du coeur dans nos calculs de photoionisation, ainsi que nous le verrons dans le chapitre II.

2.1.5) Potentiels centraux ab-initio

Les potentiels centraux ab-initio les plus couramment employés dans les calculs de photoionisation sont dérivés du formalisme Hartree-Fock (**Hartree** 1957, **Slater** 1960, **Froese-Fischer** 1977). Le plus largement utilisé de tous est le potentiel Hartree-Slater (**Herman** and **Skillman** 1963, **Fano** and **Cooper** 1968). L'introduction de l'approximation des effets d'échange par le potentiel central (**Slater** 1951) déduit du modèle de gaz d'électrons libres

$$V_{ex}^S(r) = -6\left[\frac{3}{8\pi}|\rho(r)|\right]^{1/3} \qquad (I.52)$$

dans les équations self-consistantes Hartree-Fock (**Herman** and **Skillman** 1963, **Cohen** and **Mc Eachran** 1980) conduit aux équations Hartree-Slater. Dans (I.52), $\rho(\vec{r})$ désigne la densité électronique totale du système électronique. La résolution des équations de Hartree-Slater permet d'obtenir à la fois le potentiel central Hartree-Slater $V_{HS}(r)$, les fonctions d'onde radiales $P_{n\ell}(r)$ et les énergies monoélectroniques $\varepsilon_{n\ell}$ (**Herman** and **Skillman** 1963). Le potentiel $V_{HS}(r)$ n'a un bon comportement asymptotique que si on introduit la correction de **Latter** (1955).

Le potentiel $V_{HS}(r)$ a été employé dans de très nombreuses études de photoionisation, surtout à partir de l'état fondamental des atomes neutres (**Manson** and **Cooper** 1968,

Combet Farnoux 1969, **Manson** 1977), des ions (**Reilman** and **Manson** 1979), à l'intérieur de séquences isonucléaires (**Missavage** et al. 1977, **Reilman** and **Manson** 1978) ou isoélectroniques (**Combet Farnoux** and **Lamoureux** 1976, **Msezane** and al. 1977), et pour un grand nombre d'orbitales de sous-couches surtout internes. Il a également été utilisé dans la photoionisation des états excités, surtout des alcalins (**Msezane** and **Manson** 1975, 1982, **Lahiri** and **Manson** 1982).

2.2) Le modèle Hartree-Fock

Le modèle Hartree-Fock est le plus élaboré de tous les types de modèle à particules indépendantes. Il tient compte, de manière self-consistante, des interactions électrostatiques (directes et d'échange) entre tous les électrons. La fonction d'onde radiale initiale discrète $P_{n\ell}(r)$ est solution du système d'équations intégro-différentielles Hartree-Fock, obtenu par application du principe variationnel à la fonctionnelle de l'énergie (**Hartree** 1957, **Slater** 1960, **Cohen** and **Mc Eachran** 1980). Lorsqu'un électron est dans le continuum, la méthode Hartree-Fock (HF) n'est pas valable. On procède alors en deux étapes (**Seaton** 1951, **Chang** and **Mc Dowell** 1968, **Kennedy** and **Manson** 1972) en calculant d'abord les (N-1) fonctions radiales correspondant aux électrons liés de l'ion positif X^{z+} restant après ionisation, par la méthode HF précédente. Puis on résoud pour $P_{\varepsilon\ell'}(r)$ une équation du type HF obtenue pour le système initial $X^{(z-1)+}$ dans laquelle les termes de potentiels direct et d'échange sont estimés à l'aide des fonctions radiales calculées pour X^{z+} et donc où $P_{\varepsilon\ell'}(r)$ est la seule inconnue. Lorsque les fonctions radiales de X^{z+} sont différentes de celles des (N-1) électrons passifs de $X^{(z-1)+}$ ce modèle prend en compte la relaxation du coeur.

Le modèle HF a été utilisé pour la photoionisation à partir des états fondamentaux des alcalins (**Seaton** 1951, **Mc Dowell** 1969) et des gaz rares (**Kennedy** and **Manson** 1972), de quelques états excités des alcalins (**Msezane** 1983, **Mseza-ne** and **Manson** 1984) et des éléments de transition Cu et Ag (**Msezane** and **Lee** 1985).

3) Modèles à particules indépendantes incluant des effets relativistes

Jusque là nous avons traité la photoionisation dans l'approximation non relativiste. Les effets relativistes peuvent avoir de l'importance dans bien des cas, en particulier pour le calcul des minima non nuls des sections efficaces de photoionisation à partir des états fondamentaux des alcalins (**Seaton** 1951, **Marr** and **Creek** 1968), minima qu'on trouve nuls à l'approximation non relativiste. La prise en compte des effets relativistes se fait souvent dans le cadre du modèle à particules indépendantes.

3.1) Traitement approché des effets relativistes : modèle "semi-relativiste"

Le modèle "semi-relativiste" tient compte uniquement des corrections relativistes d'ordre α^2 (α étant la constante de structure fine) introduites dans l'approximation de Pauli. Dans l'approximation du champ central, des orbitales radiales prenant en compte la plus grande partie de ces effets relativistes sont obtenues en ajoutant le terme de spin-orbite $V_{s.o}(r) = \frac{\alpha^2}{2}\frac{1}{r}\frac{dV(r)}{dr}\vec{\ell}.\vec{s}$ au potentiel central $V(r) = V_o(r) + V_{pol}(r)$ de l'équation non relativiste (I.47). On obtient ainsi des fonctions radiales $P_{n\ell j}$ et $P_{\varepsilon\ell'j'}$ où $\vec{j} = \vec{\ell} + \vec{s}$ ($\vec{j}' = \vec{\ell}' + \vec{s}'$). Ce modèle a été utilisé pour étudier la photoionisation à partir des états fondamentaux (**Weisheit** 1972a, **Norcross** 1973) et excités (**Weisheit** 1972b, **Hofsaess** 1977) des alcalins. Il permet de reproduire les minima non nuls observés pour les sections efficaces des alcalins plus lourds.

3.2) Modèle relativiste à champ central

La manière la plus correcte pour prendre en compte les effets relativistes consiste à déterminer les fonctions propres relativistes solutions du Hamiltonien de Breit-Dirac. Les expressions des sections efficaces de photoionisation à employer lorsqu'on utilise des fonctions d'onde relativistes décrites par **Pratt** et al. (1973) et **Walker** and **Waber** (1973) ne sont pas détaillées ici. Les fonctions d'onde relativistes peuvent être calculées dans le cadre d'un modèle à potentiel central. La généralisation relativiste du modèle de Hartree-Slater, ou méthode du potentiel central de Dirac-Slater, a été utilisée pour calculer essentiellement les sections efficaces des orbitales internes des éléments neutres lourds (**Tambe** and **Manson** 1984) et des ions multichargés (**Ong** et al. 1979) dans leur état fondamental, et étudier les déplacements des minima des sections efficaces (**Kim** et al. 1981) par rapport au cas non relativiste. Nous utilisons dans le chapitre II le modèle du potentiel central paramétrique relativiste (**Luc-Koenig** 1972) qui est une généralisation du potentiel paramétrique de **Klapisch** (1971). Ceci permettra de comparer les valeurs des sections efficaces en théories relativiste et non relativiste pour les ions moyennement lourds et multichargés.

3.3) Méthode de Dirac-Fock

Le formalisme de la méthode HF généralisé au cas relativiste (**Grant** 1970) conduit aux équations de Dirac-Fock. La méthode Dirac-Fock a été utilisée pour calculer les sections efficaces de photoionisation à partir des états fondamentaux des alcalins (**Chang** and **Kelly** 1972, **Ong** and **Manson** 1978, 1979) et des gaz rares (**Ong** and **Manson** 1980) et pour analyser la polarisation des photoélectrons.

III. MODELES AU-DELA DU MODELE A PARTICULES INDEPENDANTES

Tous les modèles à particules indépendantes utilisant un potentiel central local négligent complètement les effets de corrélation entre les électrons. La méthode HF ne tient compte que de l'interaction électrostatique entre l'électron actif et le coeur.

Pour tenir compte des corrélations de manière plus complète, il faut recourir à des modèles théoriques plus élaborés. Nous ne détaillerons pas ces méthodes décrites dans plusieurs articles de revue (**Manson** 1976, **Burke** 1976, **Starace** 1982). On peut distinguer les méthodes qui cherchent à améliorer les fonctions d'onde des états initial et final mis en jeu dans la transition de celles qui directement tentent d'améliorer l'élément de matrice dipolaire. Dans la première catégorie se trouvent les méthodes d'interaction de configuration, de "close-coupling" et de matrice R. Les méthodes basées sur la théorie des perturbations à N corps (MBPT) ou sur l'approximation de la phase aléatoire avec (RPAE) ou sans échange (RPA) se classent dans la seconde catégorie.

Ces méthodes utilisent en général les fonctions d'onde obtenues dans un modèle à particules indépendantes, en général le modèle HF comme point de départ. De plus il est possible d'y inclure les effets relativistes.

Ces méthodes ont été assez peu employées pour calculer des sections efficaces de photoionisation dans les alcalins ou les ions de leurs séquences isoélectroniques. La méthode "close-coupling" a permis d'obtenir la section efficace de photoionisation à partir de l'état fondamental de Na (**Butler** and **Mendoza** 1983) et à l'intérieur de la séquence isoélectronique de Na (**Butler** et al. 1984). La photoionisation des états fondamentaux de Na et K a été étudiée par la MBPT (**Chang** 1974). La version relativiste de la RPAE a été utilisée pour étudier la photoionisation des états fondamentaux des alcalins (**Johnson** and **Soff** 1983, **Fink** and **Johnson** 1986). Les caractéristiques de la photoionisation des états excités nd de Rb et Cs ont été obtenues à l'aide de la RPAE (**Avdonina** and **Amusia** Ya 1983).

IV. RESULTATS ANTERIEURS CONCERNANT LES ETUDES SYSTEMATIQUES DES CARACTERES NON HYDROGENOIDES DE LA PHOTOIONISATION

Ce sont les modèles à particules indépendantes non relativistes, en particulier ceux utilisant un potentiel central non coulombien qui ont été le plus largement employés pour calculer les sections efficaces de photoionisation des atomes neutres et des ions.

Les études de photoionisation qui utilisent les modèles théoriques plus élaborés que le modèle à particules indépendantes sont peu nombreuses et fragmentaires. Les modèles tenant compte des corrélations conduisent à des calculs bien plus longs et plus compliqués qui ne sont justifiés que pour des études très ponctuelles. De telles études sont en général réalisées lorsque les modèles les plus simples ne permettent pas de reproduire correctement les résultats expérimentaux.

Le modèle à particules indépendantes est bien plus approprié pour une phase exploratoire permettant de mettre en évidence des propriétés nouvelles, de dégager des caractères généraux, et donc pour des études de systématique. Bien souvent ces caractères conservent toute leur généralité en utilisant les modèles plus élaborés (**Avdonina** and **Amusia** Ya 1983). Les résultats de photoionisation concernant la série de Rydberg ns ($n \leq 14$) de Na (**Aymar** 1978) indiquent par exemple, que les effets dûs aux diverses corrections de corrélation par rapport au modèle du potentiel central sont surtout importants pour l'état fondamental et les états de Rydberg peu excités.

La relative simplicité du modèle à potentiel central a rendu possible l'exploration systématique de la photoionisation à partir des états fondamentaux de nombreux éléments du tableau périodique ; ces études ont permis de dégager les caractéristiques non hydrogénoïdes de la photoionisation des états fondamentaux et leur évolution en fonction de Z, z et N.

Le principal caractère non hydrogénoïde concerne la présence d'un minimum appelé minimum de **Cooper** (1962), dans la courbe de section efficace $\sigma_{n\ell}(\varepsilon)$. Il est à noter que ce minimum a été observé pour la photoionisation des alcalins (**Mohler** and **Boeckner** 1929, **Ditchburn** et al. 1943) bien avant que les théoriciens n'en donnent une interprétation claire (**Bates** 1947, **Seaton** 1951, **Cooper** 1962). Un autre caractère non hydrogénoïde concerne la présence de maxima mis en évidence expérimentalement dans les gaz rares (**Ederer** 1964, **Jaeglé** et al. 1967).

Les études théoriques de systématique de la photoionisation des états fondamentaux concernent soit la couche externe, soit les couches profondes (**Manson** 1977, **Starace** 1982). Pour les atomes neutres l'évolution en fonction de Z a été étudiée en particulier par **Manson** and **Cooper** (1968) et **Combet Farnoux** (1969, 1971). Ces études ont été étendues à certaines séquences isoélectroniques - évolution avec z à N constant - (**Lamoureux** and **Combet Farnoux** 1974, **Combet Farnoux** and **Lamoureux** 1976, **Msezane** et al. 1977). D'autres études systématiques concernent l'évolution en fonction de z le long de séquences isonucléaires - Z constant - (**Combet**

Farnoux and **Lamoureux** 1976, **Reilman** and **Manson** 1978, **Chao** and **Manson** 1981).

En ce qui concerne la photoionisation des états excités des atomes neutres ou des ions, lorsque nous avons abordé ce travail il y avait très peu d'études systématiques, et ceci même pour les systèmes à un électron de valence. L'étude de la systématique de la photoionisation des états excités le long des séries de Rydberg des alcalins légers Li-K avait été abordée au Laboratoire à l'aide de la méthode du potentiel paramétrique de **Klapisch** (1971) par **Aymar** et al. (1976) et **Aymar** (1978). Ces travaux ainsi que ceux entrepris simultanément dans Cs par **Msezane** and **Manson** (1975) ont permis de prévoir l'existence de minima multiples dans les courbes de sections efficaces $\sigma_{n\ell,\ell'}(\varepsilon)$ des états excités, minima jamais observés ou prédits pour la photoionisation des états fondamentaux. Par ailleurs de nombreuses études ponctuelles, essentiellement théoriques, portant sur des états excités des alcalins ont mis en évidence divers caractères non hydrogénoïdes marqués près des seuils, non prédits pour la photoionisation des états fondamentaux (**Chichkov** and **Shevelko** 1981, **Avdonina** and **Amusia Ya** 1983, **Lahiri** and **Manson** 1982, 1986). Nous reviendrons au chapitre II sur les résultats obtenus par l'équipe de Manson, parallèlement aux notres, concernant la systématique de la photoionisation des états excités.

En ce qui concerne la photoionisation des états excités d'autres atomes à un électron de valence, les résultats théoriques étaient et sont toujours fragmentaires (**Msezane** and **Lee** 1985).

Pour les ions monovalents il n'existait pour ainsi dire aucun calcul concernant la photoionisation des états excités, excepté ceux réalisés par **Burgess** et **Seaton** (1960) et donc bien sûr aucune systématique. Par contre des résultats avaient été obtenus pour la photoionisation des états fondamentaux des premiers éléments des séquences isoélectroniques des alcalins (**Mc Dowell** and **Chang** 1969, **Mc Ginn** 1970, **Black** et al. 1972, **Shevelko** 1974, **Tiwari** et al. 1975, **Reilman** and **Manson** 1979). Ces études ont mis en évidence certains caractères non hydrogénoïdes particuliers aux ions, et leur évolution le long des séquences isoélectroniques des alcalins.

Ce travail a pour but d'étendre et de généraliser les études précédentes portant sur la photoionisation des états excités des systèmes à un électron de valence. En considérant un grand nombre d'états excités pour divers atomes et ions monovalents, nous étudions la systématique de la photoionisation pour la séquence des alcalins, les séquences isoélectroniques des alcalins et les séquences isoléectroniques homologues à celles des alcalins. Nous mettons l'accent sur les caractères non hydrogénoïdes de la photoionisation au voisinage du seuil d'ionisation, en insistant plus particulièrement sur l'existence des minima des sections efficaces de photoionisation. Nous étudions l'évolution de ces caractères le long des séquences étudiées et le long des séries de Rydberg de chaque élément étudié.

Nous avons utilisé un modèle de potentiel central non relativiste, puis nous avons évalué l'influence des effets relativistes sur les sections efficaces de photoionisation des ions multichargés moyennement lourds à l'aide d'un modèle relativiste à champ central. La systématique de nos résultats est analysée en utilisant la théorie du défaut quantique.

B. RECOMBINAISON RADIATIVE DES ATOMES ET DES IONS

Nous rappelons dans la section I de cette partie B les définitions et la signification physique des grandeurs fondamentales qui caractérisent la recombinaison radiative. Nous donnons ainsi les expressions générales de la section efficace de recombinaison radiative et des coefficients de recombinaison radiative. Les modèles théoriques utilisés dans les calculs de recombinaison radiative sont décrits dans la section II. Nous présentons dans la section III les résultats obtenus antérieurement sur la recombinaison radiative des systèmes à un électron de valence, et particulièrement des alcalins et des ions de leurs séquences isoélectroniques.

I. DEFINITIONS - FORMULES GENERALES

Nous nous intéressons principalement à la recombinaison radiative des systèmes à un électron de valence, et nous nous limiterons à des définitions et formules générales relatives à ces systèmes. Celles-ci sont facilement généralisables à des systèmes électroniques plus complexes.

1) Définitions

Dans le processus de recombinaison radiative des systèmes monovalents que nous considérons, un ion X^{z+} de charge z dans son état fondamental initial ^1S_o se combine avec un électron libre incident pour produire un atome ou ion $X^{(z-1)+}$ de charge (z-1) dans un état final $n\ell\,^2L$. Dans le même temps un photon de fréquence ν est émis suivant le schéma :

$$X^{z+}(^1S_o) + e^- \rightarrow X^{(z-1)+}(n\ell\,^2L) + h\nu \quad . \qquad (I.53)$$

Le nombre $Q_{n\ell}(\nu)d\nu$ de photons émis par unité de volume et unité de temps dans l'intervalle $(\nu,\nu+d\nu)$ correspondant à l'intervalle de vitesse $(v,v+dv)$ nous permet de définir la section efficace de capture radiative $\sigma^C_{n\ell}(v)$ à l'aide de la relation (**Agnew** and **Summers** 1965, **Rothe** 1969) :

$$Q_{n\ell}(\nu)d\nu = N_e N_+ v\sigma^C_{n\ell}(v)f(v)dv \quad . \tag{I.54}$$

Dans l'équation (I.54), N_e est le nombre d'électrons par unité de volume, N_+ le nombre d'ions X^{z+} par unité de volume, v la vitesse relative de l'électron incident, f(v) la fonction de distribution normalisée des vitesses des électrons libres, et $\sigma^C_{n\ell}(v)$ a la dimension d'une surface.

Le coefficient de recombinaison radiative sur l'état $n\ell$ est défini par la moyenne sur la vitesse :

$$\alpha_{n\ell}(T) = \langle v\sigma^C_{n\ell}(v)dv\rangle = \int_0^\infty v\sigma^C_{n\ell}(v)f(v,T)dv \quad . \tag{I.55}$$

Il apparaît d'après (I.54) et (I.55) que $N_e N_+ \alpha_{n\ell}(T)$ représente le nombre de recombinaisons radiatives sur l'état $n\ell$ par unité de volume et unité de temps.

Le coefficient de recombinaison radiative sur la couche n se déduit de $\alpha_{n\ell}(T)$ par :

$$\alpha_n(T) = \sum_{\ell=0}^{n-1} \alpha_{n\ell}(T) \quad . \tag{I.56}$$

Le coefficient de recombinaison radiative total sur tous les états s'écrit :

$$\alpha_t(T) = \sum_{n=n_0}^{\infty} \alpha_n(T) \tag{I.57}$$

où n_0 correspond à la sous-couche ou couche non occupée la plus basse de $X^{(z-1)+}$.

2) Expressions générales

Le processus de capture (I.53) dans lequel l'électron incident passe d'un état libre à un état lié avec émission d'un photon est l'inverse du processus de photoionisation. L'expression de la section efficace de recombinaison radiative $\sigma^{C}_{n\ell}(v)$ peut être obtenue directement à l'aide de la règle d'or de Fermi (**Sobel'man** 1972, **Hahn** and **Rule** 1977), de manière analogue à celle de la section efficace de photoionisation. Plus simplement $\sigma^{C}_{n\ell}(v)$ est liée à $\sigma^{P}_{n\ell}(\nu)$ par le principe de microréversibilité des processus direct et inverse (**Massey** 1969, **Sobel'man** 1972) :

$$\sigma^{C}_{n\ell}(v) = 2(2\ell+1)\frac{(h\nu/c)^2}{p^2}\sigma^{P}_{n\ell}(\nu) \qquad \text{(I.58)}$$

où c est la vitesse de la lumière et p l'impulsion de l'électron.

En tenant compte de la relation :

$$h\nu = \varepsilon + I_{n\ell} = \frac{1}{2}mv^2 + I_{n\ell} \qquad \text{(I.59)}$$

où ε est l'énergie cinétique de l'électron incident et $I_{n\ell}$ le potentiel d'ionisation de l'électron capturé, l'intégrale sur les vitesses dans (I.55) peut se transformer en une intégrale portant sur ε. Pour une distribution maxwellienne des vitesses des électrons

$$f(v,T) = 4\pi v^2\left(\frac{m}{2\pi kT}\right)^{3/2}\exp\left(-\frac{mv^2}{2kT}\right) \qquad \text{(I.60)}$$

on obtient alors :

$$\alpha_{n\ell}(T) = (3286.34)2(2\ell+1)(kT)^{-3/2}\int_0^\infty(\varepsilon+I_{n\ell})^2\sigma^{P}_{n\ell}(\varepsilon)\exp\left(-\frac{\varepsilon}{kT}\right)d\varepsilon \qquad \text{(I.61)}$$

où k est la constante de Boltzman, T la température électronique. Toutes les énergies (ε, $I_{n\ell}$, kT) sont exprimées en

Rydbergs, les sections efficaces $\sigma^{C}_{n\ell}$ et $\sigma^{P}_{n\ell}$ en cm^2 et $\alpha_{n\ell}$ en $cm^3 s^{-1}$.

II. MODELES THEORIQUES

Les sections efficaces de capture et les coefficients de recombinaison radiative sont en général calculés à partir des sections efficaces de photoionisation.

1) Modèle hydrogénoïde

Nous rappelons les résutlats des modèles hydrogénoïde et de Kramers pour les coefficients de recombinaison radiative.

1.1) Calcul exact. Lois hydrogénoïdes

Pour l'hydrogène et les ions hydrogénoïdes, les coefficients de recombinaison radiative peuvent être calculés exactement à partir des expressions analytiques connues des sections efficaces de photoionisation (**Gordon** 1929). Le coefficient de recombinaison radiative $\alpha^{z}(T)$ d'un ion hydrogénoïde de charge z est relié à celui de l'hydrogène par :

$$\alpha^{z}(T) = z\alpha^{H}(T/z^{2}) \quad . \qquad (I.62)$$

Boardman (1964) a ainsi calculé $\alpha^{H}_{n\ell}(T)$ pour n = 1-10, $\ell = 0-(n-1)$, $10^{3} \leq T \leq 10^{6}$ K. **Burgess** (1964) a déterminé $\alpha^{z}_{n\ell}(T)$ pour :

$$n = 1\text{-}20,\ \ell = 0-(n-1),\ 0 \leq T/z^{2} \leq \infty.$$

Les caractères hydrogénoïdes spécifiques sont détaillés dans l'annexe II (voir en particulier la figure 1). Pour ℓ et T fixés, $\alpha^{z}_{n\ell}$ a une décroissance monotone avec n pour $\ell \leq 3$ et présente un maximum pour $\ell > 3$. Pour n et T fixés l'importance relative des $\alpha^z_{n\ell}$ dépend considérablement de n. Pour n et ℓ fixés, $\alpha^z_{n\ell}(T)$ a une décroissance monotone avec T. Cette même décroissance a donc lieu pour $\alpha^z_n(T)$ et $\alpha^z_t(T)$.

1.2) Modèle de Kramers et approximation de Kramers-Gaunt

Le modèle hydrogénoïde de la recombinaison radiative est d'importance théorique fondamentale puisqu'il permet d'avoir des résultats exacts. Il est d'utilité pratique du fait qu'il constitue une bonne approximation pour la recombinaison radiative sur des états très excités de systèmes à plusieurs électrons, en particulier de systèmes à un seul électron de valence. Il y a souvent besoin de calculer beaucoup de coefficients de recombinaison correspondant à un grand nombre d'états excités. Le calcul direct de $\alpha^z_{n\ell}(T)$ devient difficile et compliqué lorsque n devient grand (**Burgess** 1964). On utilise alors des expressions approchées pour les coefficients de recombinaison radiative. En se servant de l'approximation de Kramers de la section efficace de photoionisation (I.41) on obtient :

$$\alpha^{Kr}_n(z,T) = (5.197\times 10^{-14}\ \mathrm{cm^3 s^{-1}})\, z \left(\frac{z^2}{n^2 kT}\right)^{3/2} \exp\left(\frac{z^2}{n^2 kT}\right) E_1\left(\frac{z^2}{n^2 kT}\right) \quad (I.63)$$

où $$E_1(x) = \int_x^\infty \exp(-t)\,t^{-1}\,dt.$$

Les coefficients $\alpha^{Kr}_{n\ell}(z,T)$ sont alors en général déduits de $\alpha^{Kr}_n(z,T)$ en utilisant la relation :

$$\alpha^{Kr}_{n\ell}(z,T) = \frac{2\ell+1}{n^2}\alpha^{Kr}_n(z,T). \quad (I.64)$$

Des écarts importants par rapport aux valeurs exactes des coefficients de recombinaison peuvent se produire pour les résultats du modèle de Kramers, écarts croissants avec la température. Une amélioration importante de ces résultats est obtenue en utilisant l'approximation de Kramers-

Gaunt (équation (I.42). Il vient alors :

$$\alpha_n^z(T) = (5.197\times10^{-14}\ \mathrm{cm^3 s^{-1}})\, z\left(\frac{z^2}{n^2kT}\right)^{3/2} S_n\left(\frac{z^2}{kT}\right) \qquad (I.65)$$

où $$S_n\left(\frac{z^2}{kT}\right) = \int_0^\infty \exp\left(-\frac{z^2}{n^2kT}u\right)(1+u)^{-1} g_n(u)\,du.$$

Pour des températures relativement faibles $T/z^2 \lesssim 10^5$ K, diverses expressions simplifiées d'usage plus pratique ont été obtenes (voir annexe II) pour $\alpha_t^{Kr}(z,T)$ et $\alpha_t^z(T)$.

Par ailleurs plusieurs auteurs (**Hahn** 1975, **Hahn** and **Rule** 1977, **Lee** and **Pratt** 1976, **Kim** and **Pratt** 1983) ont calculé des sections efficaces de capture d'électrons très énergétiques par des ions très chargés en partant de formules de Kramers modifiées pour la section efficace de photoionisation. Ces formules introduisent des facteurs de correction qui tiennent compte de l'écrantage incomplet du noyau par les électrons ; ainsi divers calculs ont été effectués en introduisant une charge effective $Z_{eff} = \frac{1}{2}(z+Z)$ dans la formule (I.41) de Kramers.

2) Autres modèles théoriques

De nombreux calculs de coefficients de recombinaison radiative α_n et α_t ont été réalisés en combinant le modèle hydrogénoïde à des modèles plus réalistes tenant compte du fait que l'état fondamental et les états moins excités de $X^{(z-1)+}$ ne sont pas hydrogénoïdes. Les coefficients $\alpha_{n\ell}$ pour ces états profonds sont en général déduits des sections efficaces calculées par la méthode du défaut quantique (**Moskvin** 1963, **Norcross** and **Stone** 1966) ou les méthodes du champ central décrites dans la partie A (**Caves** and **Dalgarno** 1972, **Barfield** 1980, **Woods** et al. 1981). Une autre approche utilisée par **Lee** and **Pratt** (1975, 1976) pour calculer des sections efficaces de capture consiste à relier la densité de section efficace de capture (transition libre-lié) à la section efficace de "Bremstrahlung" (transition libre-libre) en utilisant la théorie du défaut quantique.

III. RESULTATS ANTERIEURS OBTENUS POUR LA RECOMBINAISON RADIATIVE DES ATOMES ET DES IONS

Les études théoriques antérieures concernent la recombinaison radiative d'électrons soit très énergétiques ($kT \gg 1$ eV, 1 eV correspondant à une température électronique de 1.2×10^4 K), soit au contraire très peu énergétiques ($T \leq 10^5$ K).

Dans la première classe de travaux, les résultats concernent des ions très chargés intervenant dans les plasmas d'astrophysique ou les impuretés apparaissant dans les plasmas de fusion thermonucléaire contrôlée (**Hahn** 1975, **Hahn** and **Rule** 1977, **Lee** and **Pratt** 1976, **Barfield** 1980, **Kim** and **Pratt** 1983). La plupart de ces études prennent en compte certains effets relativistes. Nous ne détaillerons pas ces travaux qui ont permis d'obtenir certaines lois d'échelle en fonction du nombre de charge Z, de la charge de l'ion z et de l'energie des électrons incidents.

Tous les calculs que nous avons effectués concernent des systèmes recombinés à un électron de valence pour des températures électroniques $T < 10^5$ K. Il s'agit de calculs de recombinaison radiative dans K, Rb, Cu et Ag ainsi que dans certains ions de leurs séquences isoélectroniques. Dans la zone de température $T < 10^5$ K les résultats antérieurs sont très fragmentaires. En ce qui concerne les alcalins ou les ions de leurs séquences isoélectroniques, les résultats portent sur quelques $\alpha_{n\ell}(T)$ de Cs (**Norcross** and **Stone** 1966, **Weisheit** 1972b), quelques $\alpha_{n\ell}(T)$ et $\alpha_t(T)$ de Li (**Caves** and **Dalgarno** 1972), les $\alpha_t(T)$ de tous les alcalins Li-Cs (**Moskvin** 1963) et finalement sur les $\alpha_t(T)$ des ions Ca^{+} (**Shull** and **Steenberg** 1982) et Fe^{7+} (**Woods** et al. 1981). Aucune étude systématique n'a été réalisée. Le but de notre travail est d'étudier les caractères non hydrogénoïdes de la recombinaison radiative le long des séquences isoélectroniques de K et Rb et de celles des éléments homologues Cu et Ag, et d'analyser la systématique des coefficients de recombinaison radiative à faible température.

CHAPITRE II

PHOTOIONISATION ET RECOMBINAISON RADIATIVE DANS LES SEQUENCES ISOELECTRONIQUES DU POTASSIUM, DU RUBIDIUM, DU CUIVRE ET DE L'ARGENT

L'objet de notre travail est l'étude de la systématique de la photoionisation des états excités et de la recombinaison radiative dans les séquences isoélectroniques des alcalins K et Rb, et dans les séquences isoélectroniques de leurs éléments homologues Cu et Ag.

Dans ce chapitre nous résumons les résultats de cette étude dont l'essentiel figure dans les articles déjà publiés présentés en annexes. Nous récapitulons tout d'abord le contenu des articles puis nous donnons une présentation globale de nos résultats dans la partie A pour la photoionisation et dans la partie B pour la recombinaison radiative. Nous y mentionnons les points les plus importants de notre étude et nous illustrons les résultats les plus marquants par des exemples significatifs.

Dans l'annexe I, le modèle théorique utilisé pour le calcul des sections efficaces de photoionisation est défini, et les méthodes numériques de calcul mises en oeuvre pour l'obtention des sections efficaces sont données en appendice. Dans le cadre de ce modèle les sections efficaces de photoionisation à partir des états fondamentaux et excités $n\ell$ ($n \leq 20$, $0 \leq \ell \leq 4$) de Rb et Sr^+ ont été calculées. L'existence de minima et de maxima dans les courbes de sections efficaces de photoionisation près des seuils, l'évolution des caractères non hydrogénoïdes le long de séries de Rydberg ns-ng et leur variation isoélectronique de Rb à Sr^+ sont analysées à l'aide de la théorie du défaut quantique. La méthode d'analyse de la systématique des caractères non hydrogénoïdes de la photoionisation des états excités est exposée. L'étude de la systématique est étendue aux autres alcalins Li, Na, K et Cs pour lesquels on dispose de résultats antérieurs.

Dans l'annexe II, le modèle théorique utilisé pour le calcul des coefficients de recombinaison radiative pour les systèmes recombinés à un électron de valence est défini, et les méthodes numériques pour l'obtention de ces coefficients à partir des sections efficaces de photoionisation sont indiquées. Dans le cadre de ce modèle les coefficients de recombinaison radiative $\alpha_{n\ell}(T)\cdot(n \leq 20,\ \ell \leq 10)$, $\alpha_n(T)$ $(n \leq 10)$ et $\alpha_t(T)$ ont été obtenus dans l'intervalle de température $500 \leq T \leq 6000$ K pour Rb. Les résultats ont été analysés et les caractères non hydrogénoïdes de la recombinaison radiative dans Rb mis en évidence. A titre de comparaison les résultats spécifiques de recombinaison des modèles hydrogénoïde et de Kramers et de l'approximation de Kramers-Gaunt ont été explicités.

L'annexe III concerne la séquence isoélectronique de K. L'étude de la photoionisation des états excités au voisinage des seuils est réalisée pour K-Fe^{7+}, Zn^{11+}, Kr^{17+} et Mo^{23+}, celle de la recombinaison radiative dans l'intervalle $500 \leq T \leq 10000$ K pour K-Ti^{3+}, Fe^{7+} et Mo^{23+}. Les modèles théoriques de calcul et d'analyse de la systématique des caractères non hydrogénoïdes sont ceux utilisés dans I et II. L'évolution de ces caractères le long de la séquence isoélectronique est analysée en détail.

L'annexe IV complète les annexes I (photoionisation des états excités de Rb et Sr^+) et II (recombinaison radiative de Rb) en considérant d'autres éléments de la séquence isoélectronique de Rb : Y^{2+}-Xe^{17+}. De plus cette annexe présente les résultats obtenus dans les éléments Cu-Mo^{13+} et Ag-Xe^{7+} des séquences isoélectroniques de Cu et Ag, homologues à celles du K et Rb. La systématique des caractères non hydrogénoïdes le long d'une séquence et le comportement semblable ou différent des séquences de K, Rb Cu et Ag sont analysés par la méthode précédente basée sur la théorie du défaut quantique. La recombinaison radiative des éléments Sr^{+}-Y^{2+}, Cu-Ga^{2+} et Ag-Sn^{3+} a été étudiée dans l'intervalle de température réduite $500 \leq T' \leq 5000$ K, et la systématique des caractères non hydrogénoïdes de la recombinaison à l'intérieur des séquences isoélectroniques a été analysée.

A. <u>PHOTOIONISATION DANS LES SEQUENCES ISOELECTRONIQUES DU POTASSIUM, DU RUBIDIUM, DU CUIVRE ET DE L'ARGENT</u>

Nous présentons dans la partie A les résultats de la photoionisation des états fondamentaux et excités dans les séquences isoélectroniques des alcalins K et Rb, et dans celles de leurs éléments homologues Cu et Ag. Les sections efficaces ont été calculées dans le cadre d'un modèle monoélectronique non relativiste à champ central présenté dans la section I. La section II montre comment la théorie du défaut quantique permet d'analyser les caractères non hydrogénoïdes des sections efficaces. Les résultats concernant les caractères non hydrogénoïdes des sections efficaces de photoionisation sont présentés dans la section III. La section IV présente une discussion de la validité des résultats obtenus et des comparaisons avec les résultats antérieurs. Les calculs de section efficace ont été réalisés en utilisant un modèle non relativiste. La validité d'un tel traitement pour les ions multichargés a été vérifiée en calculant quelques sections efficaces à l'aide d'un modèle relativiste à champ central. Ces résultats sont présentés dans la section V.

I. MODELE THEORIQUE UTILISE POUR LE CALCUL DES SECTIONS EFFICACES DE PHOTOIONISATION

Le modèle théorique que nous avons utilisé pour le calcul des sections efficaces de photoionisation est un modèle monoélectronique non relativiste, à potentiel central non coulombien. L'expression de la section efficace de photoionisation à partir d'un état $n\ell$ d'un système à un électron de valence est donnée à l'approximation dipolaire par l'équation (I.30). Les fonctions d'onde radiales $P_{n\ell}(r)$ et $P_{\varepsilon\ell'}(r)$ sont solutions de l'équation de Schrödinger (I.47). Dans notre étude nous utilisons le potentiel paramétrique introduit par **Klapisch** (1971), déjà utilisé dans des calculs de photoionisation des états excités des alcalins légers (**Aymar** et al. 1976, **Aymar** 1978). Les fonctions d'onde radiales sont calculées en utilisant quatre potentiels centraux différents $V(r)$:

a) Le potentiel central a une forme analytique simple dépendant de trois paramètres :

$$V_0(r) = -\frac{1}{r}\left[z + (Z-z)\exp(-\alpha_1 r) + \alpha_2 r\, \exp(-\alpha_3 r)\right] \quad \text{(II.1)}$$

Les paramètres α_1, α_2 et α_3 sont déterminés en comparant les énergies expérimentales avec celles calculées à l'ordre zéro. Ce potentiel a été utilisé pour Rb, Sr^+, et les éléments K-Ti^{3+} de la séquence de K pour lesquels les énergies expérimentales sont connues .

b) Nous tenons compte des effets de la polarisation du coeur en ajoutant au potential $V_0(r)$ défini en a) un potentiel effectif de polarisation $V_{pol}(r)$ de forme :

$$V_{pol}(r) = -\frac{\alpha_d}{2r^4}\left[1 - \exp-(r/r_c)^6\right] \qquad (II.2)$$

où α_d est la polarisabilité dipolaire statique du coeur (**Shevelko** and **Vinogradov** 1978, **Chickhov** and **Shevelko** 1981) et r_c est le rayon de coupure effectif du coeur. Les paramètres α_1, α_2, α_3 et r_c sont déterminés en comparant les valeurs expérimentales des énergies à leurs valeurs calculées à l'ordre zéro. Par ailleurs, l'élément de matrice de transition dipolaire est modifié et devient l'équation (I.51) $R_{n\ell,\ell'}(\varepsilon) = \int_0^\infty P_{n\ell}(r)Q(r)P_{\varepsilon\ell'}(r)dr$. L'opérateur dipolaire modifié Q(r) qui inclut les effets de polarisation du coeur a la forme (**Hameed** et al. 1968, **Weisheit** 1972a,b) :

$$Q(r) = r\left\{1 - \frac{\alpha_d}{r^3}\left[1 - \exp-(r/r_c)^3\right]\right\}. \qquad (II.3)$$

Le potentiel $V(r) = V_0(r) + V_{pol}(r)$ a été utilisé pour $Rb\text{-}Sr^+$, $Cu\text{-}Ga^{2+}$ et $Ag\text{-}In^{2+}$.

c) Le potentiel central V(r) est le potentiel paramétrique introduit par **Klapisch** (1971). Il est représenté par une fonction analytique dépendant d'un jeu de paramètres, chaque paramètre décrivant la distribution de charge d'une couche du coeur. Le potentiel optimal est déterminé en minimisant l'écart quadratique moyen entre les énergies expérimentales et les énergies calculées au premier ordre. Ce potentiel a été utilisé pour Rb et Sr^+.

d) Le potentiel V(r) est semblable à celui considéré précédemment. Seul le critère d'optimisation change. Les paramètres sont ici déterminés en minimisant l'énergie totale de l'état fondamental. Ce potentiel ab-initio a été utilisé pour tous les éléments des séquences isoélectroniques pour lesquels les énergies expérimentales sont peu ou pas connues.

Le potentiel central choisi V(r) étant spécifié, l'équation de Schrödinger (I.47) est résolue et les éléments de matrice de transition calculés en utilisant différentes méthodes numériques décrites dans l'appendice de l'annexe I.

II. ANALYSE DE LA PHOTOIONISATION DES ETATS EXCITES PAR LA THEORIE DU DEFAUT QUANTIQUE

Le comportement hydrogénoïde des sections efficaces de photoionisation a été rappelé dans la section I.A.II.2.1. La comparaison des sections efficaces le long des séquences isoélectroniques de K, Rb, Cu et Ag avec celles de l'hydrogène est faite en introduisant les variables réduites des énergies et des sections efficaces :

$$\begin{aligned} \varepsilon' &= \frac{\varepsilon}{z^2} , \\ \sigma'(\varepsilon') &= z^2 \sigma(z^2 \varepsilon') . \end{aligned} \qquad \text{(II.4)}$$

Nous avons mis en évidence dans notre étude divers caractères non hydrogénoïdes très marqués de la photoionisation au voisinage des seuils. Nous en illustrons quelques uns avant d'en faire une analyse plus détaillée par la théorie du défaut quantique.

1) Comportement non hydrogénoïde des courbes de sections efficaces

1.1) Comparaison avec l'hydrogène

La figure 1 représente les sections efficaces totales $\sigma'_{8\ell}(h\nu')$ $(0 \leq \ell \leq 4)$ pour les états excités de Rb et Sr^+ comparées à celles de l'hydrogène H. Les caractères non hydrogénoïdes les plus évidents concernent $\sigma'_{8s}(h\nu')$ qui présente un minimum suivi d'un maximum pour Rb et un maximum pour Sr^+. Par ailleurs $\sigma'_{8p}(h\nu')$ et $\sigma'_{8d}(h\nu')$ ont des valeurs très différentes de celles de H et une décroissance monotone à partir des seuils moins rapide.

1.2) Evolution le long d'une série de Rydberg

La figure 2 porte sur les sections efficaces à partir des états nd de Sc^{2+}. La figure 2(a) montre l'évolution avec n des sections efficaces partielles et totales. La courbe $\sigma'_{nd}(0)$ présente un minimum prononcé correspondant à celui de $\sigma'_{nd,f}(0)$. Dans H $\sigma_{n\ell,\ell+1}(\varepsilon)$ est toujours très supérieur à $\sigma_{n\ell,\ell-1}(\varepsilon)$, ce qui est loin d'être le cas ici. La courbe 2(b) présente l'évolution avec n de $\sigma_{nd}(\varepsilon)$,évolution très différente de celle dans H. En effet pour n > 3 toutes les courbes $\sigma_{nd,f}(\varepsilon)$ présentent des caractères non hydrogénoïdes marqués ; ainsi pour n = 20 (figure 2(c)) $\sigma_{nd,f}(\varepsilon)$ présente un minimum qui entraine une discontinuité de pente pour $\sigma_{nd}(\varepsilon)$(figure 2b).

1.3) Variation le long d'une séquence

La figure 3 montre l'évolution de $\sigma'_{6d}(\varepsilon')$ le long de la séquence K-Ti^{3+}. Les valeurs de $\sigma'_{6d}(\varepsilon')$ sont très différentes de celles de H particulièrement pour les ions ; la décroissance avec ε' est bien plus lente. Il est à noter que $\sigma'_{6d}(\varepsilon')$ présente un minimum suivi d'un maximum pour Ca^+, un maximum pour Sc^{2+}, et seulement une décroissance monotone pour le neutre K.

Pour les ions hydrogénoïdes $\sigma'_{n\ell}(0)$ ne dépend pas de z (équation II.4). On peut voir sur la figure 4 que les valeurs de $\sigma'_{n\ell}(0)$ obtenues dans la séquence de Rb varient considérablement avec z ; ces valeurs sont en général inférieures à celles correspondant à H. La variation avec z peut être soit régulière (états 5s et 20s pour z > 2) ou très irrégulière (états nd).

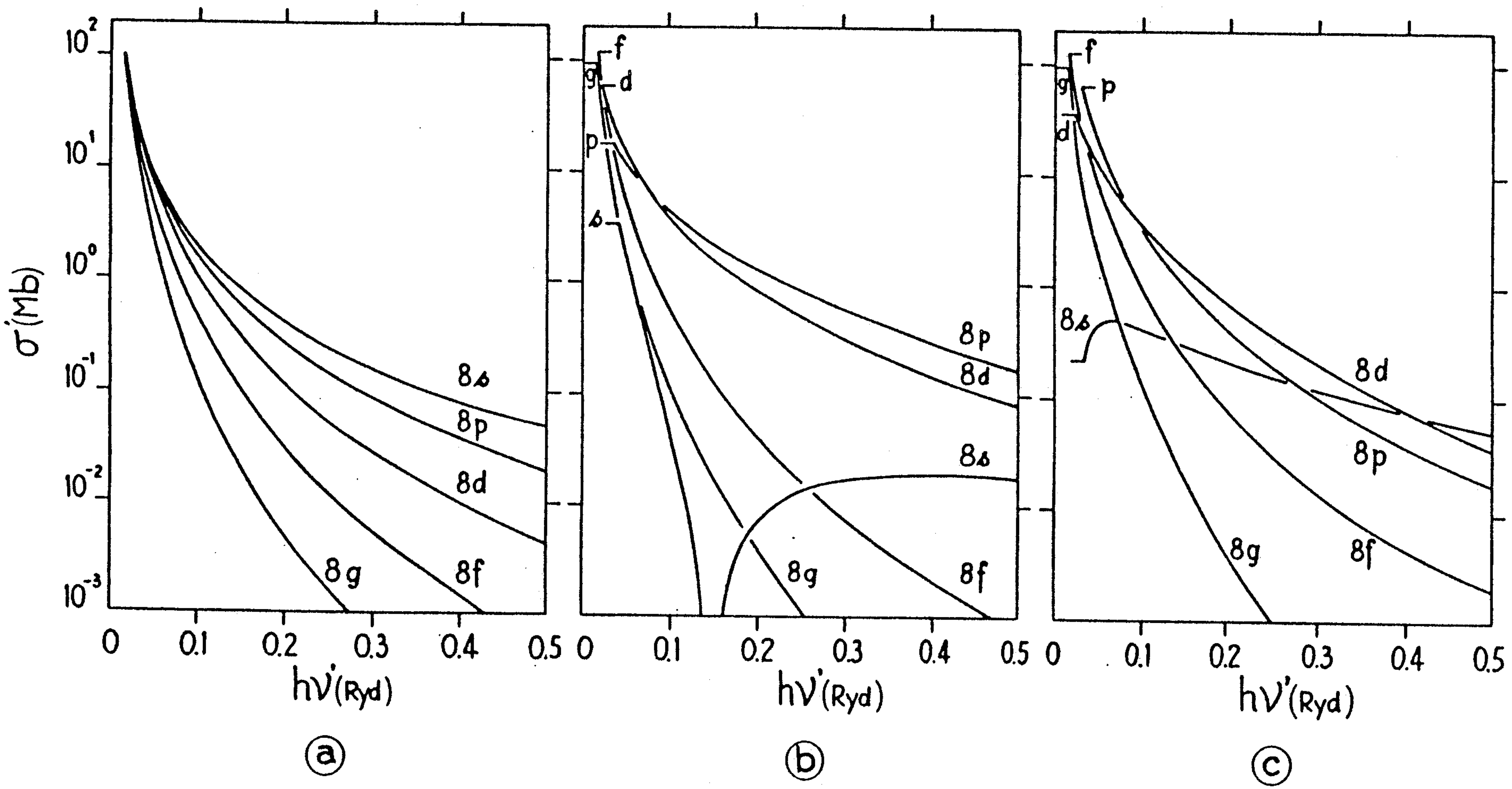
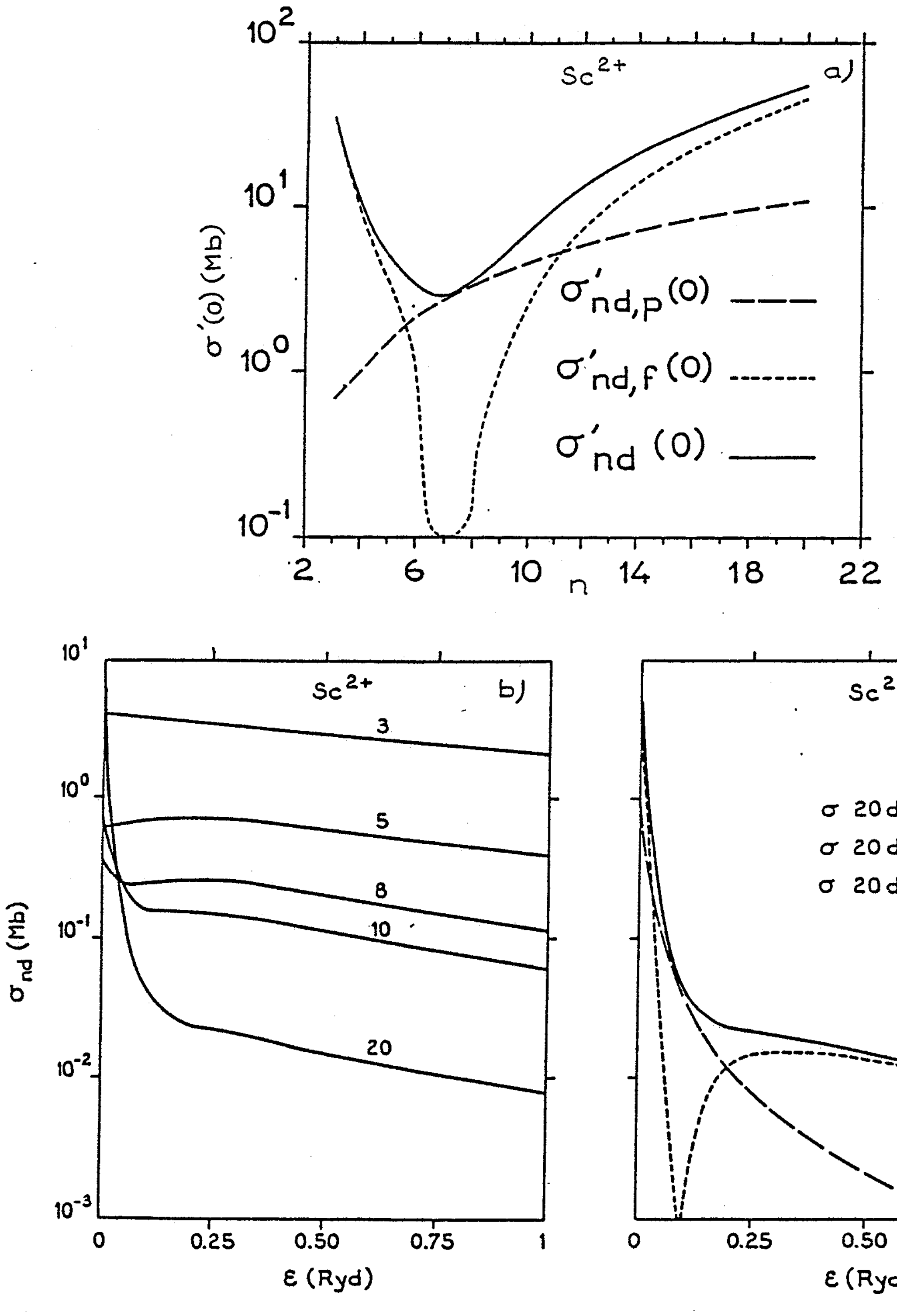


FIGURE 1 : Variation de $\sigma'_{8\ell}$ avec $h\nu' = (\varepsilon-\varepsilon_{8\ell})/z^2$ pour ℓ = 0-4, pour H(a), Rb(b) et Sr^+(c).



<u>FIGURE 2</u> : Sections efficaces des états nd de Sc^{2+}.

a) Variation avec n des sections efficaces totale $\sigma'_{nd}(0)$ et partielles $\sigma'_{nd,f}(0)$ et $\sigma'_{nd,p}(0)$ au seuil.

b) Evolution de $\sigma_{nd}(\varepsilon)$ avec n.

c) Sections efficaces totale et partielles pour l'état 20d.

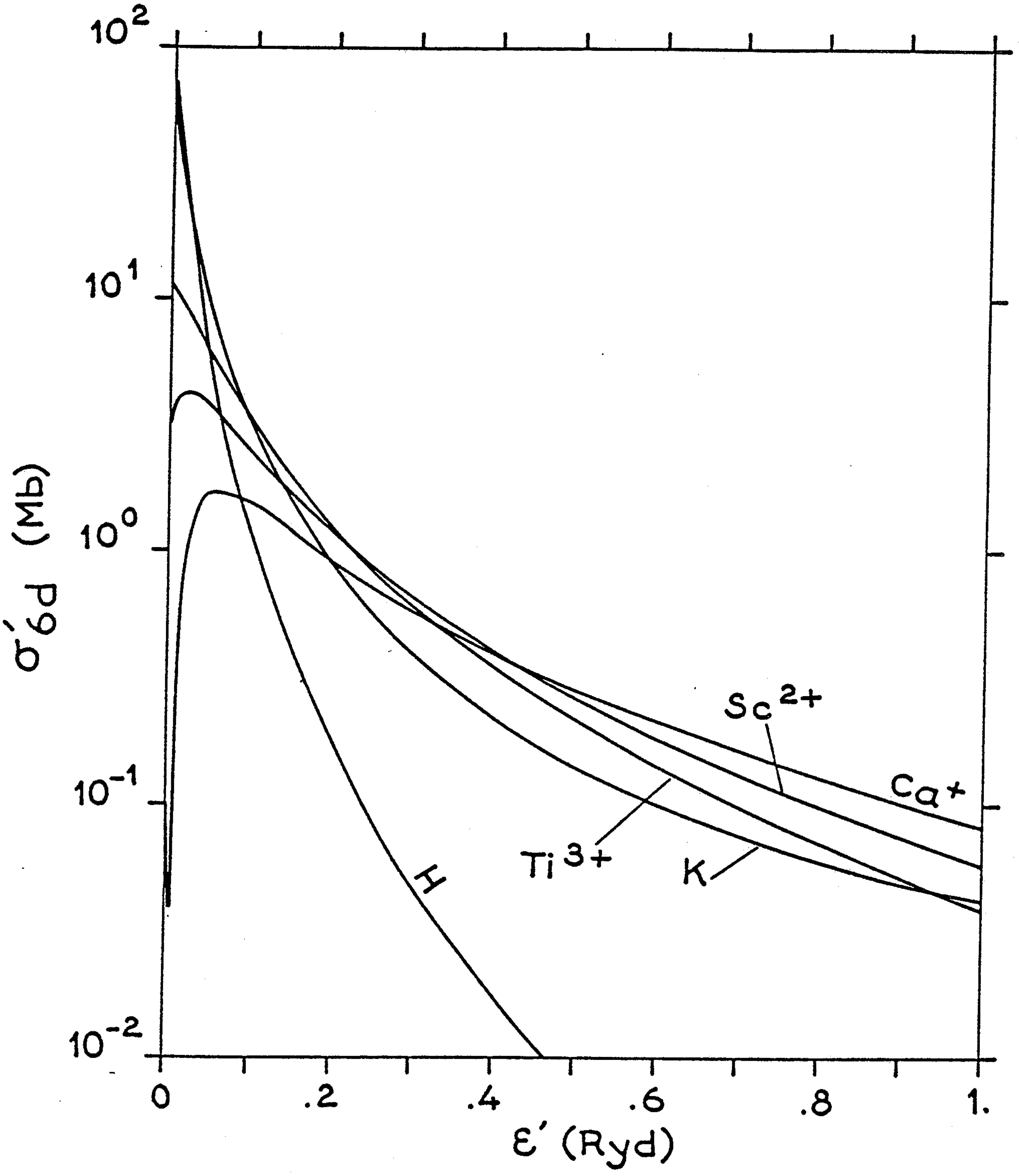


FIGURE 3 : Evolution de $\sigma'_{6d}(\varepsilon')$ le long de la séquence de K. Comparaison avec $\sigma_{6d}(\varepsilon)$ de H.

2) Analyse du comportement non hydrogénoïde des sections efficaces

Les valeurs des sections efficaces partielles et totales des atomes et des ions non hydrogénoïdes peuvent donc être très différentes des valeurs hydrogénoïdes ainsi que nous l'avons vu. De fait les orbitales discrète $P_{n\ell}(r)$ et du continuum $P_{\varepsilon'\ell'}(r)$ sont contractées vers le noyau par rapport aux orbitales hydrogénoïdes. Le recouvrement de $P_{n\ell}(r)$ et de $P_{\varepsilon'\ell'}(r)$ est en conséquence modifié, et l'élément de matrice de transition $R_{n\ell,\ell'}(\varepsilon')$ n'est plus nécessairement une fonction monotone positive décroissante de ε'. En fait, $R_{n\ell,\ell'}(\varepsilon')$ peut avoir des variations très diverses. Sur la figure 5 sont schématisés 6 profils typiques qui correspondent au seuil de photoionisation (ε'=0) placé respectivement en A,B,C,D,E et F. A ces profils correspondent les courbes de section efficace partielle $\sigma'_{n\ell,\ell'}(\varepsilon')$ de type (a) à (f). Les formes (a) de type hydrogénoïde, (b) avec un maximum près du seuil, (c) avec un minimum de Cooper et (d) avec un maximum près du seuil suivi d'un minimum caractérisent les courbes de sections efficaces de photoionisation à partir des états fondamentaux de nombreux éléments. Les autres types de courbes (e) et (f) présentant plusieurs extréma, jusqu'à 3 minima pour le type (f), apparaissent uniquement pour la photoionisation à partir de niveaux excités. Un caractère non hydrogénoïde très marqué est l'existence de minima dans les courbes $\sigma'_{n\ell,\ell'}(\varepsilon')$, qui correspondent aux zéros de $R_{n\ell,\ell'}(\varepsilon')$. La théorie du défaut quantique (**Burgess** and **Seaton** 1960, **Peach** 1967) rappelée à la section I.A.II.2.1 est bien appropriée pour discuter de l'apparition des minima.

La contribution la plus importante à $R_{n\ell,\ell'}(\varepsilon')$ provient des régions où les valeurs de la variable radiale r sont grandes, et où l'électron excité se meut principalement dans un champ coulombien. Les autres forces non coulombiennes qui prévalent dans le coeur modifient les fonctions

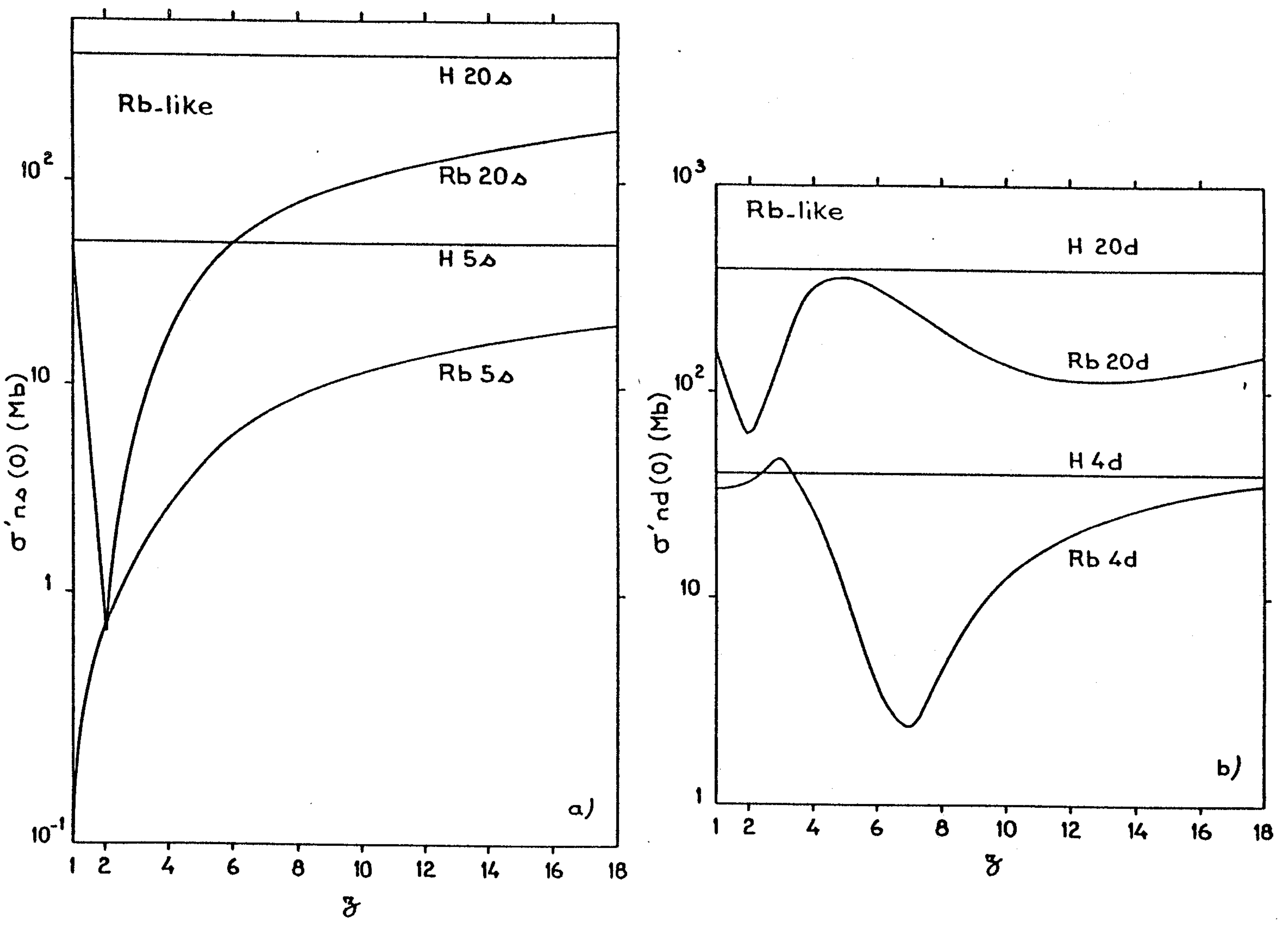


FIGURE 4 : Variation avec z des sections efficaces au seuil $\sigma'_{n\ell}(0)$ le long de la séquence de Rb. Comparaison avec les valeurs hydrogénoïdes.
a) états ns ; b) états nd.

d'onde radiales dans la région externe. Les orbitales discrète et du continuum sont contractées vers le noyau par rapport aux orbitales hydrogénoïdes. Le déplacement relatif de l'une par rapport à l'autre est à l'origine du caractère non hydrogénoïde de la photoionisation. Le déphasage de l'orbitale discrète $n\ell$ est $\pi\mu_{n\ell}$ et celui de l'orbitale du continuum $\delta_{\ell'}(\varepsilon')$. La méthode du défaut quantique donne une dépendance oscillatoire de $R_{n\ell,\ell'}(\varepsilon')$ en $\cos \pi\Delta_{n\ell,\ell'}(\varepsilon')$ (équation I.46) avec

$$\Delta_{n\ell,\ell'}(\varepsilon') = -\mu_{n\ell} + \delta_{\ell'}(\varepsilon')/\pi + \chi_{\ell\ell'}(n,\varepsilon') \qquad \text{(II.5)}$$

où le paramètre empirique χ est une fonction lentement croissante de n et ε' (**Peach** 1967). L'apparition des zéros dans $R_{n\ell,\ell'}(\varepsilon')$ est reliée aux valeurs demi-entières de $\Delta_{n\ell,\ell'}(\varepsilon')$.

Au voisinage du seuil, une valeur approchée de $\Delta_{n\ell,\ell'}$ peut être obtenue en utilisant dans l'équation (II.5) les valeurs limites obtenues pour $n = \infty$ et $\varepsilon' = 0$:

$$\Delta_{n\ell,\ell'} \simeq \Delta\mu_{\ell\ell'} + \overline{\chi}_{\ell\ell'}(0) \qquad \text{(II.6)}$$

où la valeur asymptotique $\overline{\chi}(0)$ de χ peut être extraite des tables de **Peach** (1967). La quantité $\Delta\mu_{\ell\ell'} = \mu_{\ell'} - \mu_{\ell}$ représente la différence des défauts quantiques correspondant à de larges valeurs de n.

Une différence de défauts quantiques critique peut être définie telle que $R_{n\ell,\ell'}(\varepsilon')$ ait un zéro :

$$\Delta\mu^{o}_{\ell\ell'} + \overline{\chi}_{\ell\ell'}(0) = \pm\, 0.5\,. \qquad \text{(II.7)}$$

Lorsque la valeur de $|\Delta\mu_{\ell\ell'}|$ (mod 1) est très différente de celle de $|\Delta\mu^{o}_{\ell\ell'}|$ (mod 1), le nombre k de zéros de $R_{n\ell,\ell'}(\varepsilon')$ est déterminé par les inégalités (figure 5) :

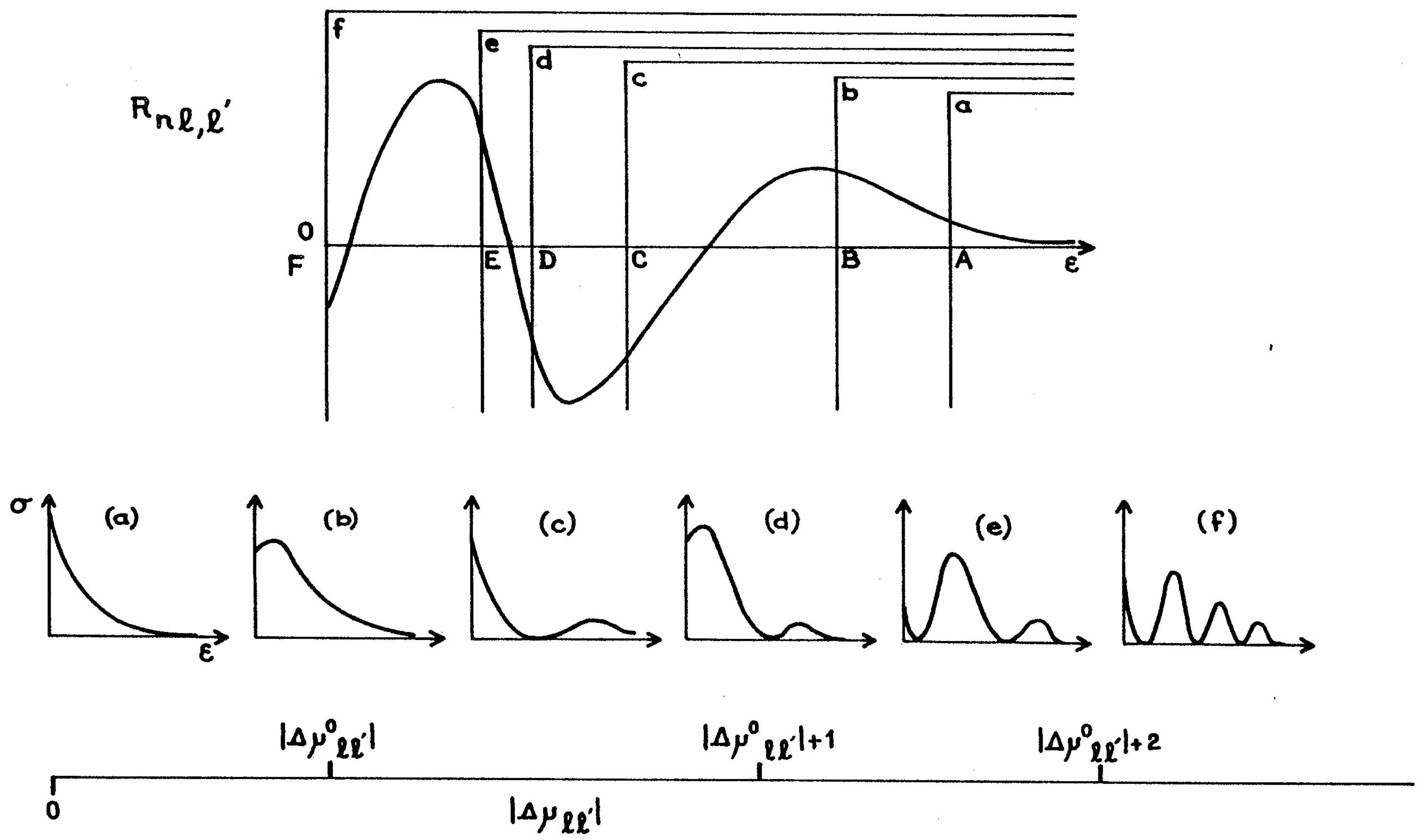


FIGURE 5 : Eléments de matrice dipolaires et sections efficaces partielles typiques. Les courbes $R_{n\ell,\ell'}(\varepsilon)$ a à f correspondent au seuil placé de A à F ; dans chaque cas seule la partie de la courbe à droite du trait vertical est significative. Les types de courbes $\sigma_{n\ell,\ell'}(\varepsilon)$ (a) à (f) correspondent aux cas a à f de la figure supérieure. Nombre de minima dans $\sigma_{n\ell,\ell'}(\varepsilon)$ suivant les valeurs de $\Delta\mu_{\ell\ell'}$.

$$|\Delta\mu^{o}_{\ell\ell'}| + k - 1 < |\Delta\mu_{\ell\ell'}| < |\Delta\mu^{o}_{\ell\ell'}| + k \,. \qquad \text{(II.8)}$$

Lorsque

$$|\Delta\mu_{\ell\ell'}| \simeq |\Delta\mu^{o}_{\ell\ell'}| + k - 1 \qquad \text{(II.9)}$$

on observe en général un changement de forme de la courbe de photoionisation pour une série de Rydberg donnée lorsque n augmente. En effet pour les plus bas niveaux d'une série donnée, le défaut quantique $\mu_{n\ell}$ peut être différent de μ_{ℓ}, la valeur limite pour $n = \infty$; de plus la fonction $\chi_{\ell\ell'}(n,\varepsilon')$ (équation II.5) peut être aussi différente de sa valeur asymptotique $\overline{\chi}_{\ell\ell'}(0)$. Le nombre critique k de zéros n'est alors atteint que pour les états les plus excités.

Les différentes formes de courbes dépendent de la différence $|\Delta\mu_{\ell\ell'}| - |\Delta\mu^{o}_{\ell\ell'}|$. Les exemples présentés dans la section III montreront que ce modèle simple décrit bien les caractères non hydrogénoïdes de la photoionisation à partir des niveaux excités et leur évolution le long des séries ou séquences étudiées.

III. PRESENTATION GLOBALE DES RESULTATS

Les sections efficaces de photoionisation ont été calculées pour les états $n\ell$ ($n \leq 20$, $0 \leq \ell \leq 4$) de $K\text{-}Mo^{23+}$, $Rb\text{-}Xe^{17+}$, $Cu\text{-}Mo^{13+}$ et $Ag\text{-}Xe^{7+}$. Seule la photoionisation de l'électron externe de valence est considérée et les effets d'autoionisation sont négligés. Ce traitement est valable au voisinage des seuils. Les calculs ont cependant été effectués au delà de ce voisinage à des énergies de photoélectron plus grandes, en vue de détecter les divers minima qui apparaissent dans les courbes $\sigma'_{n\ell,\ell'}(\varepsilon')$ et d'analyser la systématique de ces minima. Parallèlement à ces calculs, l'analyse de la photoionisation des états excités de la séquence des alcalins Li-Cs a été faite. Les détails de tous les résultats se trouvent dans les annexes I, III et IV. Nous en illustrons quelques uns parmi les plus significatifs.

1) Evolution avec n le long d'une série de Rydberg d'un élément donné

Cette évolution est discutée sur l'exemple particulier des sections efficaces de photoionisation des états nd de In^{2+} (voir annexe IV). La figure (6a) montre l'évolution de la section efficace totale $\sigma_{nd}(\varepsilon)$ le long de la série nd. Les figures (6b) à (6d) montrent les sections efficaces partielles pour quelques valeurs particulières de n. La forme des courbes $\sigma_{nd,p}(\varepsilon)$ et $\sigma_{nd,f}(\varepsilon)$ change le long de la série: lorsque n augmente $\sigma_{nd,p}(\varepsilon)$ passe du type (a) au type (b) puis au type (c), tandis que $\sigma_{nd,f}(\varepsilon)$ change de (d) à (e). En effet les valeurs asymptotiques $|\Delta\mu_{dp}| = 0.74$ et $|\Delta\mu_{df}| = 1.57$ sont proches des valeurs critiques $|\Delta\mu^o_{dp}| = 0.75$ et $|\Delta\mu^o_{df}| + 1 = 1.48$ caractéristiques respectivement de l'apparition de un minimum (type c) ou deux minima (type e). (voir figure 5). Pour n grand (figure 6d) $\sigma_{nd,p}(\varepsilon)$ et $\sigma_{nd,f}(\varepsilon)$ sont bien de type (c) et (e) respectivement ; l'évolution pour les valeurs de n plus faibles est liée au fait que $\mu_{n\ell}$ et $\chi_{\ell\ell'}$ (équation II.5) n'ont pas atteint leurs valeurs asymptotiques. Il est à noter que sur la figure 6 seule la zone près du seuil est représentée, le second zéro de $\sigma_{nd,f}(\varepsilon)$ apparaissant à plus haute énergie. L'évolution avec n se traduit par un déplacement de la position des minima qui s'éloignent du seuil lorsque n croît puis finalement deviennent stationnaires pour n grand. Les minima absents pour n petit affectent en fait la distribution des forces d'oscillateur vers les niveaux discrets $n\ell$ et les changements de forme de (b) à (c) ou de (d) à (e) correspondent à un déplacement du minimum de $\varepsilon_{n\ell} < 0$ à $\varepsilon > 0$. Pour les valeurs de n_o voisines de ce changement les sections efficaces sont particulièrement faibles.

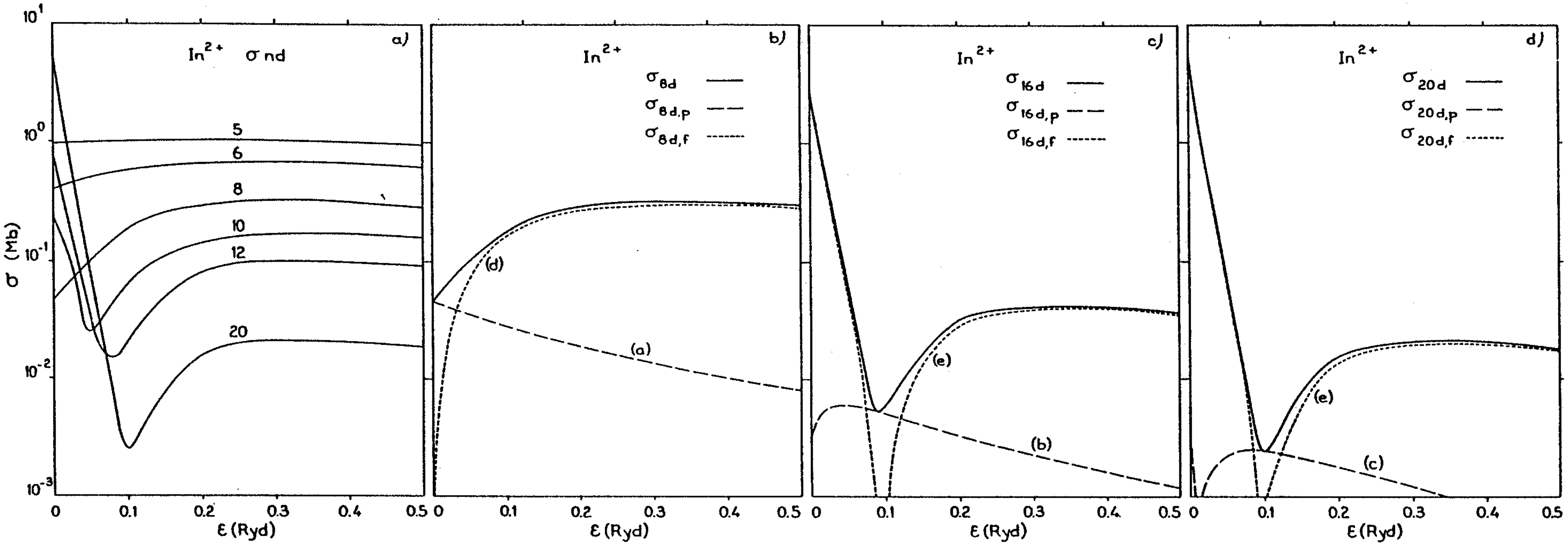
L'évolution avec n des sections efficaces n'est pas toujours aussi marquée. En particulier ici les deux sections efficaces partielles changent de forme lorsque n augmente et ceci affecte beaucoup l'évolution de la section efficace totale. Dans de nombreux cas les caractères non hydrogénoïdes ne sont visibles que sur les sections efficaces partielles. Cependant dans tous les cas étudiés on observe une évolution des caractères hydrogénoïdes pour les n faibles uniquement. Pour les n grands les caractères non hydrogénoïdes se stabilisent, la position des minima devenant stationnaire.

2) Séquence des alcalins Li-Cs

Les résultats concernant la photoionisation des états excités des alcalins sont synthétisés dans la table 1 et la figure 7.

Dans la table 1, la forme de chaque courbe (voir figure 5) de section efficace partielle $\sigma_{n\ell,\ell'}(\varepsilon)$ est donnée pour chaque transition $n\ell \rightarrow \varepsilon\ell'$ des alcalins Li-Cs. Dans la même table, les différences de défauts quantiques asymptotiques $\Delta\mu_{\ell\ell'}$ sont comparées aux différences de défauts quantiques critiques $\Delta\mu^{o}_{\ell\ell'}$ (équation II.7) extraites des tables de **Peach** (1967). La figure 7(a) montre l'évolution des défauts quantiques du Li au Cs. Pour les orbitales pénétrantes (s,p et orbitales d des alcalins les plus lourds) μ_{ℓ} augmente avec Z. Par contre pour les orbitales f le défaut quantique est toujours très faible.

On peut voir sur la table 1 que les valeurs de $\Delta\mu^{o}_{\ell\ell'}$ déterminent bien l'apparition des minima dans les courbes de sections efficaces des alcalins. Ceci est aussi illustré dans la figure 7(b) pour les transitions $nd \rightarrow \varepsilon p$ et $nd \rightarrow \varepsilon f$. Pour les transitions $nd \rightarrow \varepsilon p$ il existe deux zones correspondans à $\Delta\mu_{dp}$ supérieur ou inférieur à $\Delta\mu^{o}_{dp}$. Ces zones corres-



<u>FIGURE 6</u> : Evolution avec n des sections efficaces totales et partielles le long de la série nd de In^{2+}.
a) $\sigma_{nd}(\varepsilon)$ pour n = 5,6,8,10,12 et 20.
Sections efficaces partielles et totales pour n = 8(b), 16(c) et 20(d). Dans ces trois figures, les types des courbes $\sigma_{n\ell,\ell'}(\varepsilon)$ sont indiqués.

TABLE 1

Transition	Li	Na	K	Rb	Cs	$\Delta\mu^{o}_{\ell\ell'}$
$ns \to \varepsilon p$	-0.26 (b)	-0.49 (c)	-0.47 (c)	-0.49 (c)	-0.50 (c) 6s, 7s	-0.37
$np \to \varepsilon s$	0.26 (a)	0.49 (a)	0.47 (a)	0.49 (a)	0.50 (a) 6p	0.71
$np \to \varepsilon d$	-0.05 (a)	-0.84 (c)	-1.44 (d) $n \leqslant 9$ (e) $n \geqslant 10$	-1.30 (c)	-1.10 (c) 6p	-0.42
$nd \to \varepsilon p$	0.05 (a)	0.84 (b) $n \leqslant 3$ (c) $n \geqslant 4$	1.44 (c)	1.30 (c)	1.10 (c) 5d, 9d	0.75
$nd \to \varepsilon f$	0 (a)	-0.01 (a)	-0.26 (a)	-1.32 (c)	-2.43 (e) 5d (f) 9d	-0.48
$nf \to \varepsilon d$	0 (a)	0.01 (a)	0.26 (a)	1.32 (c)	2.43	0.78

Table 1 : Pour chaque transition $n\ell \to \varepsilon\ell'$ et chaque élément, comparaison des différences de défauts quantiques asymptotiques $\Delta\mu_{\ell\ell'}$ et critiques $\Delta\mu^{o}_{\ell\ell'}$, et type de forme des courbes de sections efficaces $\sigma_{n\ell,\ell'}(\varepsilon)$.

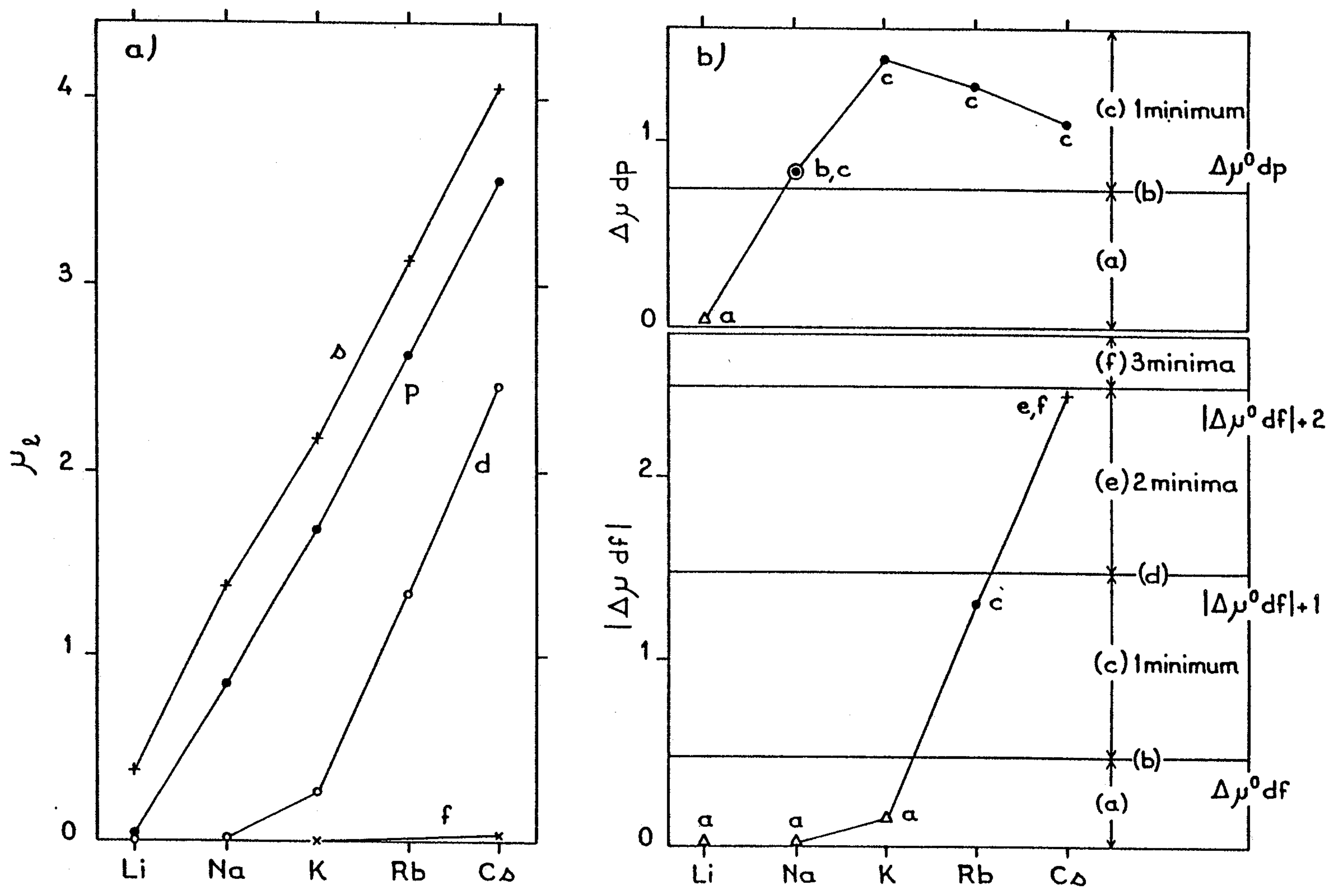


FIGURE 7 : Défauts quantiques et différences de défauts quantiques asymptotiques le long de la séquence des alcalins

a) μ_ℓ pour les orbitales s, p, d et f.

b) $\Delta\mu_{dp}$ et $|\Delta\mu_{df}|$. Les éléments sont repérés par des signes différents suivant la forme de $\sigma_{n\ell,\ell'}(\varepsilon)$: Δ(a), o(b), .(c) et + (e) ou (f).

pondent aux types de courbe (c) et (a) respectivement et l'on peut voir que les points et triangles se placent dans les bonnes zones. De manière analogue pour les transitions nd $\rightarrow$ εf les triangles, points et croix se placent assez bien dans les zones différentes, séparées par les lignes horizontales correspondant à $|\Delta\mu^{o}_{df}|$ + k (k=0,1,2).

Un dernier point à remarquer concerne l'évolution différente des caractères non hydrogénoïdes avec Z suivant la transition nℓ $\rightarrow$ $\varepsilon\ell'$ considérée. Ainsi pour les transitions ns $\rightarrow$ εp ou np $\rightarrow$ εs tous les alcalins ont un comportement assez semblable. Par contre pour les transitions nd $\rightarrow$ εf ou nf $\rightarrow$ εd des caractères non hydrogénoïdes nouveaux apparaissent lorsque Z augmente. Ceci est bien sûr directement lié à l'évolution différente des μ_{ℓ} avec Z suivant la valeur de ℓ (figure 7a).

3) Evolution le long d'une séquence isoélectronique. Comparaison des séquences de K, Rb, Cu et Ag

Là encore la systématique des caractères non hydrogénoïdes et leur évolution découlent simplement de la variation avec z des défauts quantiques et de leurs différences.

3.1. Variation isoélectronique des défauts quantiques et de leurs différences

La figure 8 montre la variation des défauts quantiques asymptotiques μ_s, μ_p, μ_d et μ_f en fonction de la charge résiduelle z le long des séquences isoélectroniques. La variation isoélectronique des défauts quantiques dépend considérablement de la valeur de ℓ (**Edlèn** 1964). Pour ℓ petit (s,p), le défaut quantique $\mu_{n\ell}$ dû principalement à la péné-

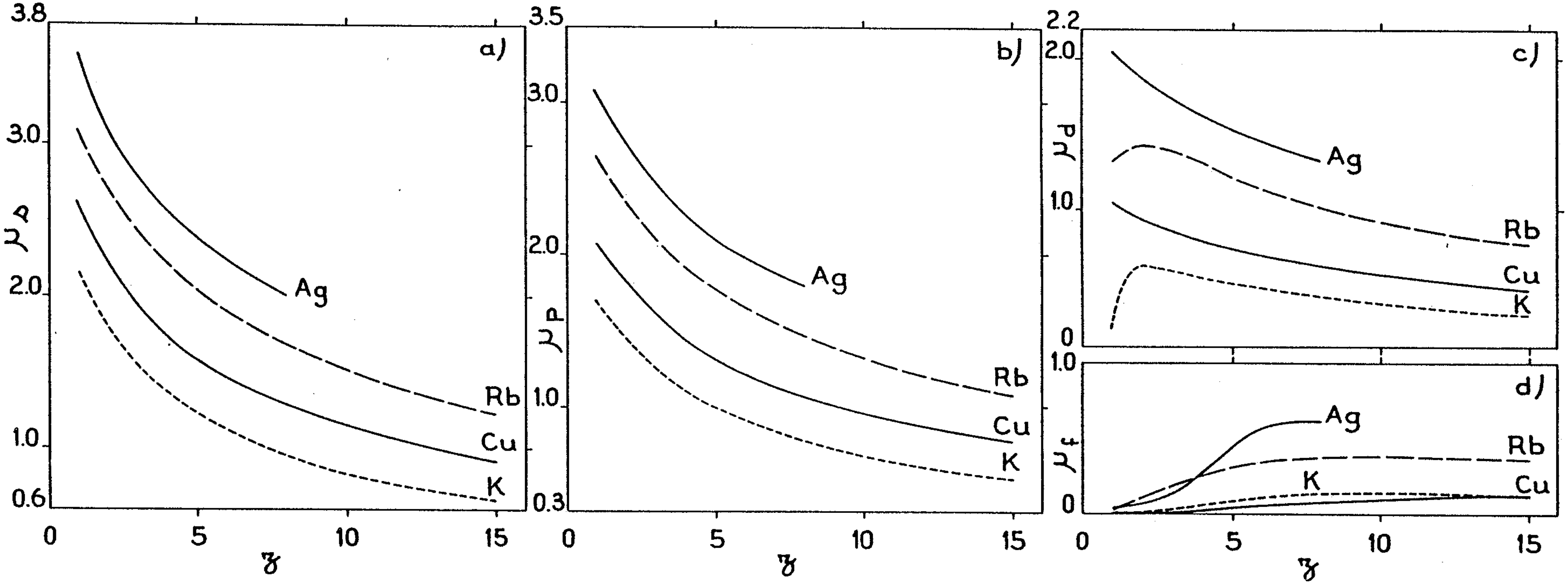


FIGURE 8 : Variation des défauts quantiques asymptotiques μ_s, μ_p, μ_d et μ_f le long des séquences de K, Cu, Rb, et Ag.

tration de l'orbitale $n\ell$ dans le coeur décroît lorsque z croît le long d'une séquence. Pour ℓ grand (f) ce sont les effets de polarisation du coeur qui contribuent le plus au défaut quantique $\mu_{n\ell}$; pour ces orbitales non pénétrantes $\mu_{n\ell}$ croît d'abord avec z, atteint un maximum et puis décroît. Pour le défaut quantique des états nd, ainsi qu'en a discuté **Manson** (1969), il dépend considérablement de l'élément étudié en raison de l'existence de barrières de potentiel dans le potentiel effectif vu par l'électron d de certains éléments particuliers. La variation isoélectronique de μ_d pour les séquences de K et Rb diffère de celle observée pour les séquences de Cu et Ag aux faibles valeurs de z, ainsi qu'il apparaît dans la figure 8. A l'exception de ces faibles valeurs, la décroissance monotone avec z résulte de la pénétration de l'orbitale nd dans le coeur.

La figure 9 montre la variation des différences des défauts quantiques asymptotiques $\Delta\mu_{\ell\ell'}$ en fonction de z le long des séquences. Les trois séries de courbes μ_s, μ_p, μ_d ($z \geq 3$) sont très semblables (figure 8), et les écarts entre les courbes d'une série donnée sont voisins des écarts entre les courbes d'une autre série. Ainsi $\Delta\mu_{sp}$ et à un degré moindre $\Delta\mu_{dp}$ dépendent peu de la séquence. Il est à noter que les courbes correspondant aux séquences Rb, Cu et Ag sont pratiquement confondues. Il n'en est plus de même pour $\Delta\mu_{df}$ et $\Delta\mu_{fg}$ qui dépendent de chaque séquence, en raison des variations très différentes de μ_d et μ_f avec z. Les valeurs de $\Delta\mu^o_{\ell\ell'}$ déterminent bien comme pour les alcalins l'apparition des minima dans les courbes des sections efficaces des séquences isoélectroniques de K, Rb, Cu et Ag. Ceci est illustré sur les figures 9(a) et 9(b) pour les transitions $nd \rightarrow \varepsilon'p$ et $nd \rightarrow \varepsilon'f$. Les éléments dont $\sigma'_{nd,\ell'}(\varepsilon')$ est du ty- (c) sont repérés par des points et ceux pour lesquels $\sigma'_{nd,f}(\varepsilon')$ est de type (e) par des croix ; les points et croix se trouvent dans les bonnes zones séparées par les valeurs de $|\Delta\mu^o_{d\ell'}| + k$.

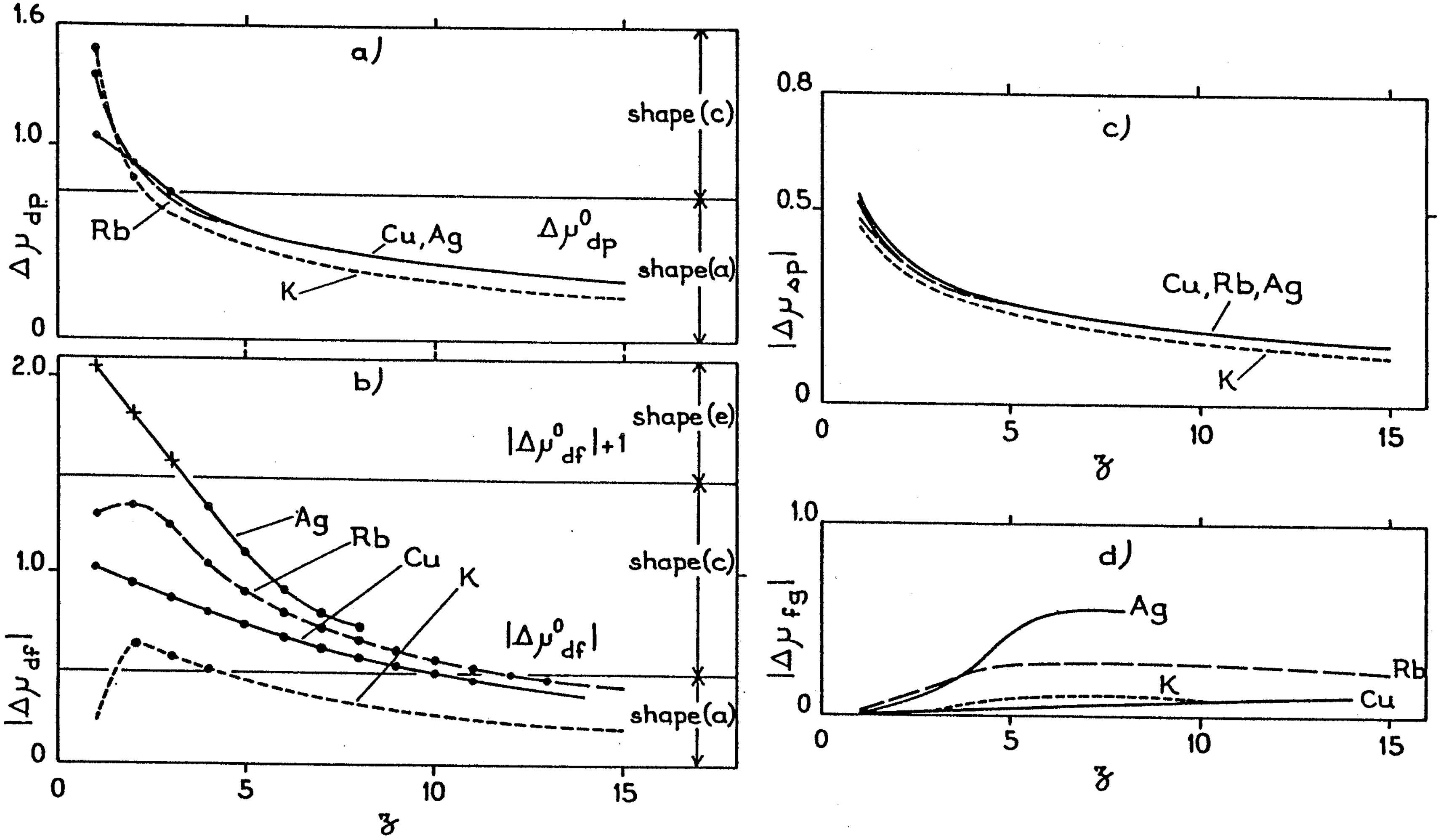


FIGURE 9 : Variation des différences de défauts quantiques asymptotiques $\Delta\mu_{\ell\ell'}$ en fonction de z. Dans les figures (a) et (b) les éléments pour lesquels $\sigma'_{nd,\ell'}(\varepsilon')$ est de type (c) sont repérés par des ., ceux pour lesquels $\sigma'_{nd,\ell'}(\varepsilon')$ est de type (e) par des +.

3.2. Systématique de la photoionisation

Nous allons maintenant illustrer la systématique de la photoionisation des états excités ns, nd et nf.

3.2.1. Etats ns

La figure 10 montre la variation avec n des sections efficaces au seuil $\sigma'_{ns}(0)$ le long des quatre séquences. Comme pour z donné la différence de défauts quantiques asymptotique $\Delta\mu_{sp}$ est quasiment indépendante de la séquence (figure 9c), les quatre séries de courbes sont très similaires. Les valeurs obtenues pour la séquence du K s'écartent le plus des valeurs obtenues dans les autres séquences ; il en était de même dans la figure 9c. En particulier la série $\sigma'_{ns}(0)$ de Ca^+ ne présente pas de minimum, puisque toutes les courbes correspondantes $\sigma'_{ns}(\varepsilon')$ sont de même type (b). Les valeurs $\sigma'_{ns}(0)$ des atomes neutres (formes de type (c)) et des premiers ions des séquences (types (b), (c)) diffèrent de celles de l'hydrogène, en raison d'importants effets d'annulation dans les éléments de matrice de transition $R_{ns,p}(\varepsilon')$. Les minima très accusés de Zn^+, Sr^+ et Cd^+ proviennent du changement de forme de (b) à (c) de $\sigma'_{ns}(0)$ le long de leur série ns respective. Pour les ions suffisamment chargés ($z \geq 3$), les valeurs des sections efficaces tendent régulièrement et progressivement vers les valeurs de l'hydrogène le long des séquences.

3.2.2. Etats nd

La figure 11 montre la variation avec n des sections efficaces au seuil $\sigma'_{nd}(0)$ le long des quatre séquences. Elle indique clairement de grandes différences entre les séquences, $\Delta\mu_{df}$ dépendant particulièrement de la séquence (figure 9b). Les minima très accusés qui apparaissent ont pour origine le changement de forme de $\sigma'_{nd,f}(\varepsilon')$ de (b) à (c) pour

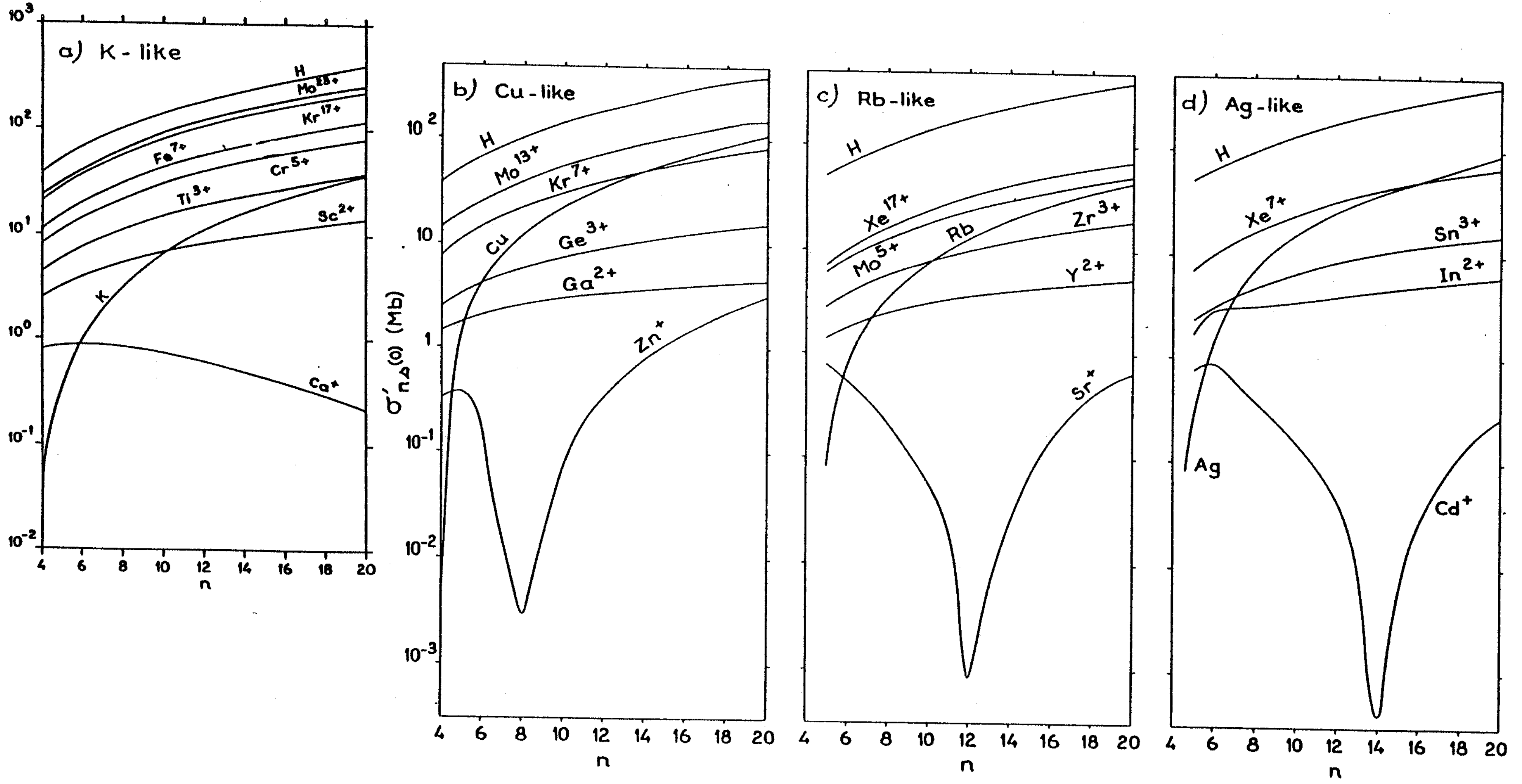


FIGURE 10 : Variation avec n des sections efficaces au seuil $\sigma'_{ns}(0)$ pour les séquences de K(a), Cu(b), Rb(c) et Ag(d).

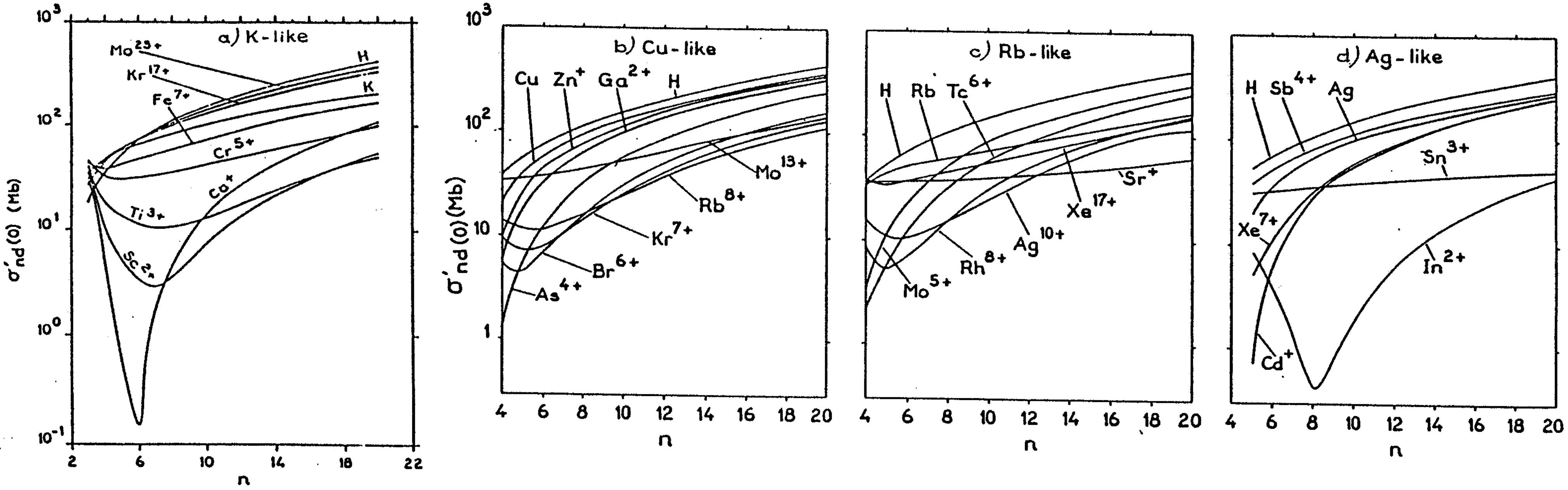


FIGURE 11 : Variation avec n des sections efficaces au seuil $\sigma'_{nd}(0)$ pour les séquences de K(a), Cu(b), Rb(c) et Ag(d).

Ca^{+}, Br^{6+} et Rh^{8+} ou de (d) à (e) pour In^{2+}. Les minima sont très marqués pour Ca^{+} et In^{2+} car pour ces ions simultanément $\sigma'_{nd,p}(\varepsilon')$ change aussi de (b) à (c) le long de la séquence. La présence de minima dans $\sigma'_{nd,f}(\varepsilon')$ (voir figure 9) explique aussi que les valeurs $\sigma'_{nd}(0)$ pour beaucoup d'ions soient très différentes de celles de l'hydrogène. Les contributions relatives de $\sigma'_{nd,p}(\varepsilon')$ et $\sigma'_{nd,f}(\varepsilon')$ dans $\sigma'_{nd}(\varepsilon')$ dépendent considérablement de n et de chaque élément étudié, et bien souvent on a $\sigma'_{nd,f}(\varepsilon') < \sigma'_{nd,p}(\varepsilon')$. Il en résulte que l'évolution des valeurs de $\sigma'_{nd}(\varepsilon')$ vers celles de l'hydrogène n'est régulière le long d'aucune des séquences.

3.2.3. Etats nf

Dans les séquences isoélectroniques de K, Cu et Rb les sections efficaces $\sigma'_{nf}(\varepsilon')$ ne sont pas très différentes de celles de l'hydrogène, en relation avec la faible valeur relative de $\Delta\mu_{fg}$ (voir figure 9d). Nous ne discuterons donc que le cas de la séquence de Ag. La figure 12 présente l'évolution avec n des sections efficaces au seuil $\sigma'_{nf}(0)$ le long de la séquence de Ag. Les valeurs de $\sigma'_{nf}(\varepsilon')$ dépendent principalement de celles de $\sigma'_{nf,g}(\varepsilon')$. Les valeurs de $\sigma'_{nf}(0)$ de Ag sont les mêmes que celles de l'hydrogène et diffèrent considérablement de celles des ions les plus chargés Te^{5+}-Xe^{7+}. De fait les minima très accusés qui apparaissent proviennent du changement de forme de $\sigma'_{nf,g}(\varepsilon')$ de (b) à (c) le long de la série nf. Ce changement de forme intervient pour Te^{5+}-Xe^{7+} alors que $\sigma'_{nf,g}(\varepsilon')$ est de forme hydrogénoïde (a) pour Ag-Sn^{3+}, en relation avec les valeurs relatives de $\Delta\mu_{fg}$ (voir figure 9d). Là encore le minimum le plus accusé observé pour I^{6+} est dû au fait que les valeurs de $\sigma'_{12f,g}(0)$ et $\sigma'_{12f,d}(0)$ sont simultanément très faibles. Ainsi les caractères non hydrogénoïdes n'apparaissent que pour les ions les plus chargés et l'évolution de $\sigma'_{nf}(\varepsilon')$ vers des valeurs hydrogénoïdes est très irrégulière le long de la séquence de Ag.

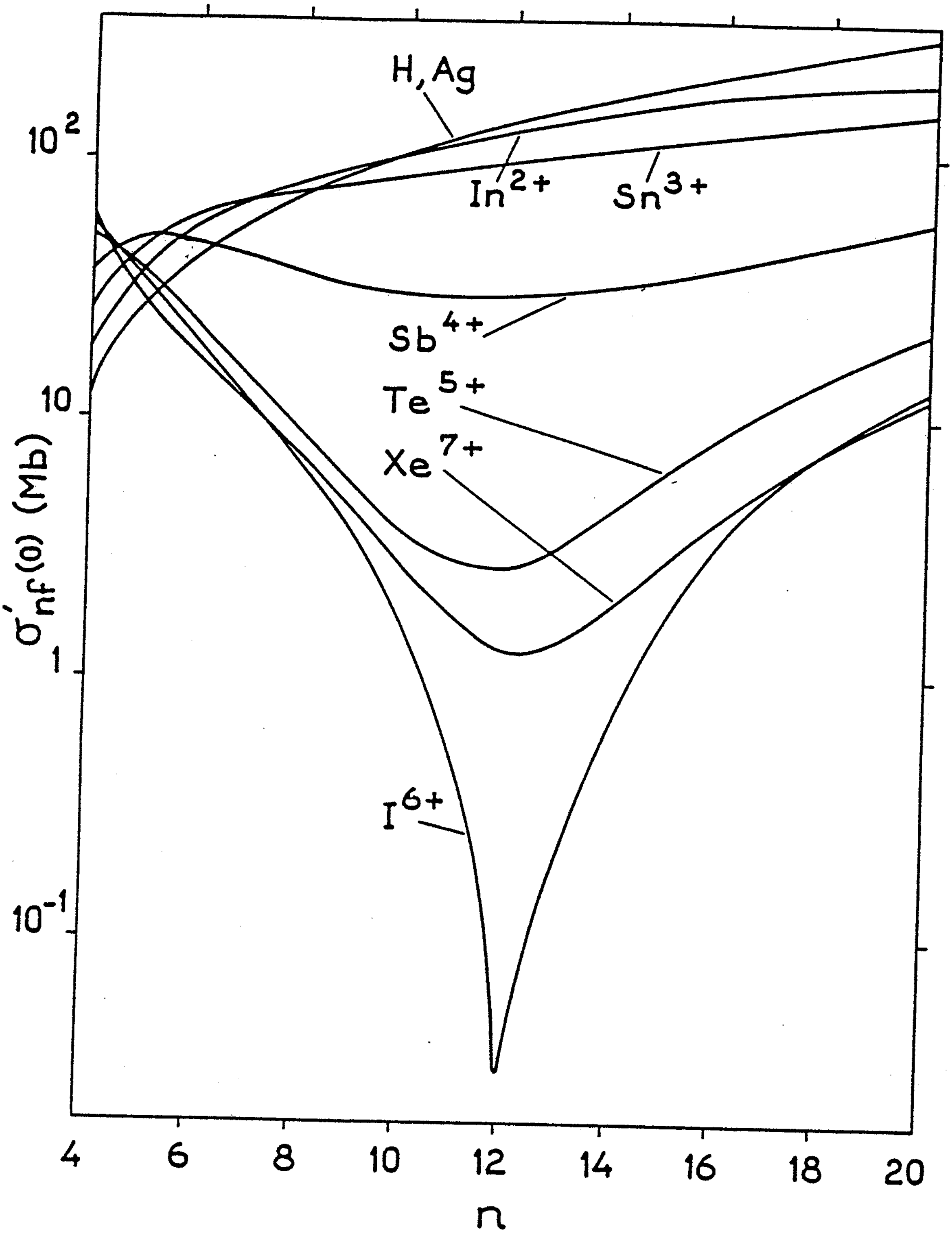


FIGURE 12 : Variation avec n des sections efficaces au seuil $\sigma'_{nf}(0)$ pour la séquence de Ag.

3.3. Discussion

Les paragraphes précédents montrent clairement que la théorie du défaut quantique et les formules (II.8,9) sont bien adaptées à l'analyse de la systématique de la photoionisation des états excités des systèmes à un électron. Un résultat intéressant concerne la quasi invariance de la variation isoélectronique de la photoionisation à partir des états ns le long des quatre séquences étudiées. Il en est de même pour la photoionisation à partir des états np (voir annexe IV). Par contre le comportement isoélectronique pour la photoionisation à partir des états nd et nf dépend beaucoup de la séquence étudiée. Un autre point à souligner concerne le comportement isoélectronique particulier obtenu pour la photoionisation à partir des états nf dans la séquence de Ag. Les caractères non hydrogénoïdes sont plus marqués pour les ions relativement chargés que pour les premiers ions de la séquence.

En résumé, des caractères non hydrogénoïdes très marqués et très divers ont été mis en évidence dans les sections efficaces partielles et totales de photoionisation à partir des états fondamentaux et excités $n\ell$ ($n \leq 20$, $\ell \leq 3$), dans les séquences isoélectroniques de K, Rb, Cu et Ag. Ces caractères sont très étroitement liés aux valeurs relativement importantes des défauts quantiques des états $n\ell$ concernés. Des évolutions régulières et irrégulières de ces caractères non hydrogénoïdes le long des séries de Rydberg ns-nf et le long des séquences étudiées ont été observées. Enfin le comportement similaire ou différent de ces séquences a été noté.

IV. DISCUSSION CRITIQUE DES RESULTATS OBTENUS

La validité des résultats obtenus concernant les sections efficaces de photoionisation a été analysée d'une part en étudiant la sensibilité au choix du potentiel utilisé, et d'autre part en comparant nos résultats à ceux obtenus antérieurement. Par ailleurs notre modèle d'analyse de la systématique des caractères non hydrogénoïdes est comparé à celui de l'équipe de Manson.

Les sections efficaces de photoionisation des états $n\ell$ des premiers éléments des séquences de K et Rb ont été calculées en utilisant trois différents modèles de potentiel central (a), (b) et (c) décrits dans la section I. Rappelons que seul le modèle (b) prend en compte les effets de polarisation de coeur. De la comparaison des résultats ainsi obtenus on peut tirer plusieurs conclusions.

a) Pour tous les états où des effets d'annulation dans les éléments de matrice de transition conduisent à des minima dans les courbes de photoionisation, les sections efficaces sont très faibles par rapport à celles de H et donc sensibles au choix du potentiel. Par contre en l'absence de tels effets d'annulation, les résultats obtenus avec différents potentiels sont très voisins. Ce point est illustré dans l'annexe I sur l'exemple particulier des sections efficaces de photoionisation de Rb et Sr^+. Quelques comparaisons typiques sont aussi données dans la colonne (3) de la table 2 correspondant aux états excités de Rb. Il est très net que les différences les plus grandes entre les résultats (a), (b) et (c) apparaissent pour le niveau 6s dont la section efficace $\sigma'_{6s}(0)$ est très petite à cause de la présence d'un minimum de Cooper près du seuil.

TABLE 2

Etat	Energie	Nos résultats	Autres résultats théoriques **Moskvin** (1963)	Résultats expérimentaux
5p	$\varepsilon = 0$	14.0 (a) 13.0 (b) 12.5 (c)	≃ 14	
	$\varepsilon = 0.016$ $\lambda = 0.44\ \mu m$	13.0 (a) 12.2 (b) 11.9 (c)	11.5	9.6±0.2 (**Klyucharev** and **Sepman** 1975)
6p	$\varepsilon = 0.04$ $\nu = 14404\ cm^{-1}$	10.7 (a) 9.7 (b) 9.9 (c)		$6p_{1/2}$ 15±4 (**Ambartzumian** et al. 1976) $6p_{3/2}$ 17±4 "
	$\varepsilon = 0.17$ $\nu = 28806\ cm^{-1}$	3.3 (a) 3.3 (b) 3.2 (c)		$6p_{3/2}$ 1.9±0.5 "
4d	$\varepsilon = 0$	35.7 (a) 34.0 (b) 33.3 (c)	≃ 40	
6s	$\varepsilon = 0$	1.0 (a) 0.77 (b) 0.85 (c)	≃ 1	

Table 2 : Comparaison des résultats obtenus pour Rb à l'aide des trois modèles de potentiels a), b) et c) avec des résultats théoriques et expérimentaux antérieurs.

b) Les différences entre les résultats provenant de l'introduction des effets de polarisation de coeur (comparaison des résultats (a) et (b)) sont souvent du même ordre de grandeur que les différences entre les résultats obtenus avec les potentiels (a) et (c) qui négligent tous deux les effets de polarisation du coeur. Ainsi la validité des résultats dépend beaucoup de la qualité du potentiel représentant les effets du coeur et non pas uniquement des effets de polarisation de coeur.

c) Les effets de polarisation de coeur augmentent avec la charge Z de l'élément considéré et sont beaucoup plus importants dans les premiers éléments de la séquence de Rb que dans ceux de la séquence de K. Le rôle de ces effets diminue le long d'une série de Rydberg $n\ell$ donnée, confirmant les résultats obtenus antérieurement par **Aymar** (1978). De plus les travaux de **Shevelko** (1974) ont aussi montré que ces effets diminuent le long des séquences isoélectroniques.

Le meilleur test de validité de nos résultats est fourni par la comparaison de ceux-ci aux données expérimentales. Malheureusement celles-ci sont très peu nombreuses, concernant essentiellement les niveaux fondamentaux 4s de K (**Marr** and **Creek** 1968, **Sandner** et al. 1981) et 5s de Rb (**Marr** and **Creek** 1968) et les niveaux 5p et 6p de Rb (**Klyucharev** and **Sepman** 1975, **Ambartzumian** et al. 1976) ; encore faut-il noter que pour ces états excités les sections efficaces n'ont été mesurées que pour quelques longueurs d'onde précises. Les courbes de sections efficaces des niveaux fondamentaux des alcalins présentant un minimum de Cooper sont particulièrement sensibles au détail des fonctions d'onde. Les calculs réalisés avec le potentiel (b) reproduisent bien les données expérimentales de Rb ; l'accord est un peu moins satisfaisant pour K mais il faut noter que les effets d'annulation apparaissant dans les éléments de matrice sont particulièrement grands dans ce cas. Aucune conclusion concernant la validité de l'ensemble des résultats ne peut être déduite de la seule comparaison portant sur les états fondamentaux, dont les sections efficaces sont particulièrement sensibles. En ce qui concerne les niveaux excités de Rb la table 2 montre que l'accord théorie expérience est moyen mais non significatif vu le peu de données expérimentales.

De manière pratique, pour les éléments K-Ti^{3+} dont les polarisabilités statiques dipolaires sont faibles nos calculs ont été réalisés en utilisant le potentiel (a) ; ces résultats sont quasiment identiques à ceux obtenus par **Aymar** et al. (1976) avec le potentiel (c). En raison du bon accord avec les résultats expérimentaux obtenus avec le potentiel (b) pour Rb 5s, ce potentiel est utilisé pour les premiers éléments des séquences de Rb, Cu et Ag dont les polarisabilités dipolaires statiques sont importantes (**Chichkov** and **Shevelko** 1981). Pour les ions plus chargés dont les spectres d'énergies sont peu ou pas connus nous utilisons le potentiel ab initio décrit dans la section I.

Chaque fois que cela a été possible nos résultats ont été comparés aux résultats théoriques obtenus par d'autres auteurs. Quelques résultats typiques sont donnés dans la table 2 pour Rb et dans la table 3 pour certains éléments de la séquence de K. Un accord satisfaisant est obtenu, les états concernés ayant des sections efficaces peu sensibles au modèle choisi. D'autres comparaisons réalisées pour des états ns et nd de Cu et Ag dont les sections efficaces présentent un ou plusieurs minima montrent que nos résultats diffèrent un peu plus de ceux calculés par d'autres auteurs (voir annexe IV); cependant les formes des courbes de section efficace (type (c) ou (e)) prédites sont les mêmes, le désaccord intervenant au niveau de la position exacte des extrema. Des données expérimentales et théoriques additionnelles sont nécessaires pour mieux juger de la validité de l'ensemble de nos résultats.

TABLE 3

Elément	Etat	Nos résultats	**Moskvin** (1963)	**Msezane** (1984)[a] HS	L	V	**Mc Ginn** (1970)	**Black et al.** (1972)	**Reilman and Manson** (1978)
K	5s	0.33	0.52						
	4p	4.72	4.80						
	3d	27.14	35.00	31.35	24.83	24.76			
Ca^{+}	4s	0.198					0.171	0.209	
Fe^{7+}	3d	0.698							0.766

[a]HS, Hartree-Slater

L, longueur

V, vitesse.

Table 3 : Comparaison des sections efficaces au seuil obtenues pour quelques éléments de la séquence de K avec des résultats théoriques antérieurs.

L'analyse de la sensibilité de nos résultats au choix du potentiel et les comparaisons aux résultats antérieurs montrent clairement que notre modèle reproduit de manière satisfaisante les caractéristiques de la photoionisation des états excités. Ce modèle est donc tout à fait adapté à des études intensives de systématique. Nos résultats concernant ces études de systématique sont à comparer à ceux obtenus par l'équipe de Manson (**Msezane** and **Manson** 1982, **Lahiri** and **Manson** 1982, 1986, **Manson** 1985). Les travaux de cette équipe, menés parallèlement aux nôtres à l'aide du potentiel Hartree Slater, ont porté sur la photoionisation de quelques états excités des alcalins et sur la photoionisation des états fondamentaux de tous les éléments du tableau périodique, ces derniers travaux ayant pour but d'analyser la systématique des minima apparaissant dans les sections efficaces partielles correspondant aux diverses sous-couches. Lorsqu'une comparaison avec nos résultats est possible, l'accord est en général satisfaisant. L'interprétation qu'ils donnent de l'existence des minima et de l'évolution de la position de ceux-ci avec Z est aussi similaire à la nôtre puisque basée sur la différence entre le déphasage des fonctions du continuum et le défaut quantique des états liés. Une différence notable par rapport à notre étude concerne les valeurs critiques correspondant à l'apparition des zéros : ils utilisent la valeur $\Delta\mu^{0} = 0.5$ quelle que soit la transition $n\ell \rightarrow \varepsilon\ell'$ considérée, valeur beaucoup moins précise que nos valeurs $\Delta\mu^{0}_{\ell\ell'}$. En particulier leur modèle ne permet pas d'expliquer la différence de forme observée parfois pour les sections efficaces correspondant aux transitions $n\ell \rightarrow \varepsilon(\ell+1)$ et $n(\ell+1) \rightarrow \varepsilon\ell$. Une illustration de ce point peut être trouvée dans la table 1 à propos des transitions $ns \rightarrow \varepsilon p$ (type (c)) et $np \rightarrow \varepsilon s$ (type (a)) de Cs.

V. CALCULS RELATIVISTES

Les résultats précédents ont été obtenus à l'aide d'un modèle à champ central non relativiste. Les effets relativistes peuvent être importants pour la photoionisation d'éléments de charge nucléaire Z relativement élevée, même aux basses énergies. Nous avons évalué ces effets pour les ions multichargés moyennement lourds à l'aide d'un modèle relativiste à champ central, et comparé les calculs relativistes aux résultats non relativistes.

1) Modèle relativiste à champ central

C'est une généralisation du modèle non relativiste introduit dans la section I.A.II.2.1 et le traitement est analogue. Les fonctions d'onde relativistes approchées $|\psi_i>$ et $|\psi_f>$ du Hamiltonien relativiste du système $X^{(z-1)+}$ sont des déterminants de Slater (ou des combinaisons de déterminants de Slater) solutions propres du Hamiltonien approché

$$H_D = \sum_{i=1}^{N} \left(c\vec{\alpha}_i.\vec{p}_i + \beta_i mc^2 + eV(r_i)\right) . \qquad \text{(II.10)}$$

Les déterminants de Slater sont construits à partir des N fonctions d'onde Φ solutions propres du Hamiltonien monoélectronique qui s'exprime en unités atomiques (énergies et potentiel en Rydbergs) :

$$h_D|\Phi) = E|\Phi) \qquad \text{(II.11a)}$$

$$h_D = 2(c\vec{\alpha}.\vec{p} + \beta c^2) + V(r) \qquad \text{(II.11b)}$$

où $\vec{p}$ est l'impulsion de l'électron, $c = 1/\alpha$ l'inverse de la constante de structure fine. $\vec{\alpha}$ et β, opérateurs agissant sur le spin, sont dans la représentation de Dirac des matrices d'ordre 4 qui s'expriment à l'aide de matrices d'ordre 2 :

les matrices de Pauli et la matrice unité. La solution $|\Phi)$ correspondant à l'énergie E se présente sous la forme d'une matrice à une colonne et quatre lignes que l'on peut noter

$|\Phi) = \begin{pmatrix}\Phi_1\\ \Phi_2\end{pmatrix}$ où Φ_1 et Φ_2 sont des matrices à une colonne et deux lignes.

L'énergie totale E comprend l'énergie associée à la masse de l'électron $E = 2c^2 + \varepsilon$; ε est négatif pour les états du spectre discret et positif pour ceux du continuum.

Dans le cas d'un potentiel central, h_D commute avec les opérateurs $\vec{j}^2$, j_z et parité associés aux valeurs propres j, m et π. j est le moment angulaire total ($\vec{j} = \vec{\ell} + \vec{s}$), m le moment angulaire magnétique et la parité $\pi = (-1)^{\ell}$. L'état propre correspondant aux valeurs E, j, m et π s'écrit

$$|\Phi) = \begin{pmatrix} G(r)/r & |s\ell jm> \\ iF(r)/r & |s\bar{\ell} jm> \end{pmatrix} \qquad \text{(II.12)}$$

où $\bar{\ell} = 2j - \ell$ et $|s\ell jm>$ est un spineur à deux composantes. Les fonctions radiales G(r) et F(r) sont solutions du système d'équations différentielles couplées du premier ordre :

$$\begin{cases} \dfrac{dG}{dr} + \dfrac{\chi}{r} G - \left\{2c + \dfrac{\varepsilon - V(r)}{2c}\right\} F = 0 \\ \dfrac{dF}{dr} - \dfrac{\chi}{r} F + \dfrac{\varepsilon - V(r)}{2c} G = 0 \end{cases} \qquad \text{(II.13)}$$

avec $\chi = (-1)^{\ell+j+1/2}(j+1/2)$.

Les orbitales discrètes ($\varepsilon < 0$) sont normalisées à l'unité par $\int_0^\infty (G^2 + F^2)dr = 1$ et celles du continuum par unité d'énergie en Rydbergs

$$\int_0^\infty (GG' + FF')dr = \pi\delta(\varepsilon-\varepsilon').$$

Notons que dans la limite non relativiste ($\varepsilon << c^2$ et $|V(r)| << c^2$) le système peut être développé suivant les puissances de α^2. On obtient à l'ordre le plus bas :

$$G_{n\ell j} \rightarrow P_{n\ell}$$
$$F_{n\ell j} \rightarrow \frac{\alpha}{2}\left(\frac{d}{dr} + \frac{\chi}{r}\right) P_{n\ell} \; . \qquad \text{(II.14)}$$

2) Sections efficaces

Nous nous limitons au cas des systèmes à un électron de valence où un seul électron actif passe d'une orbitale liée à une orbitale libre. L'expression de la section efficace de photoionisation est obtenue de façon analogue au cas non relativiste (section I.A.II.1.2). On considère dans la jauge de Coulomb et à l'approximation dipolaire l'élément de matrice du Hamiltonien d'interaction qui se réduit à $(\Phi_{\varepsilon\ell'j'm'}|\vec{\alpha}.\vec{\varepsilon}|\Phi_{n\ell jm})$. En effectuant les calculs on obtient :

$$\sigma_{n\ell j} = (64.29\times10^{-15})\frac{1}{(\varepsilon-\varepsilon_{n\ell j})}\,\frac{1}{2j+1} \sum_{\ell'=\ell\pm1} \; \sum_{j'=\ell'\pm\frac{1}{2}}$$
$$\times \; |(\varepsilon\ell'j'\|\alpha^{(1)}\|n\ell j)|^2 \;\; (\mathrm{cm}^2) \qquad \text{(II.15)}$$

et les règles de sélection $|j-1| \leq j' \leq j+1$. En remplaçant l'élément de matrice réduit $(\varepsilon\ell'j'\|\alpha^{(1)}\|n\ell j)$ par sa valeur (**Grant** 1970) il vient :

$$\sigma_{n\ell j}(\varepsilon) = (64.29\times10^{-15})\frac{1}{(\varepsilon-\varepsilon_{n\ell j})} A_j \;\; (\mathrm{cm}^2) \; . \qquad \text{(II.16)}$$

On a pour le sous-niveau de structure fine $j = j_+ = \ell + \frac{1}{2}$:

$$A_j = \frac{2j-1}{j}\langle F'_{-+}|G_+\rangle^2 + \frac{1}{j(j+1)}\left\{(j+1)\langle F'_{+-}|G_+\rangle + j\langle G'_{+-}|F_+\rangle\right\}^2$$
$$+ \frac{2j+3}{j+1}\langle G'_{++}|F_+\rangle^2 \qquad \text{(II.17)}$$

et pour le sous-niveau de structure fine $j = j_- = \ell - \frac{1}{2}$:

$$A_j = \frac{2j-1}{j}\langle G'_{--}|F_-\rangle^2 + \frac{1}{j(j+1)}\left\{j\langle F'_{-+}|G_-\rangle + (j+1)\langle G'_{-+}|F_-\rangle\right\}^2$$
$$+ \frac{2j+3}{j+1}\langle F'_{+-}|G_-\rangle^2 \ . \qquad \text{(II.18)}$$

Dans les relations (II.17) et (II.18), $G_\pm(F_\pm)$ correspond à $G_{n\ell j=\ell\pm\frac{1}{2}}(F_{n\ell j=\ell\pm\frac{1}{2}})$, $G'_{\pm\pm}(F'_{\pm\pm})$ à $G'_{\varepsilon\ell'=\ell\pm1\ j'=\ell'\pm\frac{1}{2}}(F'_{\varepsilon\ell'=\ell\pm1\ j'=\ell'\pm\frac{1}{2}})$

$\langle G'|F\rangle = \int_0^\infty G'(r)F(r)dr.$

En utilisant les limites non relativistes des fonctions F et G (équation (II.14) on peut obtenir les limites des A_j (équations II.17, II.18) :

$$A_j \rightarrow \frac{4}{2\ell+1}\left(\ell R_-^2 + (\ell+1)R_+^2\right) \text{ pour tout } j \text{ où}$$

$$R_\pm = \frac{\alpha}{2}\left\{\int_0^\infty P_{n\ell}(r)\left(\frac{2\ell+1\pm1}{2r} \pm \frac{d}{dr}\right)P_{\varepsilon,\ell\pm1}(r)dr\right\} .$$

La limite non relativiste de $\sigma_{n\ell j}$ (équation II.16) redonne alors l'expression dans la formulation vitesse du dipôle $\sigma^V_{n\ell}(\varepsilon)$ pouvant être obtenue dans l'approximation non relativiste à partir des équations (I.21) et (I.23), de façon analogue à $\sigma_{n\ell}(\varepsilon)$. Dans l'approximation du modèle à potentiel central à un électron les deux relations (I.22) et (I.23) donnent des résultats identiques à condition d'utiliser pour $h\nu$ la valeur théorique $h\nu = \varepsilon - \varepsilon_{n\ell}$ (équation I.28).

3) Méthode de calculs et résultats

Pour faire une comparaison entre les calculs non relativistes et relativistes nous introduisons une moyenne sur les sections efficaces $\sigma_{n\ell j+}$ (équations II.16 et II.17) et $\sigma_{n\ell j-}$ (équations II.16 et II.18) :

$$\sigma^{Moy} = \frac{(2j_++1)\sigma_{n\ell j+} + (2j_-+1)\sigma_{n\ell j-}}{(2j_++1) + (2j_-+1)} .$$

Plus explicitement on a :

$$\sigma^R_{n\ell}(\varepsilon) = \frac{(\ell+1)\sigma_{n\ell j+}(\varepsilon) + \ell\sigma_{n\ell j-}(\varepsilon-\Delta I)}{2\ell+1} \quad . \qquad \text{(II.19)}$$

Les seuils d'ionisation correspondant à la photoionisation à partir des niveaux $n\ell j_+$ et $n\ell j_-$ diffèrent : $\Delta I = \varepsilon_{n\ell j+} - \varepsilon_{n\ell j-}$. Dans l'équation (II.19), $\varepsilon(\varepsilon-\Delta I)$ est l'énergie cinétique du photoélectron lors de l'ionisation à partir du niveau $n\ell j_+(n\ell j_-)$.

Pour effectuer les calculs relativistes nous avons utilisé le potentiel paramétrique relativiste de **Luc-Koenig** (1972) qui est une extension du potentiel d) (section I) introduit par **Klapisch** (1971) dans le cas non relativiste. Nous nous sommes servis du programme de calculs de Mme **E.Luc** du Laboratoire Aimé Cotton pour la résolution des équations (II.13) et l'intégration des intégrales radiales des équations (II.17) et (II.18).

Nous avons calculé les sections efficaces $\sigma^R_{n\ell}(\varepsilon)$ (équation II.19) à partir des états fondamentaux et peu excités $n\ell$ ($n \leq 6$, $\ell \leq 2$) de Xe^{17+}, Xe^{7+}, Sn^{3+}, Mo^{23+}, Mo^{13+}, Mo^{5+} et Zr^{3+}. Les résultats au voisinage des seuils sont remarquablement peu différents de ceux des sections efficaces non relativistes $\sigma_{n\ell}(\varepsilon)$ correspondantes. Les écarts les plus importants ne dépassent pas 20 % et concernent surtout les orbitales pénétrantes s et à un degré moindre les orbitales p. Même pour les états nd de Xe^{7+}, Sn^{3+}, Mo^{5+} et Zr^{3+} où il apparaît des minima de Cooper (voir Annexe IV) les différences ne sont pas notables. Les écarts entre les positions des minima dans les cas non relativiste et relativiste sont relativement faibles. Pour les ions multichargés que nous avons étudiés dans le domaine d'énergie considéré les effets relativistes ont peu d'importance. Le traitement non relativiste est donc valable.

B. RECOMBINAISON RADIATIVE DANS LES SEQUENCES ISOELECTRONIQUES DU POTASSIUM, DU RUBIDIUM, DU CUIVRE ET DE L'ARGENT

Nous présentons dans la partie B les résultats de la recombinaison radiative dans les séquences isoélectroniques des alcalins K et Rb, et dans celles de leurs éléments homologues Cu et Ag. Les sections efficaces de capture et les coefficients de recombinaison radiative ont été calculés dans le cadre du modèle théorique décrit dans la section I. Les caractères non hydrogénoïdes des coefficients de recombinaison radiative sont présentés dans la section II.

I. MODELE THEORIQUE UTILISE POUR LE CALCUL DES SECTIONS EFFICACES DE CAPTURE ET DES COEFFICIENTS DE RECOMBINAISON RADIATIVE

Le modèle théorique que nous avons utilisé dans nos calculs est basé sur le principe de microréversibilité des processus physiques direct et inverse. La section efficace de capture $\sigma^C_{n\ell}(\varepsilon)$ et le coefficient de recombinaison radiative $\alpha_{n\ell}(T)$ sur l'état $n\ell$ d'un système recombiné à un électron de valence sont obtenus à partir de la section efficace de photoionisation $\sigma^P_{n\ell}(\varepsilon)$ à l'aide respectivement des relations (I.58) et (I.61). La section efficace $\sigma^P_{n\ell}(\varepsilon)$ est auparavant calculée en utilisant le modèle théorique et les méthodes numériques décrites dans la section II.A.1. A partir des valeurs de $\sigma^P_{n\ell}(\varepsilon)$, le coefficient $\alpha_{n\ell}(T)$ est obtenu par les méthodes standards d'intégrations numériques en calculant une intégrale portant sur l'énergie ε des photoélectrons (équation I.61) dont l'intégrant décroît rapidement lorsque ε croît ; des intervalles d'intégration croissants et successifs sont utilisés jusqu'à ce que la contribution du dernier intervalle devienne négligeable. La zone d'énergie effective correspondante croît avec la température T.

Les coefficients de recombinaison radiative $\alpha_n(T)$ sur la couche n et total $\alpha_t(T)$ sont déduits de $\alpha_{n\ell}(T)$ à partir respectivement des relations (I.56) et (I.57). Nous avons combiné notre modèle avec le modèle hydrogénoïde (voir section I.B.II.1) en considérant : $\alpha_{n\ell}(T) \simeq \alpha^z_{n\ell}(T)$ quel que soit n si $\ell > 3$ et $\alpha_n(T) \simeq \alpha^z_n(T)$ si $n > n_L$ où n_L dépend de l'élément considéré (voir Annexe III).

II. RESULTATS

Les coefficients de recombinaison radiative ont été calculés pour les ions qui se recombinent K^+-Ti^{4+}, Fe^{8+} et Mo^{24+}, Rb^+-Y^{3+}, Cu^+-Ga^{3+} et Ag^+-Sn^{4+}. Le comportement hydrogénoïde de ces coefficients a été rappelé dans la section I.B.II.1. La comparaison des coefficients le long des séquences isoélectroniques et avec la séquence de l'hydrogène est faite en introduisant les variables réduites de température $T' = T/z^2$ et du coefficient de recombinaison radiative $\alpha'(T') = \alpha(z^2T')/z$. Les sections efficaces de photoionisation à partir desquelles les coefficients de recombinaison sont calculés sont relatives à la seule photoionisation de l'électron de valence (voir section A.III). Le calcul de ces sections efficaces est valable au voisinage des seuils et les effets d'autoionisation sont négligés. Dans ces conditions les calculs des coefficients de recombinaison ne concernent qu'une zone réduite choisie de température $500 \leq T \leq 10\ 000$ K pour les éléments de la séquence de K et $500 \leq T' \leq 5\ 000$ K pour tous les autres éléments. La zone d'énergie effective correspondante des photoélectrons est celle pour laquelle les caractères non hydrogénoïdes des sections efficaces de photoionisation sont les plus marqués. Cette zone est d'autant plus réduite que la température est faible.

Les détails de tous les résultats concernant la systématique des caractères non hydrogénoïdes de la recombinaison radiative dans les séquences isoélectroniques de K, Rb, Cu et Ag se trouvent dans les annexes II, III et IV. Ces caractères non hydrogénoïdes sont particulièrement marqués pour les coefficients de recombinaison radiative $\alpha'_{n\ell}(T')$. Nous en illustrons quelques uns parmi les plus remarquables.

1) <u>Variation de $\alpha'_{n\ell}(T')$ en fonction de n, ℓ et T'étant fixés</u>

Les figures 13(b), 14(b) et 15(b) présentent l'évolution avec n des coefficients de recombinaison radiative $\alpha'_{n\ell}(T')$ ($\ell \leq 2$) calculés pour une température T' = 500 K relativement faible. La figure 13(b) correspond aux α'_{ns} de divers éléments de la séquence de K, les figures 14(b) et 15(b), respectivement aux α'_{np} et α'_{nd} d'éléments de la séquence de Ag. Ces valeurs $\alpha'_{n\ell}$ sont comparées aux coefficients $\alpha^H_{n\ell}$ de H. La plupart des coefficients $\alpha'_{n\ell}$ ont la même décroissance monotone avec n que les $\alpha^H_{n\ell}$ correspondants. Certains autres coefficients présentent des minima et des maxima et d'autres caractères non hydrogénoïdes spécifiques que nous allons souligner.

A une température faible la zone effective d'énergie des photoélectrons pour le calcul des coefficients $\alpha'_{n\ell}$ et $\alpha^H_{n\ell}$ est resserée près du seuil. L'évolution avec n de ces coefficients est étroitement liée à celle des sections efficaces au seuil $\sigma'_{n\ell}(0)$ et $\sigma^H_{n\ell}(0)$. Les courbes donnant l'évolution des $\sigma'_{n\ell}(0)$ avec n sont données par les figures 13(a), 14(a) et 15(a).

Les principaux caractères non hydrogénoïdes apparaissant dans l'évolution avec n des $\alpha'_{n\ell}(T')$ sont les suivants :

a) $\alpha'_{n\ell} < \alpha^H_{n\ell}$:

Il apparait dans la figure 13(b) que $\alpha'_{ns} << \alpha^H_{ns}$ pour K et Ca^+. Le comportement non hydrogénoïde des sections ef-

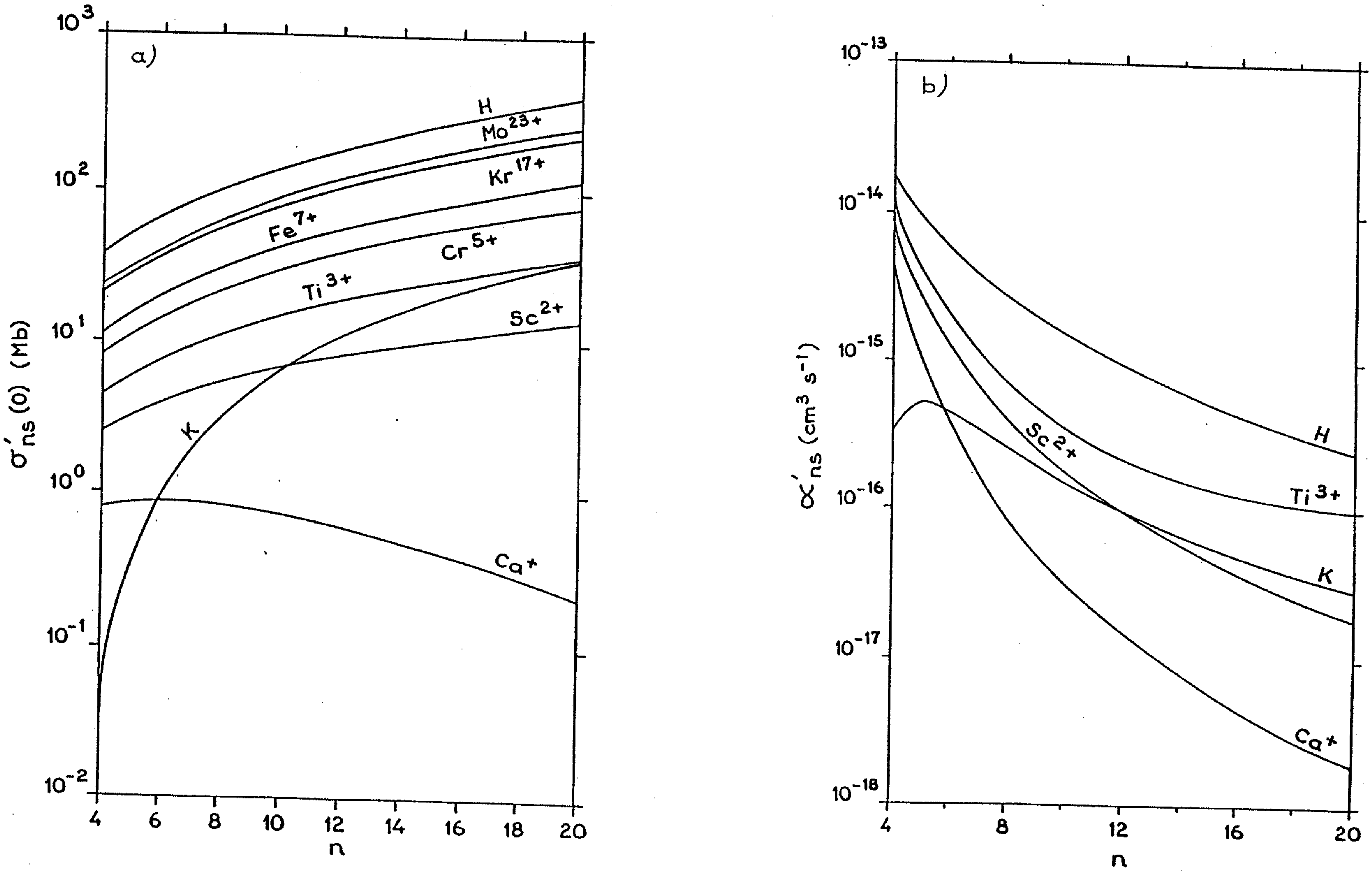
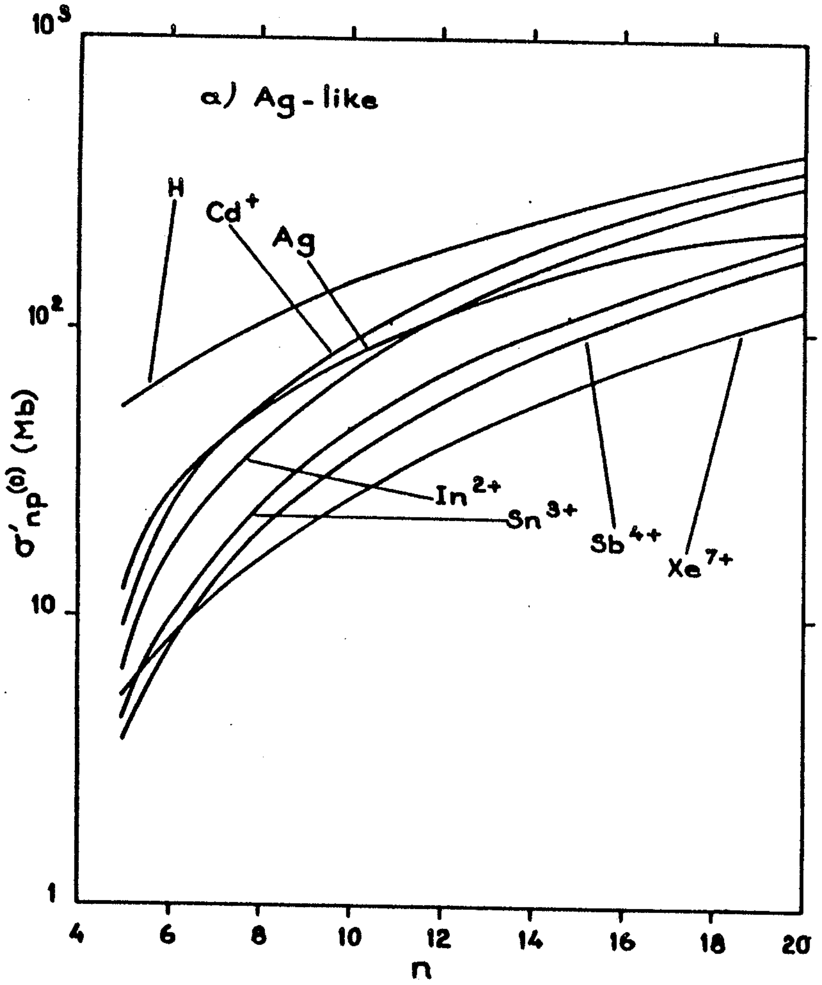
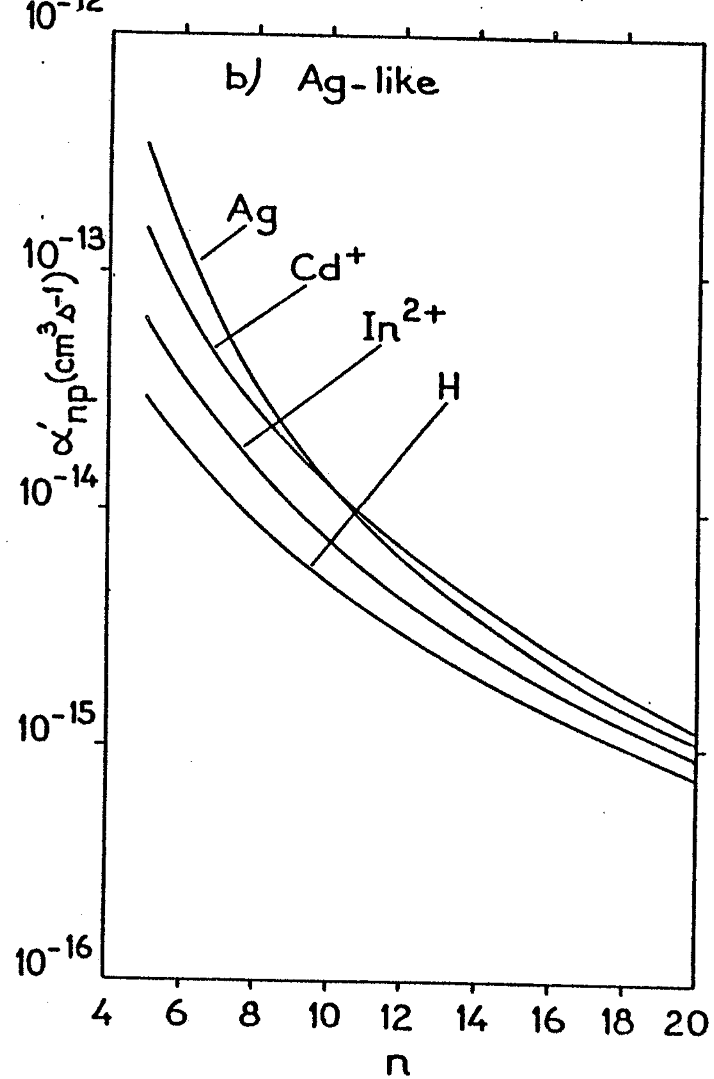


FIGURE 13 : Variation avec n des coefficients de recombinaison radiative α'_{ns} (T'=500 K) le long de la séquence de K(b) reliée à la variation avec n des sections efficaces au seuil $\sigma'_{ns}(0)$(a).





<u>FIGURE 14</u> : Variation avec n des coefficients de recombinaison radiative α'_{np} (T'=500 K) le long de la séquence de Ag(b) reliée à la variation avec n des sections efficaces au seuil $\sigma'_{np}(0)$(a).

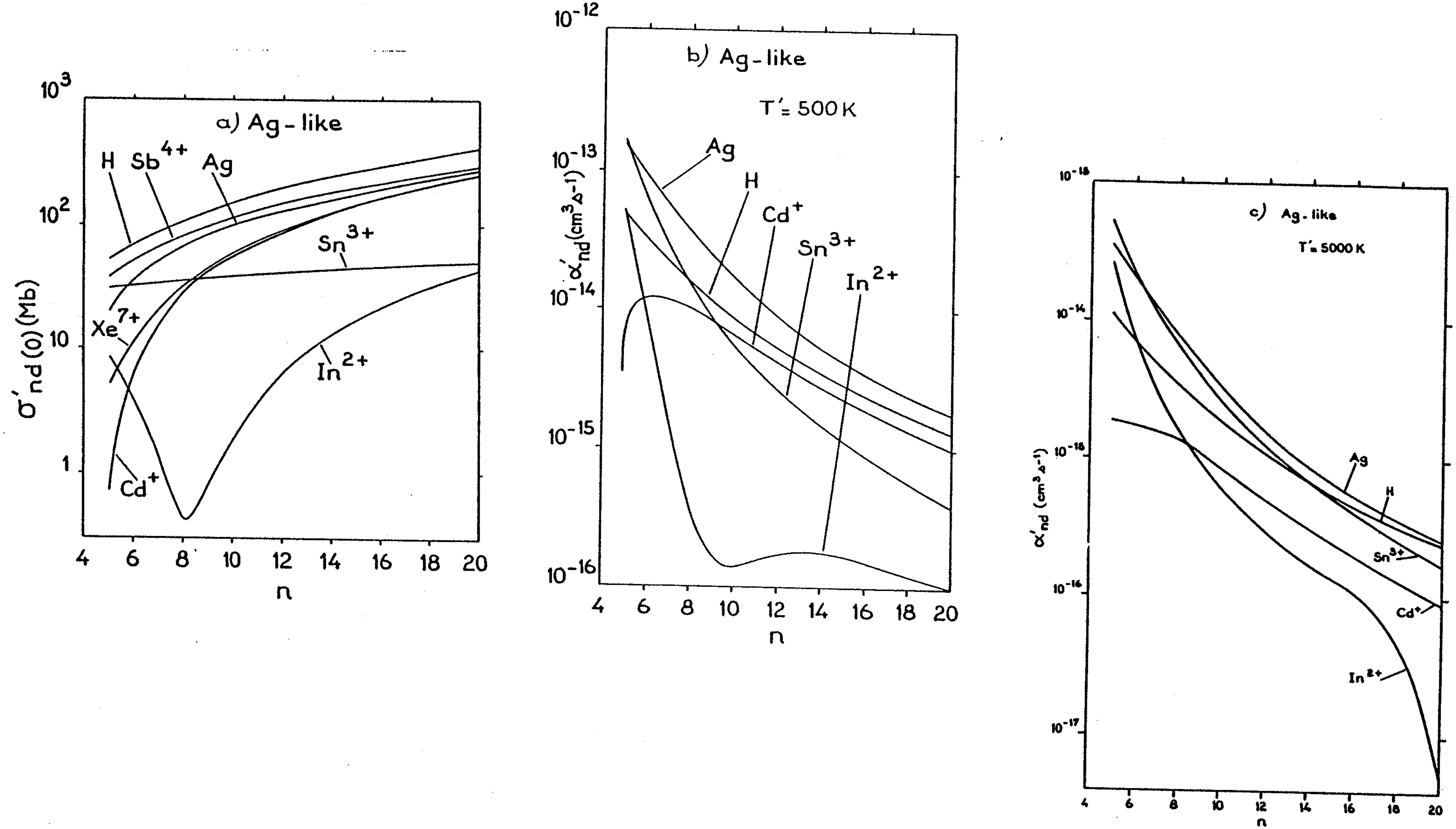


FIGURE 15 : Variation avec n des sections efficaces au seuil $\sigma'_{nd}(0)$ le long de la séquence de Ag(a). Variation avec n des coefficients de recombinaison radiative α'_{nd} pour T'=500 K(b) et T' = 5000 K(c).

ficaces correspondantes $\sigma'_{ns}(\varepsilon')$ au voisinage du seuil conduit à $\sigma'_{ns}(\varepsilon') << \sigma^H_{ns}(\varepsilon')$ (figure 13(a)), et donc à $\alpha'_{ns} << \alpha^H_{ns}$ De manière plus générale les valeurs de $\alpha'_{n\ell}$ faibles par rapport à celles de $\alpha^H_{n\ell}$ sont toujours observées pour les états $n\ell$ dont la section efficace présente des caractères non hydrogénoïdes marqués ; ces caractères se traduisent en fait par une réduction des valeurs des sections efficaces par rapport à H.

b) Evolution avec n présentant un maximum :

La courbe α'_{ns} de K présente un maximum pour $n_o = 5$, lié à la très petite valeur de $\sigma'_{4s}(0)$ par rapport à celle de $\sigma'_{5s}(0)$ (figure 13b) ; un raisonnement semblable explique le maximum présenté par α'_{nd} pour Cd^+ (figure 14b).

c) Evolution avec n présentant un minimum :

La figure 15(b) fait apparaître pour α'_{nd} de In^{2+} un minimum à $n_o = 10$ suivi d'un maximum. Cette dépendance irrégulière en n est étroitement liée à celle des sections efficaces au seuil $\sigma'_{nd}(0)$ de In^{2+} visible dans la figure 15(a).

d) $\alpha'_{n\ell} > \alpha^H_{n\ell}$:

Le caractère non hydrogénoïde marquant visible sur la figure 14(b) est que $\alpha'_{np} > \alpha^H_{np}$ pour les éléments Ag-In^{2+}. Pour ces éléments $\sigma'_{np}(\varepsilon) \lesssim \sigma^H_{np}(\varepsilon')$ au voisinage du seuil (figure 14(a)), et la décroissance de $\sigma'_{np}(\varepsilon')$ avec ε' est beaucoup plus lente que celle de $\sigma^H_{np}(\varepsilon')$. De plus les valeurs relativement grandes des potentiels d'ionisation I_{np} donnent une contribution plus importante à α'_{np} par l'intermédiaire du terme $(\varepsilon+I_{np})^2$ qui apparait dans l'équation (I.61).

La figure 16 compare l'évolution avec n de α'_{ns} (T' = 500 K) le long des séquences de Rb, Cu et Ag. On retrouve les mêmes caractères non hydrogénoïdes déjà observés pour la séquence de K et la séquence de Ag. Le point important est que les courbes correspondant aux atomes neutres sont regroupées pour n suffisamment grand. Le même regroupement est visible pour les ions monochargés et les ions doublement chargés. Ce comportement des coefficients α'_{ns} est directement lié à celui des sections efficaces correspondantes $\sigma'_{ns}(\varepsilon')$ (voir figure 10). Il montre une fois de plus et de façon évidente la grande similitude de $\sigma'_{ns}(\varepsilon')$ le long des trois séquences pour une charge résiduelle donnée.

2) <u>Variation de $\alpha'_{n\ell}(T')$ en fonction de T', n et ℓ étant fixés</u>

Les figures 15(b) et 15(c) comparent les coefficients α'_{nd} pour certains éléments de la séquence de Ag, calculés respectivement aux températures T' = 500 K et 5 000 K. Il est visible que les caractères non hydrogénoïdes de α'_{nd} évoluent avec T'. Une explication plus détaillée des différences entre les figures 15(b) et 15(c) sera donnée ultérieurement, après avoir discuté de manière plus générale des caractères non hydrogénoïdes apparaissant dans l'évolution de $\alpha'_{n\ell}(T')$ avec T'.

Pour n et ℓ fixés, le coefficient de recombinaison radiative $\alpha'_{n\ell}(T')$ a en général une décroissance monotone avec la température T' comme pour le cas hydrogénoïde $\alpha^H_{n\ell}(T')$. De très importantes différences avec ce comportement sont illustrées dans la figure 17, pour $\alpha'_{ns}(T')$ de Zn^+ et $\alpha'_{nd}(T')$ de In^{2+}. Dans l'intervalle de température considéré certains coefficients $\alpha'_{ns}(T')$ (n=5-8) et $\alpha'_{nd}(T')$ (n=6-8) ont une croissance monotone avec T'. D'autres coefficients α'_{ns} ($n \geq 10$) et α'_{nd} ($n \geq 10$) présentent une variation très irrégulière en fonction de T' caractérisée par un ou plusieurs extrema. Cette évolution très inhabituelle des coefficients $\alpha'_{n\ell}(T')$ est étroitement liée à la variation des sections efficaces correspondantes $\sigma'_{n\ell}(\varepsilon')$ en fonction de l'énergie ε'. De fait, la zone effec-

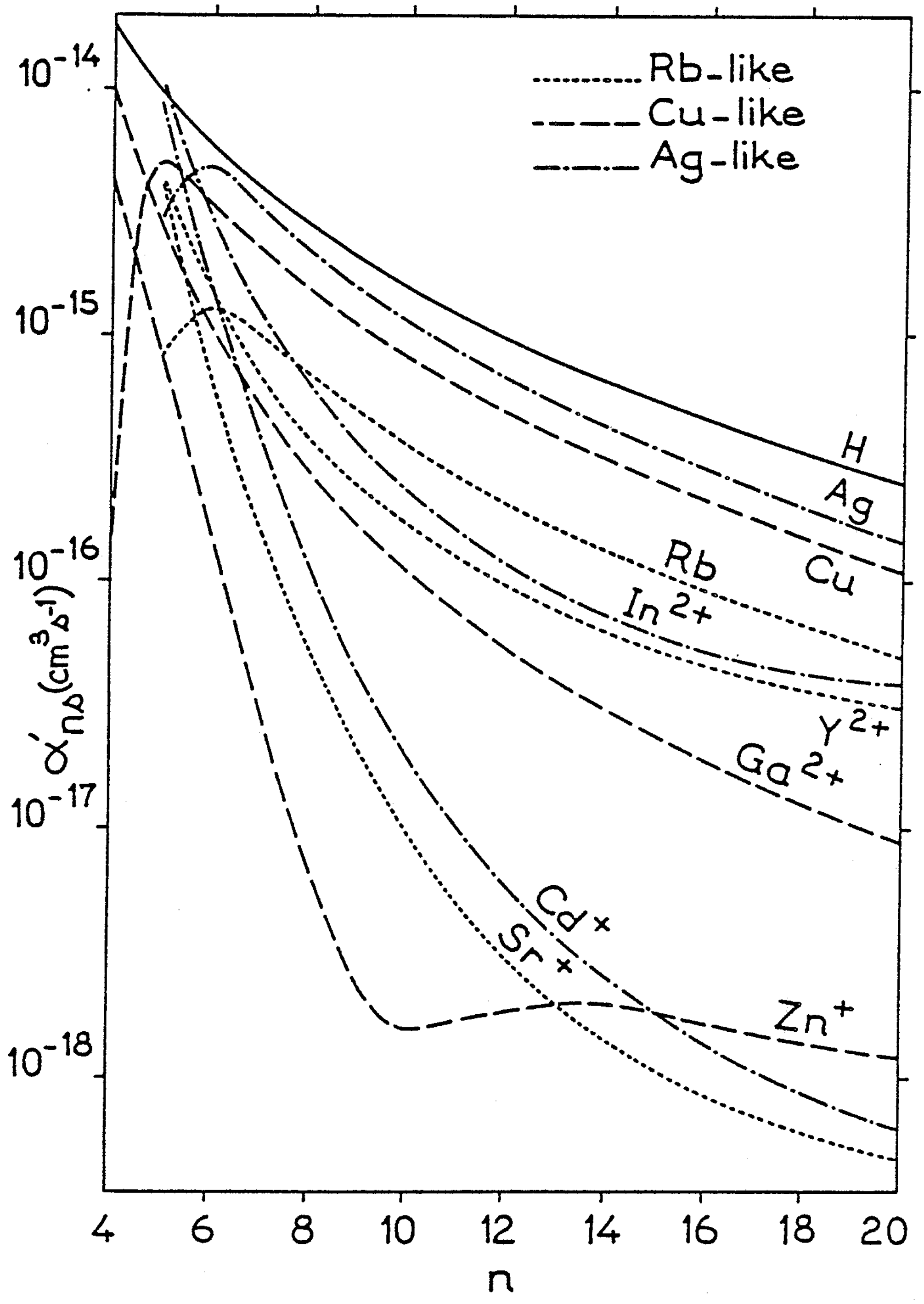


FIGURE 16 : Variation avec n des coefficients de recombinaison radiative α'_{ns} (T'=500 K) pour les premiers éléments des séquences de Rb, Cu et Ag.

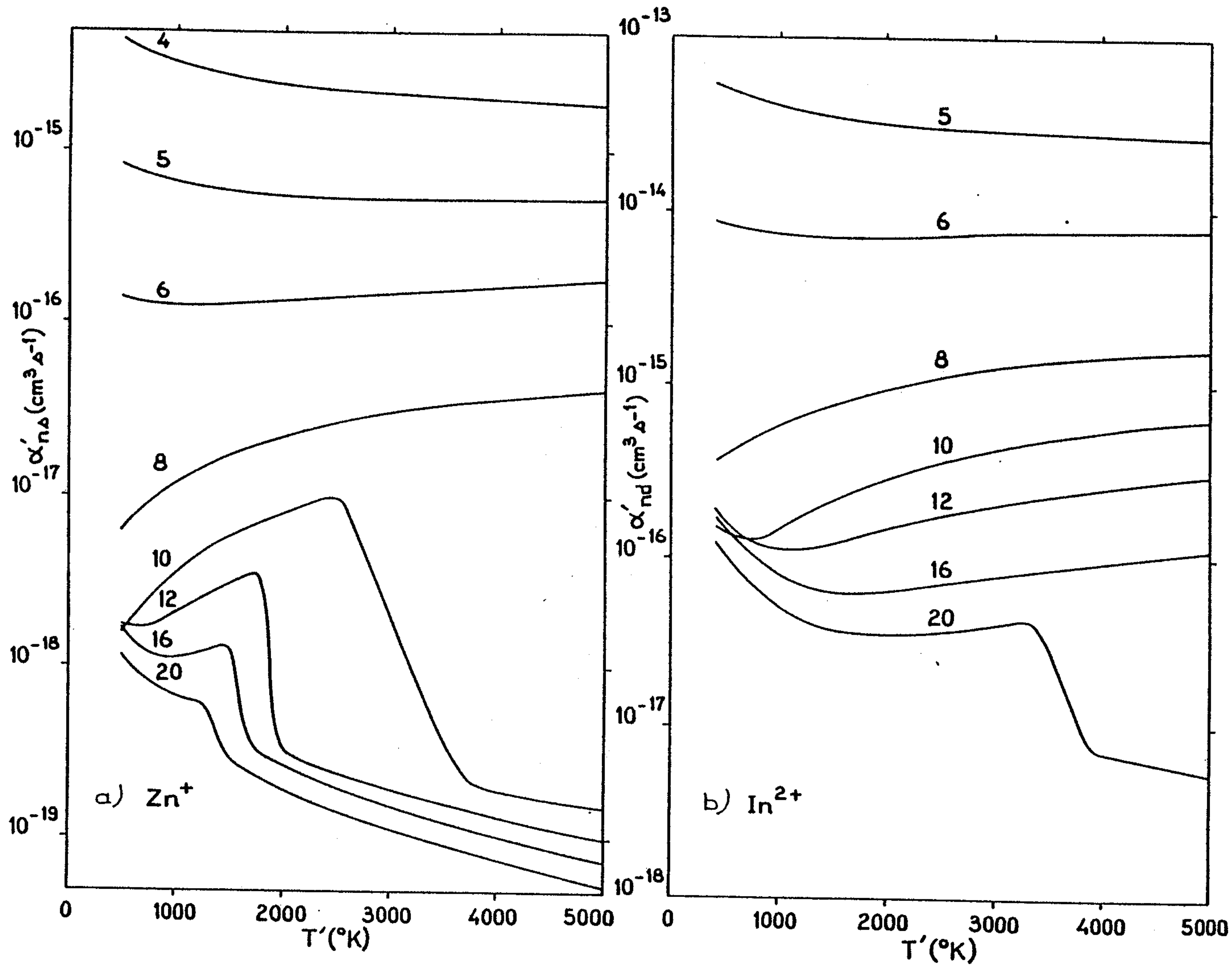


FIGURE 17 : Variation avec T' des coefficients de recombinaison radiative $\alpha'_{n\ell}$ de Zn^+(a) et In^{2+}(b).

tive d'énergie des photoélectrons pour le calcul des coefficients de recombinaison croît avec la température. Lorsqu'un maximum suffisamment prononcé de $\sigma'_{n\ell}(\varepsilon')$ apparaît dans cette zone il en résulte un maximum aussi pour $\alpha'_{n\ell}(T')$. Les sections efficaces $\sigma'_{ns}(\varepsilon')$ de Zn^{+} sont au demeurant de type (b) ou (c), celles $\sigma'_{nd}(\varepsilon')$de In^{2+} de type (d) ou (e). Le rapport du maximum de $\sigma'_{n\ell}(\varepsilon')$ à la valeur au seuil $\sigma'_{n\ell}(0)$ ou au minimum non nul de $\sigma'_{n\ell}(\varepsilon')$ dépend considérablement de n, et par conséquent certains coefficients $\alpha'_{n\ell}(T')$ ont une variation avec T' plus ou moins régulière que d'autres dans l'intervalle de température conidéré. Les coefficients qui croissent avec T' dans cet intervalle atteignent un maximum pour une température T' > 5 000 K et décroissent ensuite comme prédit par l'équation (I.61).

La variation des coefficients $\alpha'_{n\ell}(T')$ avec T' illustrée précédemment explique bien la disparition observée dans la figure 15(c) à T' = 5 000 K des extrêma apparus dans la figure 15(b) à T' = 500 K pour α'_{nd} de In^{2+} et Cd^{+}. Pour In^{2+} la croissance de $\alpha'_{10d}(T')$ avec T' est plus rapide que celle de $\alpha'_{nd}(T')$ (n > 10) (voir figure 17). Quant à Cd^{+}, $\alpha'_{5d}(T')$ croît avec T' à partir d'un minimum alors que les $\alpha'_{nd}(T')$ (n > 5) décroissent. La disparition des maxima à T' = 5000 K s'est traduite par des discontinuités de pente dans les courbes α'_{nd}.

L'évolution des coefficients de recombinaison radiative $\alpha'_{n\ell}(T')$ avec T' a permis de mettre en évidence des caractères non hydrogénoïdes en rapport avec ceux des sections $\sigma'_{n\ell}(\varepsilon')$ existant au delà du voisinage immédiat des seuils.

3) Variation de $\alpha'_{n\ell}(T')$ avec ℓ, n et T' étant fixés

L'évolution avec ℓ de $\alpha'_{n\ell}(T')$ pour n et T' fixés est analysée ici sur l'exemple particulier des coefficients

$\alpha'_{8\ell}(T')$ de Rb et Ca^+ pour différentes températures T'. Plus précisément la figure 18 présente l'évolution avec ℓ de $\alpha'_{8\ell}(T')/\alpha'_8(T')$ de Rb pour $T' = 500$ K et 5000 K et celle de la même quantité pour Ca^+ pour $T' = 500$ K et 2500 K. L'évolution de $\alpha'_{8\ell}/\alpha'_8$ est liée à celle de $\alpha'_{8\ell}$.

Pour Rb, $\alpha'_{8\ell}$ croît, atteint un maximum pour $\ell = \ell_M(T')$ puis décroît. L'accroissement de $\alpha'_{8\ell}$ avec ℓ est liée au poids statistique $2(2\ell+1)$ apparaissant dans l'équation (I.61) et à la variation de $\sigma'_{8\ell}(0)$ qui augmente aussi avec ℓ jusqu'à atteindre un maximum puis décroît. La décroissance de $\alpha'_{8\ell}$ pour $\ell > \ell_M$ est liée à la décroissance de $\sigma'_{8\ell}(0)$ pour les grands ℓ et aussi surtout au fait que $\sigma'_{8\ell}(\varepsilon')$ décroît d'autant plus vite avec ε' que ℓ est grand. La variation de $\alpha'_{8\ell}/\alpha'_8$ de Rb est analogue pour toute température. Pour les grandes températures cependant le maximum est plus important et il apparaît pour une plus faible valeur de ℓ. Ceci est dû au fait que $\alpha'_{8\ell}(T')$ décroît d'autant plus vite avec T' que ℓ est grand. Une évolution analogue avec ℓ apparaît quel que soit n dans Rb et dans tous les éléments neutres que nous avons étudiés. Cette évolution est très semblable à celle obtenue dans H.

Dans Ca^+ le comportement de $\alpha'_{n\ell}/\alpha'_n$ est très différent pour tout $n \geq 6$ comme cela est visible sur la figure 18(b). Quel que soit $n \geq 6$ et T', $\alpha'_{n\ell}/\alpha'_n$ présente un minimum pour $\ell = 2$. En effet dans Ca^+ les sections efficaces $\sigma'_{nd}(\varepsilon')$ au seuil (figure 11a) et près du seuil sont particulièrement faibles ; pour $n \geq 6$ la variation de $\sigma'_{n\ell}(0)$ avec ℓ présente alors un minimum pour $\ell = 2$ encadré de deux maxima, évolution qui se répercute sur la variation de $\alpha'_{n\ell}$ avec ℓ. De manière plus générale un comportement semblable avec un minimum pour un ℓ_0 donné ≥ 2 apparaît pour tous les ions pour lesquels l'évolution avec n de $\sigma'_{n\ell_0}(0)$ présente un minimum très prononcé (voir les figures 11 et 12).

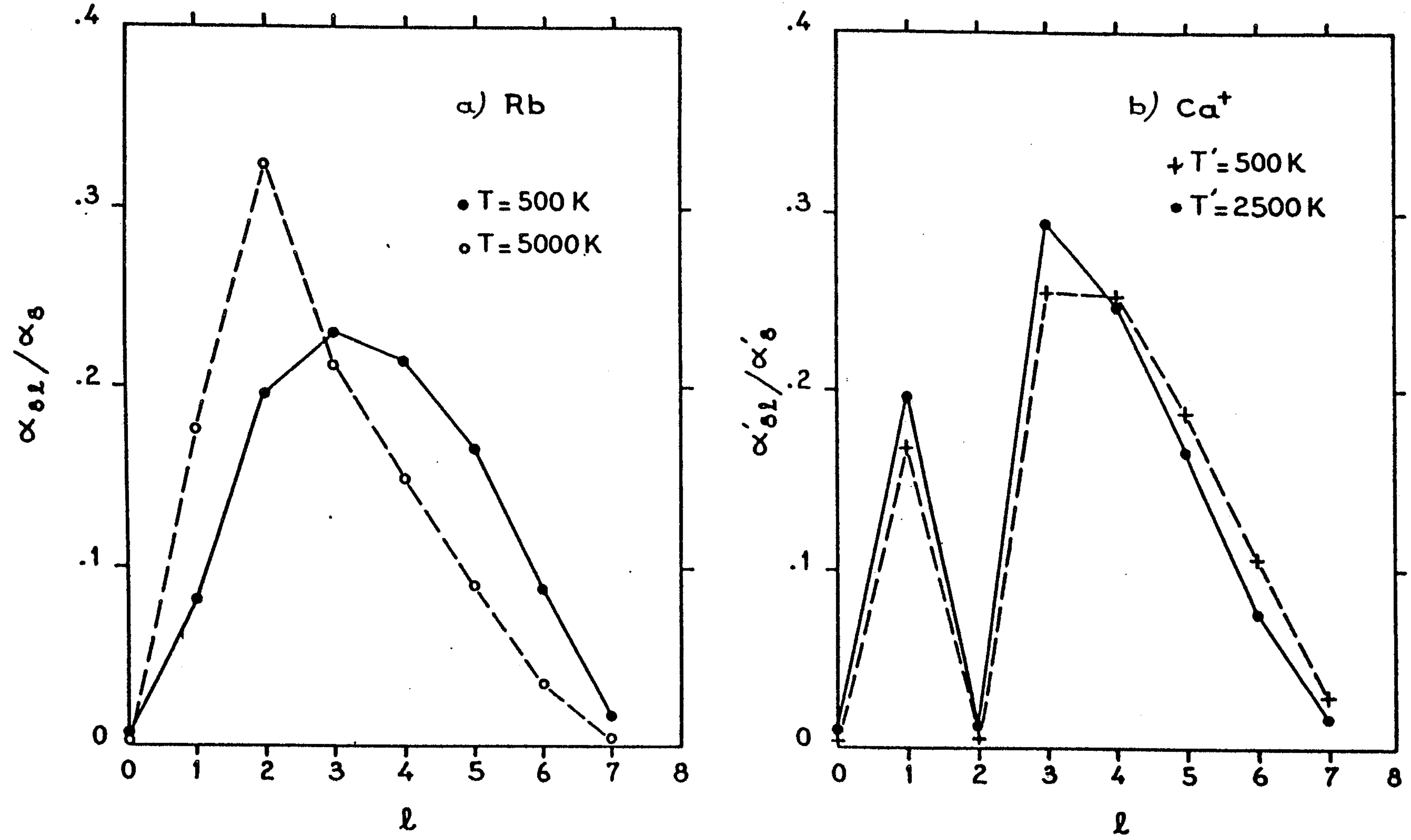


FIGURE 18 : Evolution avec ℓ du rapport $\alpha'_{8\ell}(T')/\alpha_8\ (T')$ pour divers T' dans Rb(a) et Ca^+(b).

Les caractères non hydrogénoïdes très marqués des coefficients de recombinaison radiative étudiés précédemment ont surtout concerné les $\alpha'_{n\ell}(T')$. Les coefficients $\alpha'_n(T')$ et $\alpha'_t(T')$ en présentent d'autres moins marqués (Annexes II et III), tout en ayant une décroissance avec n ou T' analogue à celle de H. Il n'existe pas de résultats expérimentaux pouvant être comparés aux nôtres. Les quelques résultats, théoriques, concernent surtout le coefficient de recombinaison total $\alpha'_t(T')$. (Annexe III). Là encore d'autres résultats théoriques et expérimentaux sont nécessaires pour une plus grande comparaison et pour mieux tester la validité de nos calculs.

CONCLUSION

Le modèle de champ central non relativiste utilisant un potentiel central paramétrique semi-empirique ou ab-initio nous a permis de déterminer les sections efficaces de photoionisation des états fondamentaux et excités de nombreux éléments des séquences de K, Rb, Cu et Ag. Les calculs effectués concernent la photoionisation de l'électron externe de valence au voisinage du seuil d'ionisation. Des valeurs de sections efficaces nous avons déduit les coefficients de recombinaison radiative d'électrons peu énergétiques sur les états excités des mêmes éléments. Dans les séquences de K et Rb l'étude de la recombinaison radiative à faible température a été complétée par la détermination des coefficients de recombinaison sur chaque couche et des coefficients de recombinaison radiative totaux.

La validité des résultats de sections efficaces de photoionisation a été analysée en étudiant leur sensibilité au choix du potentiel central utilisé et en les comparant systématiquement aux résultats antérieurs, malheureusement très peu nombreux. Par ailleurs, des calculs relativistes complémentaires de sections efficaces effectués pour les ions multichargés moyennement lourds indiquent que les effets relativistes ont peu d'influence sur nos résultats. Ceci justifie entièrement le choix de notre modèle non relativiste pour le calcul extensif d'un très grand nombre de valeurs de sections efficaces de photoionisation.

Nous avons donc pu étudier la systématique de la photoionisation à partir des états excités et de la recombinaison radiative pour beaucoup d'éléments neutres ou ionisés à un électron de valence. Aucune étude de cette ampleur n'avait été réalisée auparavant dans ce domaine.

Tous nos résultats ont été comparés de manière systématique à ceux obtenus en utilisant le modèle hydrogénoïde. L'analyse très détaillée des caractères non hydrogénoïdes apparaissant dans les sections efficaces de photoionisation a été faite en utilisant une méthode basée sur la théorie du défaut quantique. Cette méthode originale s'est avérée très performante pour l'étude de la systématique de ces caractères. Les principaux caractères non hydrogénoïdes concernent l'apparition de un ou plusieurs extrèma-(minima, maxima) - dans les courbes de sections efficaces partielles $\sigma_{n\ell,\ell'}(\varepsilon)$. Notre méthode donne aisément le nombre prévisible de minima et la forme typique caractéristique de la courbe $\sigma_{n\ell,\ell'}(\varepsilon)$ pour chaque transition $n\ell \rightarrow \varepsilon\ell'$ de chaque élément étudié. Le nombre de minima, qui sont liés à la présence de zéros dans les éléments de matrice dipolaires, dépend des valeurs des différences des défauts quantiques asymptotiques $\Delta\mu_{\ell\ell'} = \mu_{\ell'}-\mu_{\ell}$ comparées à des grandeurs critiques $\Delta\mu^{o}_{\ell\ell'}$ caractéristiques de chaque transition $\ell \rightarrow \ell'$.

Des caractères non hydrogénoïdes spécifiques de la photoionisation des états excités ont pu être dégagés. Les sections efficaces des orbitales excitées sans noeuds (3d, 4f) peuvent présenter des minima. Jusqu'à trois minima peuvent apparaître pour certaines transitions $n\ell \rightarrow \ell+1$, en particulier pour les transitions $nd \rightarrow \varepsilon f$. Des minima apparaissent aussi pour de nombreuses transitions $n\ell \rightarrow \varepsilon(\ell-1)$, jusqu'à deux minima pour certaines transitions $nf \rightarrow \varepsilon d$. Tous ces minima n'ont jamais été prédits pour la photoionisation des états fondamentaux.

L'apparition de minima dans les courbes de sections efficaces partielles réduit considérablement les valeurs des sections efficaces relativement à celles du modèle hydrogénoïde. L'influence de ces minima sur les sections efficaces totales est variable, particulièrement importante lorsque les deux sections efficaces partielles présentent des minima pour des énergies de photoélectron voisines, faible lorsque seule la section efficace relative à la transition $n\ell \to \varepsilon(\ell-1)$ présente des minima.

Nous avons étudié pour chaque élément l'évolution des caractères non hydrogénoïdes le long des séries de Rydberg ns-nf, en analysant tout particulièrement la variation avec n des sections efficaces au seuil et l'évolution de la forme des courbes de section efficace. Dans tous les cas on observe une évolution pour les n faibles suivie d'une stabilisation des caractères non hydrogénoïdes pour n grand. L'évolution pour n faible est très irrégulière pour les transitions $n\ell \to \varepsilon\ell'$ caractérisées par un $|\Delta\mu_{\ell\ell'}|$ proche d'une valeur critique $|\Delta\mu^{o}_{\ell\ell'}|+k-1$ caractéristique de l'apparition d'un minimum ; pour ces séries de Rydberg on observe un ou deux changements de forme des courbes de section efficace lorsque n augmente, puis pour n suffisamment grand la forme de courbe ne change plus et la position des extrèma devient stationnaire. Lorsque $|\Delta\mu_{\ell\ell'}|$ diffère des valeurs $|\Delta\mu^{o}_{\ell\ell'}|+k-1$, la variation avec n pour les valeurs de n faibles est très régulière.

Nous avons analysé en détail l'évolution des caractères non hydrogénoïdes des sections efficaces le long de la séquence des alcalins Li-Cs et le long des quatre séquences isoélectroniques considérées. Nous avons de plus comparé le comportement le long des quatre séquences. Dans tous les cas la systématique de ces évolutions découle des variations des différences de défauts quantiques. Pour une transition $n\ell \to \varepsilon\ell'$ donnée, des différences de comportement importantes résultent des différences de nature des orbitales ℓ et ℓ' mises en jeu, en particulier du caractère pénétrant ou non pénétrant de celles-ci, qui pour $\ell \geq 2$ dépend considérablement de l'élément étudié. Nous allons brièvement résumer les conclusions les plus significatives auxquelles nous sommes arrivés.

En utilisant des résultats antérieurs obtenus pour Li, Na et Cs qui complètent ceux que nous avons obtenus pour K et Rb nous avons analysé l'évolution le long de la séquence des alcalins Li-Cs. Pour tous les alcalins les transitions ns $\rightarrow$ εp et np $\rightarrow$ εs ont un comportement semblable. Par contre pour les transitions nd $\rightarrow$ εf et nf $\rightarrow$ εd des caractères non hydrogénoïdes nouveaux apparaissent lorsque Z augmente, particulièrement marqués pour Cs.

La variation isoélectronique le long des quatre séquences étudiées dépend là encore de la transition $n\ell \rightarrow \varepsilon\ell'$ considérée et est directement reliée à la variation avec z de $|\Delta\mu_{\ell\ell'}|$. Pour les valeurs de ℓ et ℓ' faibles, $|\Delta\mu_{\ell\ell'}|$ décroît toujours avec z et par suite les caractères non hydrogénoïdes s'estompent petit à petit lorsque z augmente. Cette caractéristique a été antérieurement notée pour la photoionisation d'orbitales fondamentales ns et np le long de séquences isoélectroniques. De plus pour z donné $|\Delta\mu_{sp}|$ dépend très peu de Z et le comportement isoélectronique des sections efficaces à partir des états ns et np est très semblable pour les quatre séquences étudiées. Pour des valeurs plus grandes de ℓ et ℓ', dans certains cas on observe une augmentation de $|\Delta\mu_{\ell\ell'}|$ avec z au début des séquences suivie ensuite d'une décroissance régulière. De plus $|\Delta\mu_{\ell\ell'}|$ dépend, à z donné, considérablement de la séquence étudiée, les orbitales d et f devenant pénétrantes pour Z suffisamment grand. Ainsi des caractères non hydrogénoïdes absents pour les premiers éléments de la séquence peuvent apparaître pour des ions plus chargés. Ceci est particulièrement marqué pour les transitions nd $\rightarrow$ εf de la séquence de K et nf $\rightarrow$ εg de la séquence de Ag. De plus on peut noter que pour certains ions aussi chargés que Y^{10+} ou In^{12+} des minima apparaissent dans les courbes de section efficace nd $\rightarrow$ εf.

En ce qui concerne la recombinaison radiative ce sont les coefficients $\alpha_{n\ell}(T)$ de recombinaison sur un état $n\ell$ donné qui présentent les caractères non hydrogénoïdes les plus marqués. Ces caractères, particulièrement frappants pour des températures faibles, découlent directement de ceux apparaissant dans les sections efficaces totales de photoionisation des états $n\ell$, et ceci au voisinage du seuil d'ionisation.

Nous avons analysé l'évolution avec n de $\alpha_{n\ell}$ le long des séries de Rydberg ns-nf et ceci à température fixée. Les extrema observés pour certaines séries sont directement corrélés à ceux apparaissant dans les courbes de section efficace $\sigma_{n\ell}(\varepsilon)$ au voisinage des seuils. Les caractères non hydrogénoïdes des sections efficaces de photoionisation se répercutent aussi sur l'évolution avec la température de nombreux coefficients $\alpha_{n\ell}(T)$; lorsque T augmente certains $\alpha_{n\ell}(T)$ évoluent de façon très tortueuse et la décroissance monotone hydrogénoïde n'est atteinte qu'à partir d'une certaine température. Finalement la variation de $\alpha_{n\ell}(T)$ avec ℓ, pour n et T fixés présente elle aussi parfois un comportement très différent de celui obtenu pour H.

Les coefficients de recombinaison radiative sur les couches n et les coefficients totaux présentent des caractères non hydrogénoïdes moins marqués que les $\alpha_{n\ell}(T)$. Cependant les écarts par rapport aux résultats du modèle hydrogénoïde restent notables, particulièrement pour certains coefficients $\alpha_n(T)$ correspondant aux couches n les moins excitées.

Pour juger de la qualité de nos résultats concernant la photoionisation et la recombinaison radiative, nous disposons de très peu de résultats antérieurs. D'autres études théoriques et surtout des données expérimentales seraient très souhaitables. En particulier il est à noter que l'existence de multiminima dans les courbes de sections efficaces de photoionisation des états excités n'est toujours pas vérifiée expérimentalement.

L'étude de l'évolution des sections efficaces de photoionisation le long des séries de Rydberg laisse prévoir l'existence d'un minimum dans la distribution des forces d'oscillateur discrètes de nombreuses séries $n\ell \rightarrow n'\ell'$ lorsque n' varie. Il serait intéressant d'étendre nos calculs à l'étude de ces transitions.

D'autres observables, telles les distributions angulaires et la polarisation de spin des photoélectrons sont connues pour être très sensibles au détail des fonctions d'onde. Une étude systématique des caractères non hydrogénoïdes de ces grandeurs serait souhaitable et pourrait être réalisée en utilisant le modèle du potentiel central paramétrique relativiste.

Par ailleurs il serait intéressant d'étudier la recombinaison d'électrons plus énergétiques, c'est-à-dire pour des températures plus élevées. Il serait alors nécessaire de calculer les sections efficaces de photoionisation pour des énergies de photoélectrons plus élevées en tenant compte de l'excitation du coeur. La prise en compte des effets d'autoionisation ne pourrait se faire que dans le cadre d'un modèle plus élaboré que celui que nous avons utilisé.

La généralisation de notre étude de systématique à des systèmes à plusieurs électrons de valence serait, elle aussi très souhaitable, mais bien sûr là encore il serait nécessaire de prendre en compte les effets de corrélations en utilisant un modèle théorique plus compliqué que celui de notre étude.

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ANNEXE I

J. Phys. B: At. Mol. Phys. 17 (1984) 993–1007. Printed in Great Britain

Central-field calculations of photoionisation cross sections of excited states of Rb and Sr^+ and analysis of photoionisation cross sections of excited alkali atoms using quantum defect theory

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Abstract. Photoionisation cross sections for excited *nl* states ($n \leqslant 20$, $l \leqslant 4$) of Rb and Sr^+ have been computed in the framework of a single-electron model by the use of a central potential. The evolution of non-hydrogenic behaviour of photoionisation near threshold is studied along a given series. Moreover, isoelectronic variations from Rb to Sr^+ as well as systematic trends along the sequence of alkali atoms Li through Cs are discussed. The non-hydrogenic traits, mainly the occurrence of minima in photoionisation cross sections, are analysed in terms of quantum defect theory.

1. Introduction

In recent years, there has been an increased interest in the study of photoionisation processes of excited atoms and ions because of the importance of these processes in radiative transfers involved in laboratory, astrophysics or controlled thermonuclear plasmas. Moreover the advances in tunable lasers have made experiments in which large numbers of selectively excited atoms are produced possible. From these populated excited levels, ionisation experiments can be performed either providing direct measurement of photoionisation cross sections or allowing the study of collisional ionisation between different excited species. Most of the experiments involving ionising processes from excited states deal with alkali atoms.

On the theoretical side, a lot of attention has been paid recently to the analysis of systematic trends of non-hydrogenic behaviour of excited-state photoionisation (Aymar *et al* 1976, Aymar 1978, Msezane and Manson 1975, 1982, Lahiri and Manson 1982, Devdariani and Klyucharev 1977). Most of these papers also concern the alkali atoms Li, Na, K or Cs.

Rb has been less thoroughly studied than other alkali atoms and data on photoionisation cross sections are limited to low-lying states (Klyucharev and Sepman 1975, Ambartzumian *et al* 1976, Moskvin 1963, Chichkov and Shevelko 1981). Additional data on Rb appear to be highly desirable to help interpret the experiments performed by Cheret *et al* (1982a, b) on ionising collisional processes of highly excited Rb atoms and to study the systematics of excited photoionisation cross sections in alkali atoms.

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We report here new results on photoionisation cross sections for excited states of Rb and Sr^+—the first ion of the Rb isoelectronic sequence. Calculations are performed within the framework of a non-relativistic single-electron model by the use of a central potential as explained in § 2. The results on the outer-shell photoionisation cross sections for the *ns* to *ng* Rydberg series of Rb and Sr^+ are presented for values of *n* up to 20 in § 3. Emphasis is given to the analysis of the non-hydrogenic behaviour of the photoionisation near threshold. Section 4 concerns, in addition to the new calculations performed in Rb and Sr^+, previous results obtained in light alkali spectra Li to K (Aymar *et al* 1976) and in Cs (Msezane and Manson 1975, Lahiri and Manson 1982). The systematic trends of the partial photoionisation cross sections of excited states are analysed in terms of quantum defect theory; the evolution along a Rydberg series, the trends along the sequence of alkali atoms Li through Cs as well as the isoelectronic variation from Rb to Sr^+ are discussed.

2. The single-particle central-field model

2.1. Basic formulae

Within the framework of a single-particle central-field model (non-relativistic) the cross section (in cm^2) for photoionisation of a *nl* state of a one-electron system is given (Stewart 1967) in the dipole approximation by

$$\sigma_{nl}(\varepsilon)=0.855\times 10^{-18}(\varepsilon-\varepsilon_{nl})\left(\frac{l}{2l+1}R^2_{nl,l-1}(\varepsilon)+\frac{l+1}{2l+1}R^2_{nl,l+1}(\varepsilon)\right) \tag{1}$$

where $\varepsilon_{nl}(<0)$ is the binding energy of the *nl* electron and $\varepsilon(>0)$ is the energy of the photoelectron (all energies are in Rydbergs). $R_{nl,l\pm1}(\varepsilon)$ are the radial matrix elements given by:

$$R_{nl,l'}(\varepsilon)=\int P_{nl}(r)Q(r)P_{\varepsilon l'}(r)\,\mathrm{d}r \tag{2}$$

where $Q(r)$ is the dipole operator. The same central potential $V(r)$ is used to generate $P_{nl}(r)$ and $P_{\varepsilon l'}(r)$ solutions of the Schrödinger equation:

$$\left(\frac{\mathrm{d}^2}{\mathrm{d}r^2}+E-2V(r)-\frac{l(l+1)}{r^2}\right)P_{El}(r)=0 \tag{3}$$

with $E=\varepsilon_{nl}$ or ε.

The numerical factor in equation (1) implies that the continuum function is normalised per unit energy range so that

$$\int_0^\infty P_{\varepsilon l}(r)P_{\varepsilon' l}(r)\,\mathrm{d}r=\pi\delta(\varepsilon-\varepsilon'). \tag{4}$$

Here $P_{\varepsilon l}(r)$ has the asymptotic form

$$P_{\varepsilon l}(r)\underset{r\to\infty}{\longrightarrow}\varepsilon^{-1/4}\sin\left[\sqrt{\varepsilon}r-\frac{l\pi}{2}+\frac{z}{\sqrt{\varepsilon}}\ln 2\sqrt{\varepsilon}r+\arg\Gamma\left(l+1-\frac{\mathrm{i}z}{\sqrt{\varepsilon}}\right)+\delta_l(\varepsilon)\right] \tag{5}$$

where $z=Z-N+1$ is the residual charge of the final ion and $\delta_l(\varepsilon)$ is the phaseshift with respect to hydrogen-like wavefunctions.

2.2. *General remarks on non-hydrogenic behaviour of the photoionisation cross sections*

The behaviour of photoionisation cross sections when the potential $V(r)$ either obeys the Coulomb law or represents a much more realistic potential has been previously described by many authors (Bethe and Salpeter 1957, Fano and Cooper 1968, Burgess and Seaton 1960) and only fundamental points will be recalled here.

For hydrogen, the radial matrix elements $R_{nl,l\pm1}(\varepsilon)$ are always monotically decreasing functions of ε. Then the partial photoionisation cross sections $\sigma_{nl,l\pm1}(\varepsilon)$ as well as the total cross section $\sigma_{nl}(\varepsilon)$ are maximum at threshold and drop to zero as ε increases. For $l\neq 0$, the $\sigma_{nl,l+1}(\varepsilon)$ contribution to the total cross section is much larger than the $\sigma_{nl,l-1}(\varepsilon)$ contribution. For a given nl series the threshold value $\sigma_{nl}(0)$ increases as n. The asymptotic trend for high energies is proportional to $\varepsilon^{-l-7/2}$ and approximately proportional to n^{-5} for $n \gg l$.

Similar behaviour holds for hydrogen-like ions and the cross section of a hydrogen-like ion is related to the hydrogen cross section σ^{H} by the relation:

$$\sigma(\varepsilon/z^2) = \sigma^{\mathrm{H}}(\varepsilon)/z^2. \tag{6}$$

The comparison of the cross sections calculated in Rb and Sr^+ with hydrogen-like values will be carried out using scaled cross sections and energies defined by the relations:

$$\begin{aligned} \sigma' &= z^2\sigma \\ \varepsilon' &= \varepsilon/z^2. \end{aligned} \tag{7}$$

For non-hydrogenic atoms or ions, the evolution of the cross sections with n, l or ε' is modified. In fact the discrete $P_{nl}(r)$ and continuum $P_{\varepsilon'l'}(r)$ orbitals are shifted towards the nucleus with respect to hydrogen-like orbitals and the overlap of $P_{nl}(r)$ and $P_{\varepsilon'l'}(r)$ is modified. Consequently partial and total cross section values can strongly differ from hydrogen-like values. In particular the contribution of the $\sigma'_{nl,l-1}(\varepsilon')$ partial cross section is not always small. The most striking non-hydrogenic trait is the occurrence of zeros in the $R_{nl,l'}(\varepsilon')$ radial matrix elements, giving minima in the partial cross section curves.

Non-hydrogenic behaviour of excited-alkali-atom photoionisation cross sections have been previously studied using central-field models. The light alkali atoms Li to K were investigated by Aymar *et al* (1976) and by Aymar (1978) and Cs was analysed by Msezane and Manson (1975, 1982) and by Lahiri and Manson (1982). Various non-hydrogenic shapes have been obtained for $\sigma_{nl,l'}(\varepsilon')$ cross section curves, as can be seen in figure 1. In addition to the well known Cooper minimum (Fano and Cooper 1968) corresponding to case (*c*), one (*e*) or two additional minima (*f*) have been predicted in some particular cases.

2.3. *Central-field models used to evaluate photoionisation cross sections in Rb and Sr^+*

Calculations have been performed using three different central potentials $V(r)$.

(i) The cental potential corresponds to the parametric potential introduced by Klapisch (1971) already employed in the previous photoionisation calculations in light alkali atoms (Aymar *et al* 1976, Aymar 1978). This potential is represented by an analytic function depending on a set of parameters, each parameter describing the distribution of charges in a shell of the atomic core. The optimal potential is determined

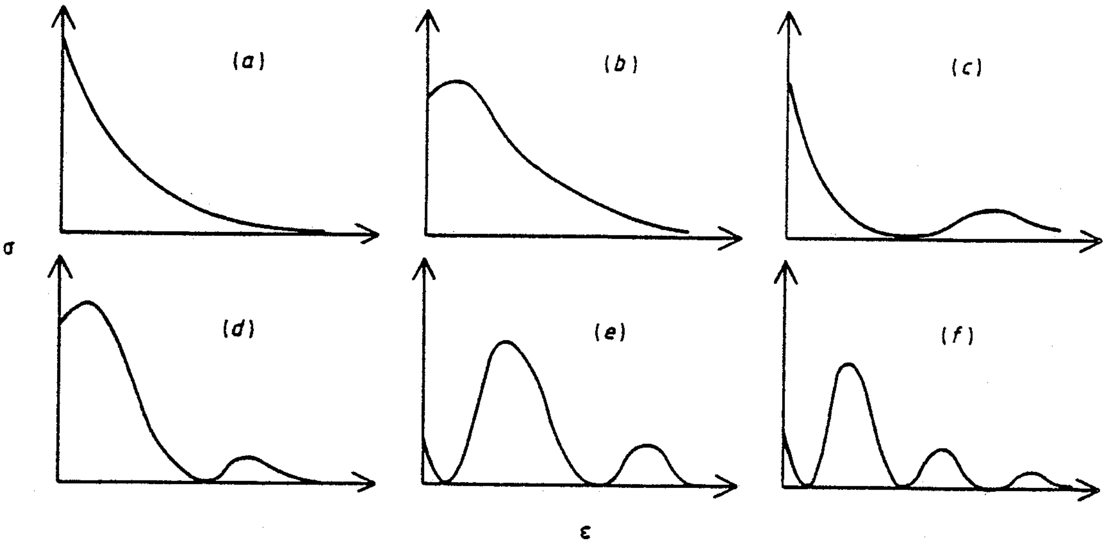

Figure 1. Schematic cross section curves for six typical cases.

by minimising the root-mean-square deviation between observed and calculated energies (to the first order) of a few selected levels.

(ii) The central potential has a simple analytical form depending on three parameters

$$V_0 = -r^{-1}[z + (Z - z)\exp(-\alpha_1 r) + \alpha_2 r \exp(-\alpha_3 r)]. \tag{8}$$

The parameters are determined here by comparing the experimental energies with zero-order calculated ones. This potential has already been used successfully to analyse various multiphoton processes in He and Cs (Aymar and Crance 1980, Crance and Aymar 1980).

(iii) Long-range core polarisation effects are taken into accout by adding to V_0 an effective polarisation potential V_{pol} with the form

$$V_{\text{pol}} = -\tfrac{1}{2}\alpha_d r^{-4}[1 - \exp-(r/r_c)^6] \tag{9}$$

where α_d is the static dipole polarisability of the core (Shevelko and Vinogradov 1978) and r_c is an effective core-radius cut-off. The parameters α_1, α_2, α_3 and r_c are adjusted to yield zero-order calculated energies close to experimental values.

In the calculation of radial matrix elements (equation (2)) we use the dipole length form of the dipole operator. In approximations (i) and (ii) $Q(r)$ is the usual r operator. In the third approximation (iii), we used a modified dipole operator which includes the effects of core polarisation (Hameed *et al* 1968, Weisheit 1972a, b)

$$Q(r) = r\{1 - \alpha_d r^{-3}[1 - \exp(-r/r_c)^3]\}. \tag{10}$$

The Schrödinger equation (3) was solved using different numerical methods described in the the appendix.

3. Results for Rb and Sr^+

3.1. Introductory remarks

Photoionisation cross sections have been computed for nl series ($0 \leqslant l \leqslant 4$) of Rb and Sr^+ for n values up to 20. Only the contribution of ejection of the outer nl electron to the photoionisation cross sections is considered in this work. Moreover autoionisation effects which cannot be described in the framework of a single-electron model are ignored. Therefore the validity of our treatment to describe total photoionisation cross sections is confined to the near-threshold energy range.

In Rb, autoionised lines corresponding to the excitation of the 4p inner-shell electron have been obtained for energies larger than 0.8 Ryd above threshold. In Sr^+ similar autoionised lines are expected but not yet observed. Nevertheless calculations are performed for higher photoelectron energies in order to detect the various minima occurring in $\sigma'_{nl,l'}(\varepsilon')$ curves and analyse the systematics of these minima.

3.2. *Non-hydrogenic behaviour of cross section curves*

Total cross section curves for $8l(0 \leqslant l \leqslant 4)$ excited states of Rb and Sr^+ are compared with hydrogen cross sections in figure 2. The non-hydrogenic character is most striking for 8s levels. The Cooper minimum (case (c)) occurring in photoionisation cross sections of the ground state of the alkali atoms Na to Cs (Marr and Creek 1968) also appears for all excited ns states of Rb and for highly excited ns states of Sr^+ ($n \geqslant 13$). For the ground state and low-lying excited states of Sr^+ the cross sections curves are of type (b) (see figure 2(c)). The cross section curve is simlar to that of the ns Li states. For $l \neq 0$, total cross section curves present a hydrogen-like decrease from threshold (figures 2(b)–(c)). However cross section values often strongly differ from H values. In fact for $l \leqslant 3$ several partial cross section curves $\sigma'_{nl,l'}(\varepsilon')$ exhibit a Cooper minimum. For all np and nf states of Rb and Sr^+, one partial cross section curve is of type (c) and the other of type (a). For np states the $\sigma'_{np,d}(\varepsilon')$ partial cross section curve has a minimum near threshold; since in this energy range the contribution of $\sigma'_{np,s}(\varepsilon')$ is not negligible, the total cross section curve exhibits no minimum at all but only a slope discontinuity near the $\sigma'_{np,d}(\varepsilon)$ zero. A typical example is shown in figure 3 which corresponds to the photoionisation of the 5p state of Rb. For the nf states the total cross section is mainly related to the $\sigma'_{nf,g}(\varepsilon')$ contribution which is alsmost equal to the corresponding hydrogen ones. Then the total cross section is rather insensitive to the minimum which occurs in the $\sigma'_{nf,d}(\varepsilon')$ partial cross section and the $\sigma'_{nf}(\varepsilon')$ values for Rb and Sr^+ do not differ much from H values. For nd states of Rb and Sr^+ both

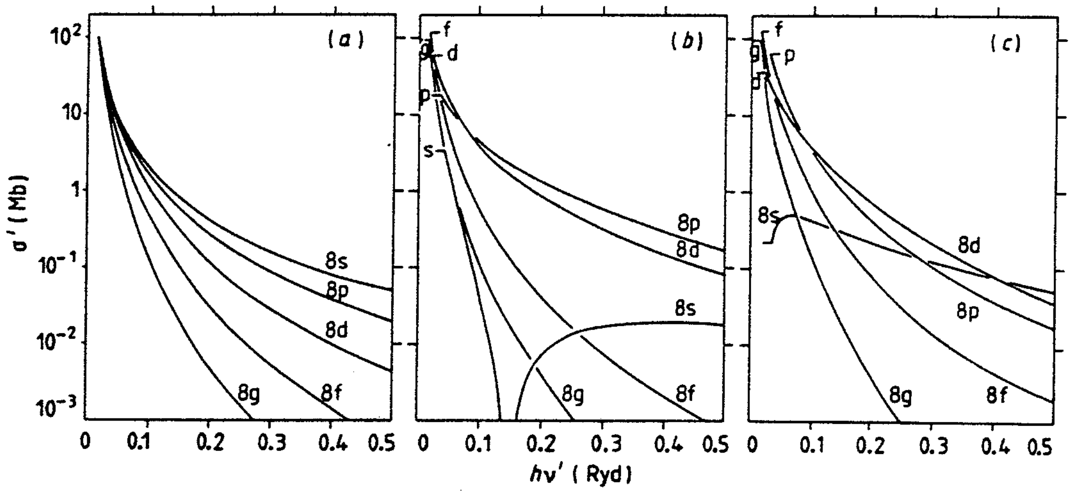

Figure 2. Total scaled cross sections $z^2\sigma_{8l}$ (in Mb, 1 Mb $= 10^{-18}$ cm^2) plotted against the energy of the transition $h\nu' = (\varepsilon - \varepsilon_{nl})/z^2$ for $l = 0$–4. (a) H; (b) Rb; (c) Sr^+.

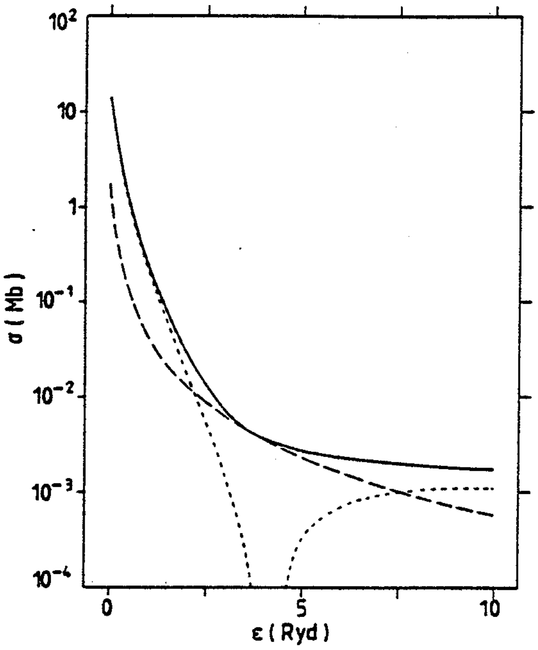

Figure 3. Partial and total cross section curves for the 5p state of Rb: ——, $\sigma_{5p}(\varepsilon)$; ----, $\sigma_{5p,d}(\varepsilon)$; – – –, $\sigma_{5p,s}(\varepsilon)$.

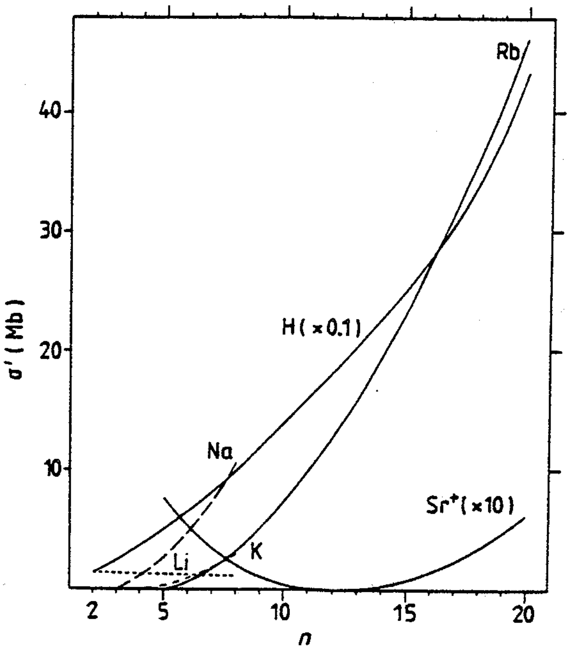

Figure 4. Scaled cross sections at threshold for the *ns* series: Li, K (Aymar *et al* 1976), Na (Aymar, 1978), Rb, Sr^+ (this work).

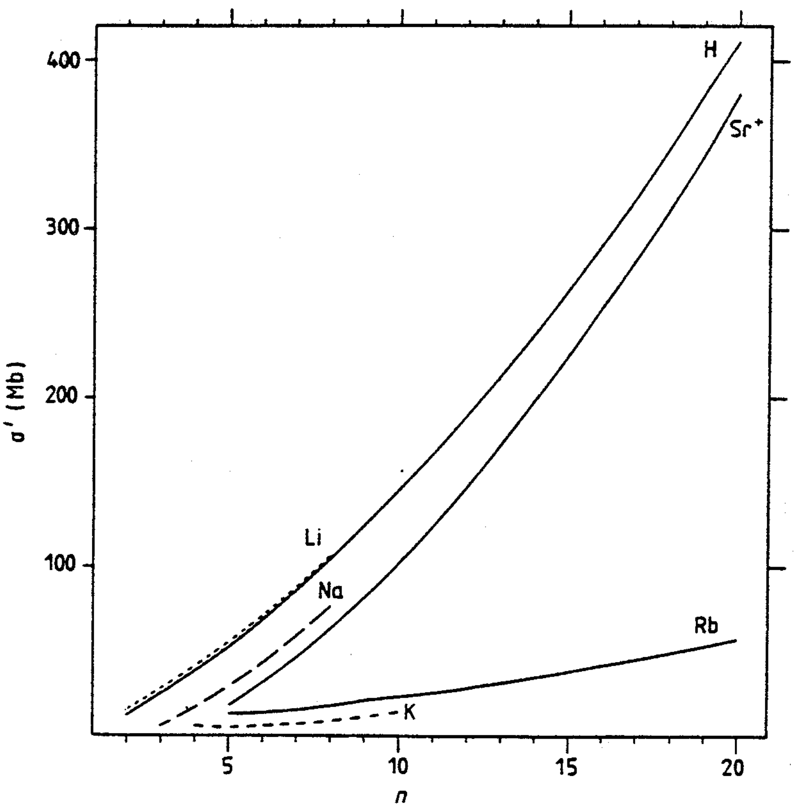

Figure 5. Scaled cross sections at threshold for the *n*p series: Li, Na, K (Aymar *et al* 1976), Rb, Sr^+ (this work).

partial cross section curves are of type (c) except $\sigma'_{4d,p}(\varepsilon')$ of Sr^+ which is of type (b). For a given nd state, the minimum for $\sigma'_{nd,f}(\varepsilon')$ occurs for an energy ε'_2 larger than the energy ε'_1 corresponding to the minimum of $\sigma'_{nd,p}(\varepsilon')$. However, around ε'_1, the contribution to the total cross section of $\sigma'_{nd,f}$ is very large, while around ε'_2 the contribution of $\sigma'_{nd,p}$ is very small. Therefore the total cross section exhibits a minimum only near ε'_2 (outside the energy range reported on figure 2(b)–(c)). For larger values of $l(l \geq 4)$ partial cross section curves never have a minimum (type (a)) and total cross section values $\sigma'_{nl}(\varepsilon')$ are very close to hydrogen ones.

The presence of minima in partial cross section curves for nl states ($l \leq 2$) has a great influence on the values of cross sections as shown in figures 4, 5 and 6. In these figures total cross sections at threshold for ns, np and nd series of Rb and Sr^+ are compared with hydrogen values. Previous results obtained for light alkali atoms (Aymar *et al* 1976, Aymar 1978) have also been reported. For s states of all alkali atoms, $\sigma_{ns}(0)$ are much smaller than H values because of the large cancellation effect arising in $R_{ns,\varepsilon p}(0)$ matrix elements. For Sr^+, threshold cross sections are still much smaller; the minimum in the curve giving $\sigma_{ns}(0)$ against n corresponds to the change from (b) to (c) shape, i.e. to a Cooper minimum located very close to the threshold. For p and d states differences between $\sigma'_{nl}(0)$ values obtained either for Rb (Sr^+) or for H are smaller than for s states, but nevertheless important (figures 5 and 6). Moreover, in contrast to the hydrogen case, both partial cross sections give a large contribution to the total cross section. This is illustrated in figure 7 which shows the n dependence of $\sigma'_{nd,p}(0)$, $\sigma'_{nd,f}(0)$ and $\sigma'_{nd}(0)$ for Rb and Sr^+.

3.3. *Comparison with previous works. Discussion*

Our predictions for excited-state photoionisation of Rb are compared with previous experimental and theoretical results in table 1. Photoionisation cross sections of the

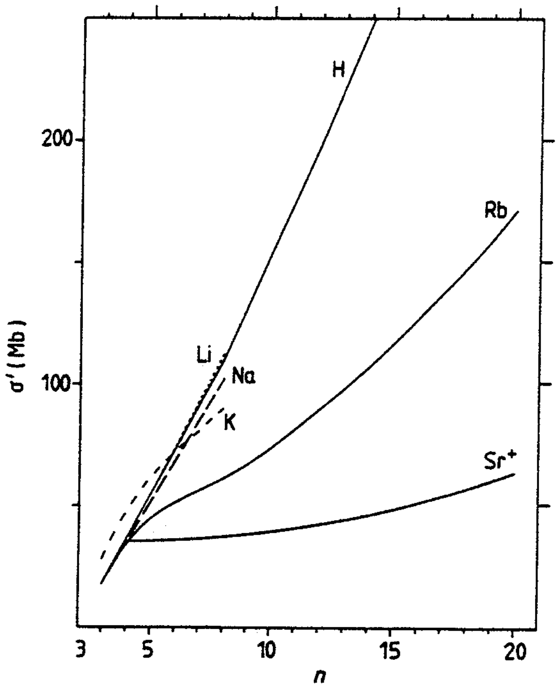

Figure 6. Scaled cross sections at threshold for the nd series : Li, Na, K (Aymar *et al* 1976), Rb, Sr^+ (this work).

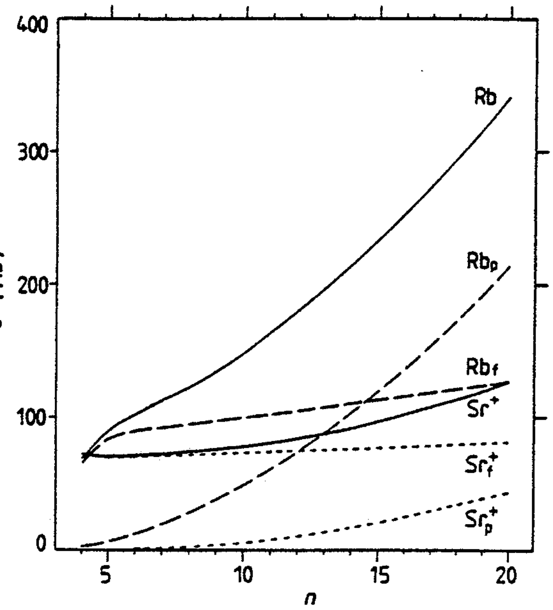

Figure 7. Partial and total scaled cross sections at threshold for the nd series of Rb and Sr^+. Partial cross section values $\sigma'_{nd,p}(0)$ and $\sigma'_{nd,f}(0)$ are respectively referred to by indexes p and f.

Rb ground state are compared with the measurement of Marr and Creek (1968) in figure 8. For excited states satisfactory agreement is obtained with previous results but data are too scarce to choose between the different central-field approximations (see § 2.3). On the contrary, for ground-state photoionisation only the third approximation corresponding to core-polarisation effects included in the potential and in the dipole operator gives results in good agreement with experiments. Consequently the third approximation has been chosen for the results presented in figures 2 to 7.

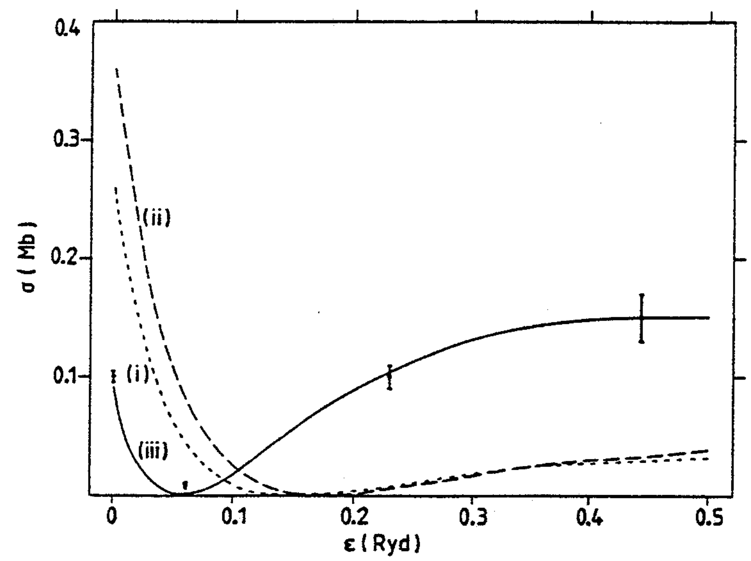

Figure 8. Ground-state photoionisation of Rb. Comparison of measurement of Marr and Creek (1968) with the predictions provided using three different central-field models (i), (ii), (iii) (see § 2).

Table 1. Comparison of the predictions obtained for Rb with three different central-field models (i), (ii), (iii) (see § 2) with previous data: (iv), theoretical result of Moskvin (1963) (only the threhsold values have been extracted from the small published curves), (v) and (vi), measurements of Klyucharev and Sepman (1975) and Ambartzumian *et al* (1976) respectively.

State	Energy	This work		Previous data
5p	$\varepsilon=0$	12.5 (i)		$\simeq$14 (iv)
		14.0 (ii)		
		13.0 (iii)		
	$\varepsilon=0.016$	11.9 (i)		$\simeq$11.5 (iv)
	$\lambda=0.44\ \mu$m	13.0 (ii)		
		12.2 (iii)		9.6±0.2 (v)
6p	$\varepsilon=0.04$ Ryd	9.9 (i)	$6p_{3/2}$	17 ±4 (vi)
	$\nu=14\,404\ cm^{-1}$	10.7 (ii)		
		9.7 (iii)	$6p_{1/2}$	15 ±4 (vi)
	$\varepsilon=0.17$ Ryd	3.2 (i)	$6p_{3/2}$	1.9±0.5 (vi)
	$\nu=28\,806\ cm^{-1}$	3.3 (ii)		
		3.3 (iii)		
4d	$\varepsilon=0$	33.3 (i)		$\simeq$40 (iv)
		35.7 (ii)		
		34.0 (iii)		
6s	$\varepsilon=0$	0.85 (i)		$\simeq$1 (iv)
		1.0 (ii)		
		0.77 (iii)		

However, one must notice that the photoionisation cross sections of *n*d states and low excited *n*s states of Rb and Sr^+ are found to be particularly sensitive to the model. This is illustrated by figure 9 which shows the threshold values obtained for *n*s, *n*p and *n*d states of Rb and Sr^+ with the three different central-field models described in § 2. The influence of core-polarisation effects introduced in the third approximation (iii) is evident only for low *n*s states of Rb and Sr^+. For the other states the

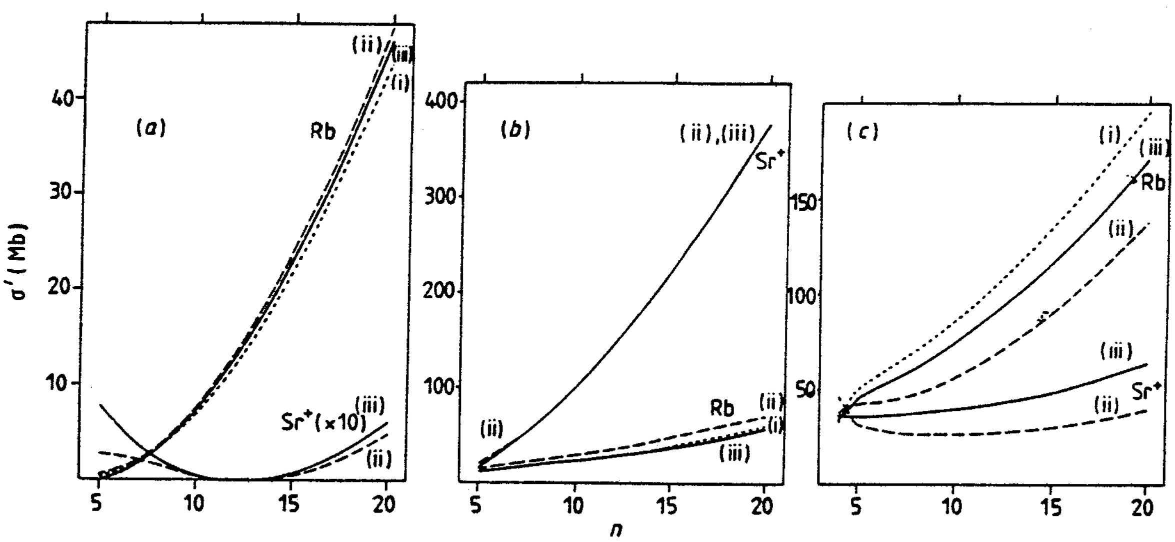

Figure 9. Scaled cross sections at threshold calculated for Rb with three different approximations and for Sr^+ with two models (see § 2) for the *n*s (*a*), *n*p (*b*) and *n*d (*c*) series.

modifications brought about by the introduction of these effects are of the same order of magnitude as the differences between the predictions of the two models neglecting core-polarisation effects ((i), (ii)). Thus it appears that the accuracy of the results greatly depends on the quality of the central core potential and not only on the correct treatment of core-polarisation effects as emphasised in most of the previous theoretical papers dealing with this problem.

The calculations presented in this paper do not account for relativistic effects. However using the relativistic version (Luc-Koenig 1972) of the central-field method developed by Klapisch (1971) we have checked that relativistic effects are small. Modifications of cross section values are generally weaker than differences between the results obtained with different non-relativistic central potentials.

In conclusion, although the overall trends of photoionisation cross sections do not depend on the choice of the potential, additional experimental data are highly desirable to test the accuracy of our calculations. Results on partial photoionisation cross sections and measurements on the spin polarisation and on the angular distribution of the ejected photoelectron are worthwhile since they provide a much more stringent test of the wavefunction than the total cross section.

4. Quantum defect theory analysis of trends in the ionisation of excited states of alkali atoms

The results obtained in Rb and Sr^+, in addition to those previously obtained in light alkali atoms (Aymar *et al* 1976) or in Cs (Marr and Creek 1968, Weisheit 1972b, Moskvin 1963, Msezane and Manson 1975, Lahiri and Manson 1982) give the opportunity to discuss the existence of minima in photoionisation cross section curves. The quantum defect theory is very well suited to this purpose (Burgess and Seaton 1960, Peach 1967).

The contribution to the dipole matrix elements comes almost entirely from the large-r region where the excited electron moves primarily in the hydrogenic Coulomb field due to the core. The additional non-Coulomb forces which prevail within the core modify the radial wavefunctions in the external region simply by shifting their nodes. Both bound and continuum orbitals are contracted and the relative shift of the two orbitals with respect to each other is responsible for the non-hydrogenic character of photoionisation from excited states. The phaseshift of a bound orbital nl is measured by $\pi\mu_{nl}$ where μ_{nl} is the quantum defect of the nl state. The phaseshift of the continuum orbital will be denoted $\delta_{l'}(\varepsilon')$. The quantum defect brings out an oscillatory dependence of radial matrix elements $R_{nl,l'}(\varepsilon')$ on μ_{nl} and $\delta_{l'}(\varepsilon')$ such as

$$\cos \pi\Delta_{nl,l'}(\varepsilon')$$

with

$$\Delta_{nl,l'}(\varepsilon') = -\mu_{nl} + \delta_{l'}(\varepsilon')/\pi + \chi_{ll'}(n, \varepsilon') \tag{11}$$

where the empirical parameter χ is a slowly increasing function of n and ε' (Peach 1967). The occurrence of zeros in the $R_{nl,l'}(\varepsilon')$ matrix elements are related to half integer values of $\Delta_{nl,l'}(\varepsilon')$.

Near the threshold, an approximate value of $\Delta_{nl,l'}(\varepsilon')$ can be obtained by using for the various quantities involved in equation (11) their limits for $n = \infty$ and $\varepsilon' = 0$. One obtains

$$\Delta_{nl',l'}(\varepsilon') \simeq \Delta\mu_{ll'} + \bar{\chi}_{ll'}(0) \tag{12}$$

where the asymptotic value $\bar{\chi}(0)$ of the χ function can be extracted from the table of Peach (1967). $\Delta\mu_{ll'} = \mu_{l'} - \mu_l$ represents the quantum defect difference for large n which can be deduced from the effective quantum numbers tabulated by Lindgard and Nielson (1977). The $\Delta\mu_{ll'}$ values are compiled in table 2 for each $nl \to \varepsilon' l'$ transition of neutral alkali atoms and Sr^+. In the same table the shape type of each $\sigma'_{nl,l'}(\varepsilon')$ cross section curve is given. For a given $nl \to \varepsilon' l'$ transition the shape of the cross section curve appears to be correlated to $\Delta\mu_{ll'}$.

A critical quantum defect difference $\Delta\mu^0_{ll'}$ for the zero to occur can be defined by the relation:

$$\Delta\mu^0_{ll'} + \bar{\chi}_{ll'}(0) = \pm 0.5. \tag{13}$$

The $\Delta\mu^0_{ll'}$ values compiled in the last column of table 2 describe accurately the occurrence of minima in the photoionisation cross section of excited states of alkali atoms and Sr^+ and the evolution of non-hydrogenic behaviour along a given series. The shape types of the partial cross section curve $\sigma'_{nl,l'}(\varepsilon')$ expected for different values of $\Delta\mu_{ll'}$ are indicated in table 3. If $|\Delta\mu_{ll'}|$ (mod 1) is far from $|\Delta\mu^0_{ll'}|$ (mod 1) no change of shape occurs along the series as n increases and the number k of zeros is determined by the inequalities:

$$|\Delta\mu^0_{ll'}| + k - 1 < |\Delta\mu_{ll'}| < |\Delta\mu^0_{ll'}| + k.$$

For low-lying levels, quantum defects μ_{nl} can differ from the limiting value μ_l for

Table 2. For a given $nl \to \varepsilon l'$ transition, we compiled the $\Delta\mu^0_{ll'}$ critical value deduced from the quantum defect theory as well as the asymptotic quantum defect difference $\Delta\mu_{ll'}$ and the shape type of $\sigma'_{nl,l'}(\varepsilon')$ cross section curve for each element.

Transition	Elements						$\Delta\mu^0_{ll'}$
	Li	Na	K	Rb	Sr^+	Cs	
$ns \to \varepsilon p$	−0.26 (*b*)	−0.49 (*c*)	−0.47 (*c*)	−0.49 (*c*)	−0.39 (*b*) $n \leq 12$ (*c*) $n \geq 13$	−0.50 (*c*) 6s, 7s	−0.37
$np \to \varepsilon s$	0.26 (*a*)	0.49 (*a*)	0.47 (*a*)	0.49 (*a*)	0.39 (*a*)	0.50 (*a*) 6p	0.71
$np \to \varepsilon d$	−0.05 (*a*)	−0.84 (*c*)	−1.44 (*d*) $n \leq 9$ (*e*) $n \geq 10$	−1.30 (*c*)	−0.86 (*c*)	−1.10 (*c*) 6p	−0.42
$nd \to \varepsilon p$	0.05 (*a*)	0.84 (*b*) $n \leq 3$ (*c*) $n \geq 4$	1.44 (*c*)	1.30 (*c*)	0.86 (*b*) $n \leq 4$ (*c*) $n \geq 5$	1.10 (*c*) 5d, 9d	0.75
$nd \to \varepsilon f$	0 (*a*)	−0.01 (*a*)	−0.26 (*a*)	−1.32 (*c*)	−1.39 (*c*)	−2.43 (*e*) 5d (*f*) 9d	−0.48
$nf \to \varepsilon d$	0 (*a*)	0.01 (*a*)	0.26 (*a*)	1.32 (*c*)	1.39 (*c*)	2.43	0.78

Table 3. Shapes of $\sigma'_{nl,l'}(\varepsilon')$ cross section curves according to $\Delta\mu_{ll'}$ values.

0 – $\lvert\Delta\mu^0_{ll'}\rvert$	$\lvert\Delta\mu^0_{ll'}\rvert$ – $\lvert\Delta\mu^0_{ll'}\rvert+1$	$\lvert\Delta\mu^0_{ll'}\rvert+1$ – $\lvert\Delta\mu^0_{ll'}\rvert+2$	$\lvert\Delta\mu^0_{ll'}\rvert+2$ –	$\lvert\Delta\mu_{ll'}\rvert$
no zero (*a*) (*b*)	1 zero (*c*) (*d*)	2 zeros (*e*)	3 zeros (*f*)	

large *n*. Therefore when one has

$$|\Delta\mu_{ll'}| = |\Delta\mu^0_{ll'}| + k - 1$$

the critical value for k zeros is only reached for highly excited states and a change of shape in the photoionisation curves occurs for a given series as n increases (see table 2).

These remarks about the critical value for the zeros to occur generalise similar results previously obtained by Msezane and Manson (1975, 1982) and Lahiri and Manson (1982) for some particular $nl \to \varepsilon l'$ transitions. This analysis of non-hydrogenic behaviour of photoionisation from excited states in terms of the quantum defect theory also explains why the non-hydrogenic traits do not disappear for highly excited states; in fact the position of the zeros is almost stationary when μ_{nl} and $\chi_{ll'}(n, \varepsilon')$ reach their asymptotic values.

The evolution of the non-hydrogenic behaviour of the cross section from Rb and Sr^+ can also be analysed in terms of the quantum defect theory. The isoelectronic variation of quantum defects for a given *nl* series strongly depends on the *l* value (Edlén 1964). For small *l* the quantum defect μ_{nl} mainly due to penetration of the *nl* orbital in the core, decreases as Z increases. Core polarisation effects are responsible for most of the quantum defect for large *l*; for these non-penetrating orbitals Edlén (1964) showed that μ_{nl} first increases with Z, then passes through a maximum and ultimately decreases. Similar behaviour is also expected for intermediate *l* values. These remarks explain why, in the beginning of the Rb isoelectronic sequence $\Delta\mu_{\rm sp}$ and $\Delta\mu_{\rm pd}$ decrease with Z while $\Delta\mu_{\rm df}$ and $\Delta\mu_{\rm fg}$ increase. Therefore the minimum occurring in the $\sigma_{n{\rm s,p}}(\varepsilon)$, $\sigma_{n{\rm p,d}}(\varepsilon)$ and $\sigma_{n{\rm d,p}}(\varepsilon)$ cross section curves of Rb moves for Sr^+ toward threshold (*n*s states with $n \geqslant 13$, *n*p states, *n*d states with $n \geqslant 5$) or even into the discrete spectrum (*n*s states with $n \leqslant 12$; 4d state). This evolution follows the general trend predicted for the isoelectronic variation of the photoionisation of ground states involving s or p orbitals: light alkali atoms (McGinn 1970, Burgess and Seaton 1960, Black *et al* 1972); photoionisation relative to the 2p or 3p subshell (Combet Farnoux and Lamoureux 1976). On the contrary, non-hydrogenic behaviour of partial cross sections $\sigma'_{n{\rm d,f}}(\varepsilon')$ and $\sigma'_{n{\rm f,d}}(\varepsilon')$ are almost identical in Rb and Sr^+.

5. Conclusion

This work on the non-hydrogenic behaviour of photoionisation of excited states of Rb and Sr^+ extends the previous studies performed in light alkali atoms (Aymar *et al* 1976) or in Cs (Msezane and Manson 1975, Lahiri and Manson 1982). The central-field approximation allowed one to easily calculate many cross section values and therefore provided the data required for an extensive analysis of the systematics of excited-alkali-atom photoionisation. Central-field calculations are expected to be more reliable than those provided by quantum defect theory (Burgess and Seaton 1960). However, this last method is much more appropriate for interpreting the non-hydrogenic behaviour and the systematics of partial photoionisation cross sections. In particular the number of minima occurring in partial photoionisation cross section curves has been related to the difference of quantum defects of both channels involved in the ionisation process. Quantum defect theory allows one to understand the evolution along a given Rydberg series, the isoelectronic variation from Rb to Sr^+ and the trends along the sequence of alkali atoms.

Acknowledgments

The authors wish to express their gratitude to M Klapsich for suggesting the use of the phase–amplitude description of continuum wavefunctions. They wish also to thank A Bar-Shalom for access to the corresponding unpublished program.

Appendix

Two different numerical procedures are used to compute radial matrix elements.

A.1

The discrete $P_{nl}(r)$ and continuum $P_{\varepsilon l'}(r)$ radial wavefunctions are calculated by solving the differential equation (3) by using the Numerov method (Froese Fischer 1963) with the same r-scaled linear mesh (Aymar *et al* 1976). Continuum orbitals are obtained by outward integration of equation (3) and then normalised by using the Strömgren procedure (Stewart 1967). The radial matrix element is then evaluated by straightforward numerical quadrature.

The integration range of the $P_{\varepsilon l'}(r)$ wavefunction, determined by the extension of the $P_{nl}(r)$ bound orbital increases with n. For large values of n, the mesh suited to the integration of $P_{nl}(r)$ is not adapted to the description of the oscillatory behaviour of $P_{\varepsilon l'}(r)$. Therefore, when photoionisation of highly excited states ($n > 10$) is concerned, a different procedure is used to determine the continuum wavefunctions.

A.2

Except near $r = 0$ for the s electron and near the classical 'turning point' due to the centrifugal potential barrier for $l \neq 0$ electrons, $P_{\varepsilon l'}(r)$ can be expressed in terms of a phase function $\varphi(r)$ and an amplitude function $y(r)$ (Fano *et al* 1976 and references therein) as

$$P_{\varepsilon l'}(r) = y(r)\sqrt{r}\sin\varphi(r) \qquad r > r_0. \tag{A.1}$$

With the logarithmic variable $x = \lg r$ used by Froese Fischer (1963), substitution of equation (A.1) in the Schrödinger equation (3) leads to the system

$$\ddot{y}(x) + \bar{W}y(x) - 1/y^3(x) = 0 \tag{A.2}$$

$$\dot{\varphi}(x) = 1/y^2(x) \tag{A.3}$$

with

$$\bar{W} = (E - 2V(r))r^2 - (l + \tfrac{1}{2})^2. \tag{A.4}$$

The system (A.2), (A.3) is solved following the algorithms proposed by Bar Shalom (1983). The equation (A.3) is solved for $r \geq r_0$ by inward integration. Values of y at starting points corresponding to large r are computed self consistently with a first approximation of y obtained by assuming $\ddot{y} = 0$. For large values of r, in the range where $\bar{W}$ is important, standard integration methods (prediction–correction procedure) fail and sophisticated iterative procedures are used. The phase function is then obtained by solving equation (A.3), for $r \geq r_0$ by a simple composite method (Legras 1963). One obtains in this way a phase function $\varphi(r) + \varphi_0$which depends on a parameter φ_0. Equation (A.1) does not hold for $r \leq r_0$ and in this region the Schrödinger equation (3) is solved by outward integration by the use of the Numerov method. Starting from an arbitrary slope at the origin, we obtain an un-normalised solution

$$y_1 = AP_{\varepsilon l'}(x). \tag{A.5}$$

The required normalised $P_{\varepsilon l'}(r)$ wavefunction is then evaluated by the determination of the constant phaseshift φ_0 and the amplitude factor A provided by matching the inward and outward solutions. Radial matrix elementx are evaluated by writing

$$R_{nl,l'}(\varepsilon) = \int_0^{x_1} P_{nl}(x)Q'(x)P_{\varepsilon l'}(x)\,\mathrm{d}x + \int_{x_1}^{\infty} P_{nl}(x)Q'(x)y(x)\sqrt{r}\sin\varphi(x)\,\mathrm{d}x. \tag{A.6}$$

The x_1 value corresponds to the first node of the continuum wavefunctions. The first integral is evaluated by Simpson quadrature. The second integral I_2 is expressed in terms of a new variable $u = \varphi(x)$ as follows:

$$I_2 = \sum_j \int_{j\pi}^{(j+1)\pi} Z(u)\sin u\,\mathrm{d}u. \tag{A.7}$$

The integration over each $j\pi - (j+1)\pi$ interval is evaluated using a Gaussian procedure with a sinusoidal weight function (Legras 1963).

The bound and continuum wavefunctions being found using two different meshes, one uses cubic spline interpolation procedure (Ahlberg 1967) to evaluate the integrand of equations (A.6) and (A.7) at relevant points.

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Radiative recombination in rubidium

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Abstract. The rate coefficients for radiative recombination of Rb into individual ground and excited nl states ($n \leqslant 20, l \leqslant 10$), summed over $l < n$ ($n \leqslant 10$) and over all states, have been computed for the electron temperature range $500 \leqslant T \leqslant 6000$ K. Using the principle of detailed balance, photoionisation cross sections of Rb calculated in the framework of a single-electron model have been used.

The evolution with n and l for given T, with T for given n and various l and with T of the total radiative recombination coefficient is analysed. The significant non-hydrogenic features for recombination are outlined. Comparisons are made with the results of the hydrogenic and Kramers' models and with other results available for alkali atoms.

1. Introduction

Photoionisation from excited atoms or ions and radiative recombination processes are of primary importance in radiative transfers involved in the laboratory, in astrophysics and in controlled thermonuclear plasmas. Studies of the recombination spectra, ionisation and recombination equilibrium, thermal balance, radiative losses and emission plasma diagnostics all require the knowledge of recombination cross sections and radiative recombination coefficients.

Many of the experiments involving ionisation from excited states and recombination processes deal with alkali atoms. Earlier experimental determinations of photoionisation cross sections from excited states were derived from studies of radiative recombination in plasmas; results were obtained by Mohler (1933), Agnew and Summers (1965) and Rothe (1969, 1971). However experimental results for radiative recombination coefficients are very scarce.

On the theoretical side, a thorough study of photoionisation cross sections for excited states of Rb has recently been carried out by Aymar *et al* (1984). Systematic trends of non-hydrogenic behaviour of photoionisation cross sections for excited alkali atoms have been analysed.

Previous calculations of radiative recombination coefficients for one-electron atomic systems mainly deal with hydrogen H and hydrogenic ions (Seaton 1959, Burgess 1964).

A few theoretical results have also been obtained for Cs (Norcross and Stone 1966, Weisheit 1972), Li (Caves and Dalgarno 1972), and the alkali atoms Li to Cs (Moskvin 1963). It is highly desirable to extend these results and to study the systematics of radiative recombination for alkali atoms.

In this work we present detailed numerical results for the radiative recombination rate coefficients for Rb atoms in the electron temperature range $500 \leqslant T \leqslant 6000$ K. The required photoionisation cross sections are calculated in the framework of a single-electron model by the method already employed by Aymar *et al* (1984).

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The method of computation for the recombination rate coefficients is outlined in § 2. The results are given and discussed in § 3 with emphasis on the non-hydrogenic features.

Comparisons with the results of the hydrogenic and Kramers' models and with other results available for alkali atoms are made.

2. Theory and method of calculation

We give in this section the basic formulae used for the computation of the radiative recombination coefficients, and we recall the results of the hydrogenic and Kramers' models.

2.1. Basic formulae

In the radiative recombination process of one-electron atoms, an ion X^+ in initial state ${}^1S_0$ combines with a free incident electron to produce a neutral atom X in a specific final state $nl\,{}^2L$ while a photon of frequency ν is emitted.

$$X^+({}^1S_0)+e^- \rightarrow X(nl\,{}^2L)+h\nu. \tag{1}$$

This capture process in which the incident electron undergoes a free-bound transition is the inverse of the photoionisation process. The cross sections, $\sigma^C_{nl}(v)$ and $\sigma^P_{nl}(\nu)$, respectively, are related through the principle of detailed balance (Massey *et al* 1969) by

$$\sigma^C_{nl}(v)=2(2l+1)\frac{(h\nu/c)^2}{p^2}\sigma^P_{nl}(\nu) \tag{2}$$

where v is the relative velocity of the incident electron, p is its momentum and c is the velocity of light.

The corresponding recombination rate coefficient is given by the velocity (or thermal) average

$$\alpha_{nl}(T)=\langle v\sigma^C_{nl}(v)\rangle=\int_0^\infty v\sigma^C_{nl}(v)f(v)\,\mathrm{d}v \tag{3}$$

where

$$f(v)=4\pi v^2\left(\frac{m}{2\pi kT}\right)^{3/2}\exp\left(\frac{-mv^2}{2kT}\right)$$

is the Maxwellian distribution function of electron velocities, m is the electron mass, k is the Boltzman constant and T is the electronic temperature.

Using equation (2), $\alpha_{nl}(T)$ can be written as an integral over the photoionisation cross section (Bates and Dalgarno 1962, Barfield 1980):

$$\alpha_{nl}(T)=2(2l+1)\left(\frac{2}{\pi}\right)^{1/2}\exp\left(\frac{\varepsilon_{nl}}{kT}\right)c^{-2}(mkT)^{-3/2}\int_{\varepsilon_{nl}}^\infty (h\nu)^2\sigma^P_{nl}(\nu)\exp\left(\frac{-h\nu}{kT}\right)\mathrm{d}(h\nu). \tag{4}$$

ε_{nl} is the binding energy of the captured electron which satisfies

$$h\nu=\varepsilon+\varepsilon_{nl} \tag{5}$$

ε being the electron kinetic energy.

We then obtain

$$\alpha_{nl}(T) = (3286.3402)2(2l+1)(kT)^{-3/2} \int_0^\infty (\varepsilon + \varepsilon_{nl})^2 \sigma^{\mathrm{P}}_{nl}(\varepsilon) \exp\left(\frac{-\varepsilon}{kT}\right) \mathrm{d}\varepsilon. \qquad (6)$$

All the energies are expressed in Ryd units, $\sigma^{\mathrm{C}}_{nl}(\varepsilon)$ and $\sigma^{\mathrm{P}}_{nl}(\varepsilon)$ are in cm^2 and $\alpha_{nl}(T)$ is expressed in $\mathrm{cm}^3\,\mathrm{s}^{-1}$.

The radiative recombination rate coefficient is then summed over l as

$$\alpha_n(T) = \sum_{l=0}^{n-1} \alpha_{nl}(T). \qquad (7)$$

The total recombination rate coefficient is

$$\alpha_t(T) = \sum_{n=n_0}^{\infty} \alpha_n(T) \qquad (8)$$

where n_0 corresponds to the lowest unfilled shell or subshell of the recombined atom.

It is of interest to calculate the radiative recombination rate coefficients $\alpha_{nl}(T)$ and $\alpha_n(T)$ for recombination spectra of atomic ions (Burgess 1958, Seaton 1959, Pengelly 1964) and the total recombination rate coefficient α_t for ionisation equilibrium of atomic ions (Jordan 1969, 1970).

The required photoionisation cross sections $\sigma^{\mathrm{P}}_{nl}(\varepsilon)$ for Rb are calculated by the method already employed by Aymar *et al* (1984). In the framework of a non-relativistic single-electron model a central potential is used and core polarisation effects are accounted for. Only the contribution of ejection of the outer nl electron to $\sigma^{\mathrm{P}}_{nl}(\varepsilon)$ is considered in this work. The validity of the calculation of $\sigma^{\mathrm{P}}_{nl}(\varepsilon)$ is therefore confined to the energy range close to the threshold. In this energy range autoionisation effects can be neglected; in effect autoionised lines corresponding to the excitation of the 4p inner-shell electron have been observed for electron energies larger than 0.8 Ryd above the threshold (Bearden and Burr 1967).

The radiative recombination coefficient $\alpha_{nl}(T)$ is computed from equation (6). The integrand of equation (6) decreases rapidly as ε increases; successive increasing intervals of integration are used until their contributions become negligible. The corresponding efficient electron energy range increases with temperature T. For low T this energy range is confined near the threshold. All calculations are restricted to the temperature range $500 \leqslant T \leqslant 6000$ K for which the efficient electron energy range is located within 0.4 Ryd above the threshold.

2.2. Results of the hydrogenic and Kramers' models

For the sake of comparison with radiative recombination rate coefficients for Rb atoms we recall the results of the hydrogenic and Kramers' models for the rate coefficients.

For hydrogenic ions all the radiative recombination rate coefficients may be calculated exactly since analytic expressions for the photoionisation cross section $\sigma^{\mathrm{P}}_{nl}(\varepsilon)$ are known (Gordon 1929). Accurate results for $\alpha_{nl}(T)$ and low n values have been obtained by Burgess (1964) for hydrogenic ions and by Boardman (1964) for the hydrogen atom H using exact transition matrix elements in $\sigma^{\mathrm{P}}_{nl}(\varepsilon)$.

However, with increasing n the analytic expressions for $\sigma^{\mathrm{P}}_{nl}(\varepsilon)$ become complicated and difficult to evaluate directly. One may then use an approximation to obtain simple expressions for the radiative rate coefficients. The photoionisation cross section of the shell n which is defined as

$$\sigma_n^{\mathrm{P}}(\varepsilon) = \frac{1}{n^2} \sum_l (2l+1)\sigma_{nl}^{\mathrm{P}}(\varepsilon)$$

is approximated in the Kramer's model by the semiclassical expression $\sigma_n^{\mathrm{Kr}}(\varepsilon)$ (Kramers 1923, Sobelman 1972)

$$\sigma_n^{\mathrm{Kr}}(\varepsilon) = \frac{64\pi\alpha a_0^2}{3\sqrt{3}} \frac{Z^4}{n^5} \frac{1}{(\varepsilon+\varepsilon_n)^3} \tag{9}$$

where α is the fine-structure constant, a_0 is the Bohr radius, Z is the charge of the hydrogenic ion and $\varepsilon_n = Z^2 Ry/n^2$ is the binding energy of the shell n. Equation (9) gives good results close to the threshold for any n, but they become less satisfactory with increasing ε. With equation (9) one deduces

$$\alpha_n^{\mathrm{Kr}}(Z, T) = (5.197\times10^{-14}\,\mathrm{cm}^3\,\mathrm{s}^{-1})Z\left(\frac{Z^2Ry}{n^2kT}\right)^{3/2} \exp\left(\frac{Z^2Ry}{n^2kT}\right) E_1\left(\frac{Z^2Ry}{n^2kT}\right) \tag{10}$$

where $E_1(x) = \int_x^\infty \exp(-t)t^{-1}\,\mathrm{d}t$.

Taking directly $\sigma_{nl}^{\mathrm{P}}(\varepsilon) = \sigma_n^{\mathrm{Kr}}(\varepsilon)$ one obtains

$$\alpha_{nl}^{\mathrm{Kr}}(Z, T) = \frac{2l+1}{n^2}\alpha_n^{\mathrm{Kr}}(Z, T).$$

Burbidge *et al* (1963) have performed the summation over n and have given a rather simple expression for the temperature dependence of the total rate coefficient

$$\sigma_{\mathrm{t}}^{\mathrm{Kr}}(Z, T) = (5.197\times10^{-14}\,\mathrm{cm}^3\,\mathrm{s}^{-1})Z\left(\frac{Z^2Ry}{kT}\right)^{1/2} \times\left[0.8675 + \tfrac{1}{2}\ln\left(\frac{Z^2Ry}{kT}\right) + 0.0833\left(\frac{Z^2Ry}{kT}\right)\right] \tag{11}$$

for the range $T/Z^2 \leqslant 3\times10^5$ K.

Deviations from exact values of radiative rate coefficients may occur for Kramers' results. They are particular important for $\alpha_{nl}^{\mathrm{Kr}}(T)$ and increase with temperature. In fact as T increases the efficient electron energy range increases and therefore Kramers' approximation becomes less justified. An important improvement is obtained by introducing the well known Kramers' Gaunt factor g_n defined as

$$g_n(\varepsilon) = \frac{\sigma_n^{\mathrm{P}}(\varepsilon)}{\sigma_n^{\mathrm{Kr}}(\varepsilon)} \neq 1$$

which leads to

$$\alpha_n(Z, T) = (5.197\times10^{-14}\,\mathrm{cm}^3\,\mathrm{s}^{-1})Z\left(\frac{Z^2Ry}{n^2kT}\right)^{3/2} S_n\left(\frac{Z^2Ry}{n^2kT}\right) \tag{12}$$

where

$$S_n\left(\frac{Z^2Ry}{kT}\right) = \int_0^\infty \exp\left(-\frac{Z^2Ry}{n^2kT}u\right)(1+u)^{-1}g_n(u)\,\mathrm{d}u$$

with $u = \varepsilon/\varepsilon_n$. With the first three terms in the asymptotic expression of $g_n(u)$ Seaton (1959) has obtained rate coefficients $\alpha_n(Z, T)$ calculated with deviations from the exact values which do not exceed 2% for $T/Z^2 \leqslant 10^4$ K. The total radiative recombination rate coefficient, expressed by Seaton (1959) as

$$\alpha_t(Z, T) = (5.197\times10^{-14}\ \mathrm{cm^3\ s^{-1}})Z\left(\frac{Z^2Ry}{kT}\right)^{1/2}$$
$$\times\left[0.4288+\tfrac{1}{2}\ln\left(\frac{Z^2Ry}{kT}\right)+0.4638\left(\frac{Z^2Ry}{kT}\right)^{-1/3}\right] \tag{13}$$

with deviations from the exact values of less than 0.5% for $T/Z^2 \leq 10^5$ K, gives a better approximation and dependence on T.

Bates and Dalgarno (1962) have conveniently summarised Seaton's work and quoted $\alpha_n^{\mathrm{H}}(T)$ and $\alpha_t^{\mathrm{H}}(T)$ for H at different temperatures.

3. Results

Detailed results for coefficients of Rb $\alpha_{nl}(T)$, $\alpha_n(T)$ and $\alpha_t(T)$ have been obtained in the temperature range $500 \leq T \leq 6000$ K and compared with the results of the hydrogenic and Kramers' models corresponding to the charge $Z=1$ (charge of the ion Rb^+ before recombination).

3.1. Results for $\alpha_{nl}(T)$ with $n \leq 20$, $l \leq 10$

3.1.1. Evolution of α_{nl} with n and l for T fixed. The evolution of α_{nl} with n at a fixed and rather low temperature $T = 500$ K is shown in figure 1 for various l values and

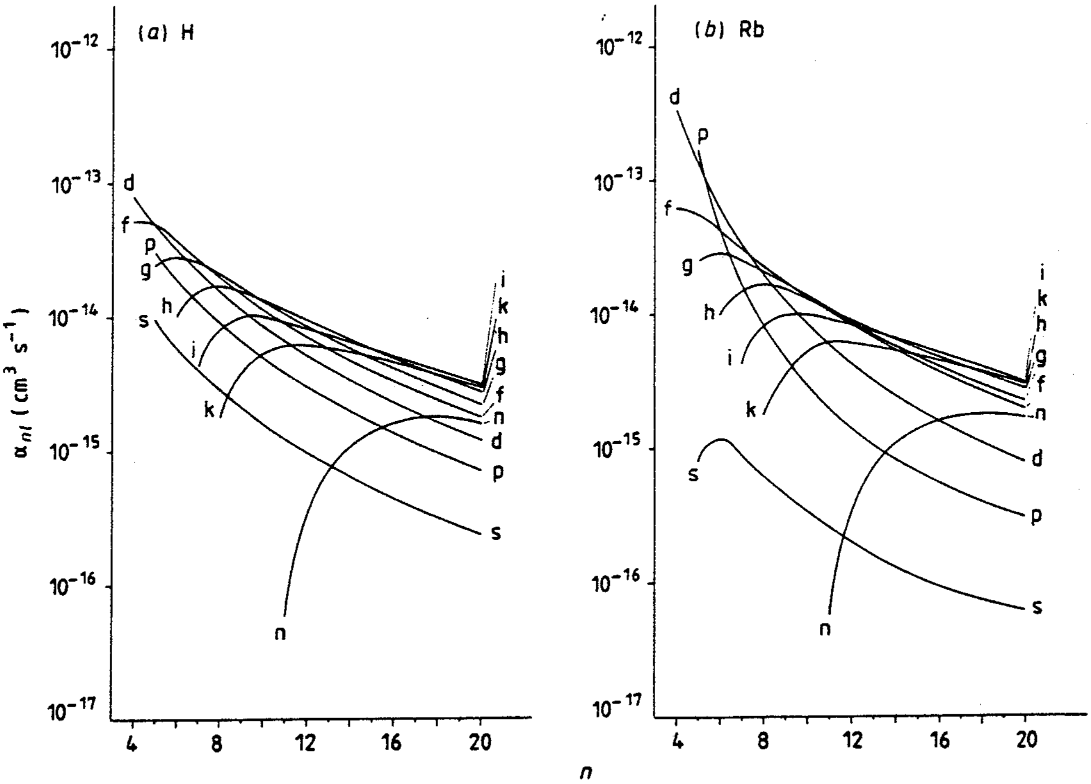

Figure 1. Radiative recombination rate coefficients α_{nl} (in units of cm^3 s^{-1}) plotted against the principal quantum number n for $l = 0$–7 (s, p, d, ..., k), 10(n) at temperature $T = 500$ K for (*a*) H and (*b*) Rb.

compared with α_{nl}^{H}. The coefficients α_{nl} and α_{nl}^{H} have the same evolution with n for any given $l \neq 0$ and the relative order of α_{nl} or α_{nl}^{H} for any given n depends upon n as seen in figure 1.

When T is low the efficient electron energy range for the calculation of α_{nl} and α_{nl}^{H} is confined near to the threshold for any n and l. Only values of $\sigma_{nl}(\varepsilon)$ and $\sigma_{nl}^{H}(\varepsilon)$ in this vicinity are to be considered.

Firstly for H and given l the coefficients α_{nl}^{H} decrease monotonically with increasing n for $l \leqslant 3$ but present a maximum for $l > 3$. This is related to the evolution of $\sigma_{nl}^{H}(\varepsilon)$ with ε which depends on both the n and l values. For given $l \leqslant 3$ and increasing values of ε, $\sigma_{nl}^{H}(\varepsilon)$ decreases more rapidly the higher n is, as shown in figure 2 for $l = 1$ curves. This is not the case for given $l > 3$, as shown in figure 2 for $l = 6$ curves; the increase of α_{nl}^{H} for low n is then related to the increase with n of $\sigma_{nl}^{H}(\varepsilon)$ near the threshold.

Secondly for any given n, α_{nl}^{H} increases first with increasing l, reaches a maximum and then decreases. The increase of α_{nl}^{H} with l follows that of the statistical weight factor $2(2l+1)$ and that of the threshold photoionisation cross section $\sigma_{nl}^{H}(0)$ which also increases with l up to a maximum. The decrease of α_{nl}^{H} for large l values is related to that of $\sigma_{nl}^{H}(0)$ and mainly to the fact that the higher l is, the faster $\sigma_{nl}^{H}(\varepsilon)$ decreases with ε (see figure 2). The relative order of α_{nl}^{H} depends upon n because the l_{M}^{H} value for which α_{nl}^{H} reaches a maximum depends upon n.

As far as Rb is concerned, for any n, α_{nl} is close to α_{nl}^{H} for $l > 3$ whereas it is quite different for $l \leqslant 2$, as may be expected. In fact the photoionisation cross sections of Rb present non-hydrogenic characters only for $l \leqslant 2$ (Aymar *et al* 1984).

The occurrence of the Cooper minimum for $\sigma_{ns}(\varepsilon)$ leads to $\sigma_{ns}(\varepsilon) \ll \sigma_{ns}^{H}(\varepsilon)$ and consequently to $\alpha_{ns} < \alpha_{ns}^{H}$. This minimum for $\sigma_{5s}(\varepsilon)$ is closer to the threshold than

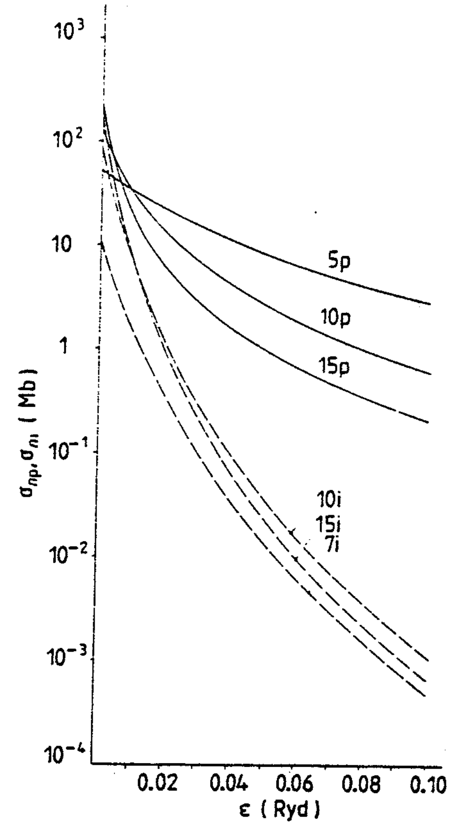

Figure 2. Photoionisation cross sections (in units of Mb, 1 Mb $= 10^{-18}$ cm^2) $\sigma_{np}(\varepsilon)$ (——) and $\sigma_{ni}(\varepsilon)$ (— —) plotted against the energy of the photoelectron (in units of Ryd).

those of the other $\sigma_{ns}(\varepsilon)$ with $n>5$. This explains the maximum present in the evolution of the coefficients α_{ns} with n which does not exist for H. For p and d states the differences between α_{nl} and α_{nl}^{H} depend upon n. For high $n(=20)$ $\alpha_{nl}<\alpha_{nl}^{\mathrm{H}}$ because $\sigma_{nl}(0)\ll\sigma_{nl}^{\mathrm{H}}(0)$, but for low $n(=5)$ we have instead $\alpha_{nl}>\alpha_{nl}^{\mathrm{H}}$ and the relative order of α_{nl} is completely changed from that of the corresponding α_{nl}^{H}. Large values are obtained for α_{np} and α_{nd} owing to two factors. Firstly the decrease of $\sigma_{nl}(\varepsilon)$ for $l\leqslant 2$ with ε is slower than in the case of hydrogen. The second and important factor is that the large values of the ionisation potentials ε_{nl} for p and d states of Rb give a higher weight to the factor $(\varepsilon+\varepsilon_{nl})^2$ occurring in equation (6).

The evolution of α_{nl} with n and l has been discussed in detail for $T=500$ K; however similar behaviour is obtained for any temperature.

3.1.2. Evolution of α_{nl} with T. For given n and l, $\alpha_{nl}(T)$ for Rb decreases monotonically with increasing temperature, as is apparent from equation (6) and figure 3, which shows the evolution of $\alpha_{8l}(T)$ with T for various l values. The important fact here is that the efficient electron energy range increases with T. The coefficients α_{8l} with $l\neq 0$ decrease faster with T the higher l is, due to the evolution of $\sigma_{8l}(\varepsilon)$ with ε and l.

These results are similar for any given n. The relative importance of α_{nl} corresponding to lower $l\neq 0$ increases with temperature. The relative order of α_{nl} for given n thus changes with T. Values of $\alpha_{nl}(T)$ are given in table 1.

Let us note that $\alpha_{nl}(T)$ decreases with T slower than $\alpha_{nl}^{\mathrm{H}}(T)$ because $\sigma_{nl}(\varepsilon)$ decreases with ε slower than $\sigma_{nl}^{\mathrm{H}}(\varepsilon)$.

3.2. Results for $\alpha_n(T)$

The radiative recombination $\alpha_n(T)$ on the shell n has been calculated (equation (7)), for $n\leqslant 10$ and $n=15$ and compared with $\alpha_{nl}^{\mathrm{H}}(T)$.

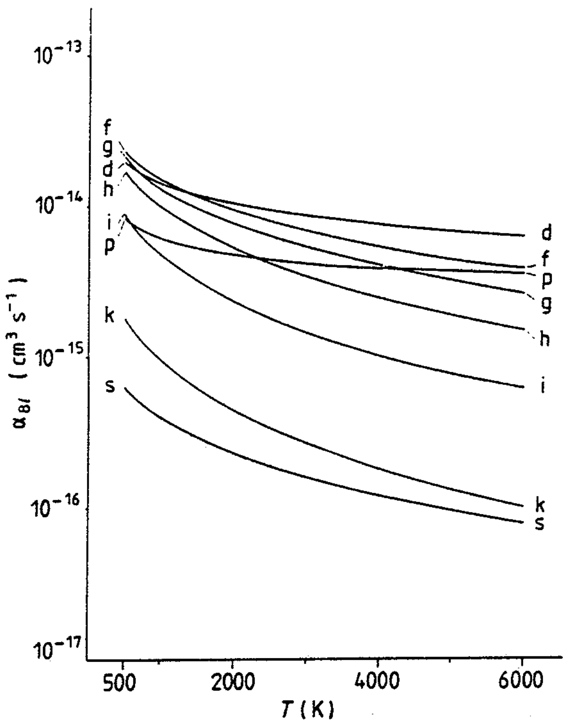

Figure 3. Radiative recombination rate coefficients $\alpha_{8l}(T)$ for $l=0$–7 (s, p, d, ..., k) (in units of cm^3 s^{-1}) plotted against the temperature.

Table 1. Values of $\alpha_{nl}(T)$ (in units of 10^{-14} cm^3 s^{-1}), $l = 0$-3 (s, p, d, f) and various n values at temperatures $T = 500$, 2500 and 5000 K. The numbers in parentheses denote the powers of ten.

		n								
T (K)	l	4	5	6	8	10	12	15	18	20
500	s		7.95 (−2)	12.4 (−2)	6.27 (−2)	3.45 (−2)	2.0 (−2)	1.1 (−2)	7.5 (−3)	6.2 (−3)
2500			2.30 (−2)	4.02 (−2)	1.91 (−2)	9.60 (−3)	5.3 (−3)	2.7 (−3)	1.6 (−3)	1.2 (−3)
5000			1.15 (−2)	2.07 (−2)	9.60 (−3)	4.50 (−3)	2.5 (−3)	1.2 (−3)	7.0 (−4)	5.0 (−4)
500	p		17.02	4.219	8.277 (−1)	2.985 (−1)	1.437 (−1)	6.65 (−2)	3.97 (−2)	3.13 (−2)
2500			8.142	2.138	4.489 (−1)	1.667 (−1)	8.030 (−2)	3.53 (−2)	1.95 (−2)	1.40 (−2)
5000			6.103	1.677	3.672 (−1)	1.381 (−1)	6.640 (−2)	2.88 (−2)	1.39 (−2)	9.90 (−3)
500	d	33.72	13.90	6.198	1.955	9.408 (−1)	4.376 (−1)	2.01 (−1)	1.12 (−1)	7.99 (−2)
2500		14.42	6.195	2.873	9.428 (−1)	4.510 (−1)	2.134 (−1)	1.00 (−1)	5.48 (−2)	3.88 (−2)
5000		9.660	4.306	2.046	6.790 (−1)	3.154 (−1)	1.582 (−1)	7.45 (−2)	4.09 (−2)	2.66 (−2)
500	f	6.309	5.676	4.219	2.300	1.337	9.029 (−1)	4.54 (−1)	2.77 (−1)	2.26 (−1)
2500		2.194	1.983	1.476	7.909 (−1)	4.546 (−1)	2.915 (−1)	1.57 (−1)	9.04 (−2)	6.45 (−2)
5000		1.233	1.121	8.347 (−1)	4.454 (−1)	2.526 (−1)	1.602 (−1)	8.71 (−2)	4.99 (−2)	3.21 (−2)

For any given n and T values, $\alpha_{nl}(T)$ presents a maximum in its evolution with l. Then the ratio $x_{nl}(T)=\alpha_{nl}(T)/\alpha_n(T)$ also exhibits a maximum $x_M(n, T)$ for $l_M(n, T)$ when l increases as shown in figure 4 for α_{8l}/α_8 at $T=500$ and 5000 K. l_M increases whereas x_M decreases with n at given T and l_M decreases whereas x_M increases with T for given n. This means that the contribution to α_n of α_{nl} corresponding to low l values (non-hydrogenic character) is larger for low-n values and high temperatures. This is clearly shown in figure 5 which outlines the comparison of $\alpha_n(T)$ with $\alpha_n^H(T)$ and the evolution of $\alpha_n(T)/\alpha_n^H(T)$ with T. $\alpha_n(T)/\alpha_n^H(T)$ increases with T for given n because $\alpha_n(T)$ decreases with T slower than $\alpha_n(T)$, as does $\alpha_{nl}(T)$ as compared with $\alpha_{nl}^H(T)$.

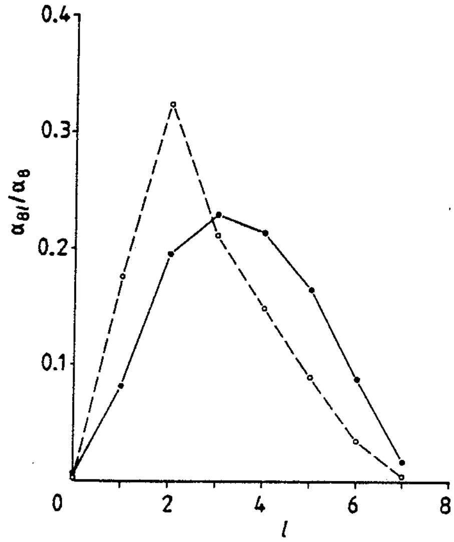

Figure 4. The ratio α_{8l}/α_8 plotted against the orbital quantum number l for $T=500$ (——) 5000 K(- - -).

From our results for low n $\alpha_n(T)\neq\alpha_n^H(T)$, the non-hydrogenic characters are enhanced with increasing T, and $\alpha_n(T)$ may be 3-4 times larger than $\alpha_n^H(T)$. However, as n increases the relative importance of the non-hydrogenic contributions to α_n corresponding to α_{nl} with $l\leq 2$ decreases and for $n\geq 10$ we have approximately $\alpha_n(T)\simeq\alpha_n^H(T)$.

$\alpha_n(T)$ with $n\leq 10$ and $\alpha_{15}(T)$ are given in table 2. For low n the evolution of $\alpha_n(T)$ with T and n is not well described by Kramers and Seaton's formulae (equations (10) and (12), $Z=1$). We have used a least-squares procedure to fit our results for $\alpha_n(T)$ and we have obtained empirically three-term parametric expressions which agree with the computed values to better than 5%.

The evolution with T for given n, and with n at given T, is obtained from

$$\alpha_n(T)=T^{-1/2}\left(a+\frac{b}{T}+c\frac{\ln T}{T}\right) \tag{14}$$

$$\alpha_n(T)=\frac{a'}{n^{5/2}}+\frac{b'}{n^3}+\frac{c'}{n^3}\ln n \tag{15}$$

where α_n is expressed in units of $10^{-14}\,\mathrm{cm^3\,s^{-1}}$ and a, b, c, a', b', c' are constant coefficients. As an example, for $n=5$ we have $a=8.233\times10^2$, $b=1.643\times10^5$ and

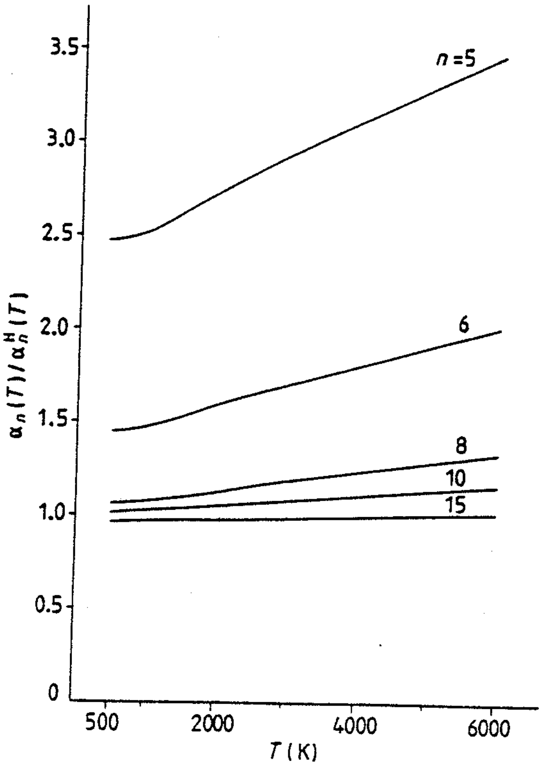

Figure 5. The ratio $\alpha_n(T)/\alpha_n^{H}(T)$ plotted against the temperature for $n = 5, 6, 8, 10$ and 15.

Table 2. Values of $\alpha_{4d}(T)$, $\alpha_{4f}(T)$, $\alpha_n(T)$ $n \leq 10$ $\alpha_{15}(T)$, $\alpha_t(T)$, $\alpha_t^{H,S}(T)$ and $\alpha_t^{Kr,S}(T)$ (in units of 10^{-14} cm^3 s^{-1}) for various values of T.

	T (K)						
	500	1000	2000	3000	4000	5000	6000
α_{4d}	33.72	23.59	16.30	13.01	11.03	9.660	8.642
α_{4f}	6.309	4.162	2.594	1.901	1.499	1.233	1.043
α_5	39.20	27.46	19.18	15.54	13.38	11.91	10.83
α_6	18.72	12.84	8.701	6.900	5.848	5.141	4.625
α_7	13.40	9.200	5.800	4.400	3.700	3.100	3.000
α_8	10.00	6.467	4.037	3.029	2.464	2.097	1.837
α_9	8.400	5.200	3.200	2.400	1.900	1.600	1.400
α_{10}	7.089	4.418	2.604	1.872	1.473	1.220	1.044
α_{15}	3.636	2.133	1.149	0.781	0.590	0.472	0.396
α_t	224.4	138.8	85.35	65.88	52.07	44.54	37.78
$\alpha_t^{H,S}$	165.8	96.40	54.64	39.22	29.46	24.50	20.42
$\alpha_t^{Kr,S}$	172.9	100.9	56.98	40.92	30.97	25.22	21.26

$c = 3.078 \times 10^4$. For $T = 5000$ K we have $a' = 6.256 \times 10^3$, $b' = 1.684 \times 10^3$ and $c' = -8.825 \times 10^3$.

3.3. *Results for $\alpha_t(T)$*

It is usual to split the total radiative recombination coefficient α_t for non-hydrogenic ions and atoms into two parts for its calculation (Aldrovandi and Pequignot 1973).

One part corresponds to the non-hydrogenic contribution and the other one to the hydrogenic contribution. As $\alpha_n \simeq \alpha_n^{\mathrm{H}}$ for $n \geqslant 10$ we evaluate α_t from equation (8) as

$$\alpha_t = \alpha_{4d} + \alpha_{4f} + \sum_{n=5}^{9} \alpha_n + \sum_{n=10}^{\infty} \alpha_n^{\mathrm{H}}$$

with

$$\sum_{n=10}^{\infty} \alpha_n^{\mathrm{H}} = \alpha_t^{\mathrm{H}} - \sum_{n=1}^{9} \alpha_n^{\mathrm{H}}.$$

α_n^{H} and α_t^{H} can be obtained from tables given by Bates and Dalgarno (1962). $\alpha_t(T)$ calculated for the whole temperature range is given in table 2. The evolution of $\alpha_t(T)$ with T is not well described by Kramers and Seaton's formulae (equations (11) and (13), $Z=1$). We have fitted our results for $\alpha_t(T)$ to better than 4% with the three-parameter analytical formulae found empirically:

$$\alpha_t(T) = (5.197 \times 10^{-14}\ \mathrm{cm^3\ s^{-1}}) \left(\frac{Ry}{kT}\right)^{1/2} \times \left[1.1627 + 0.024\left(\frac{Ry}{kT}\right) - 0.0035\left(\frac{Ry}{kT}\right) \ln\left(\frac{Ry}{kT}\right)\right]. \tag{16}$$

For comparison of α_t for Rb with the results of the hydrogenic and Kramers models, α_t^{H} and α_t^{Kr} must be modified to account for the filled shells and subshells of Rb^+. We have calculated corresponding $\alpha_t^{\mathrm{H,S}}$ and $\alpha_t^{\mathrm{Kr,S}}$. The coefficients α_{4d}, α_{4f}, α_t, $\alpha_t^{\mathrm{H,S}}$ and $\alpha_t^{\mathrm{Kr,S}}$ are given in table 2.

Figure 6 shows α_t compared with the results of the hydrogenic and Kramers models. $\alpha_t^{\mathrm{H,S}}$ and $\alpha_t^{\mathrm{Kr,S}}$ do not differ much, but α_t differs significantly from them. $\alpha_t/\alpha_t^{\mathrm{H}}$ increases with increasing temperature as expected and may be as high as 2. Modelling the total radiative recombination coefficient by the hydrogenic or Kramers one is not always reliable.

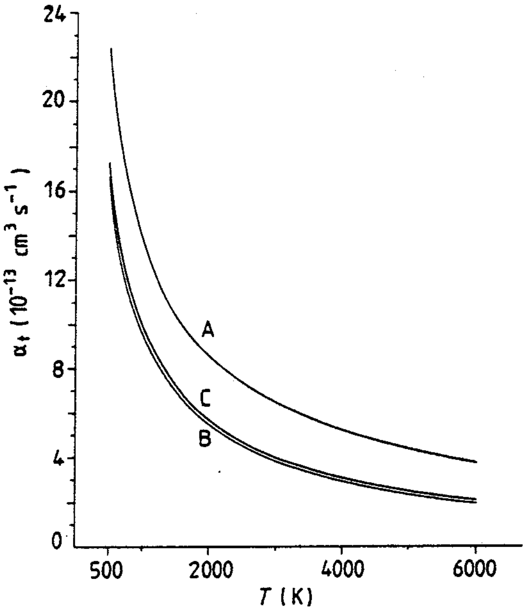

Figure 6. Total radiative recombination $\alpha_t(T)$ for Rb (in units of $10^{-13}\ \mathrm{cm^3\ s^{-1}}$) plotted against the temperature (curve A). Comparison with the results of the hydrogenic $\alpha_t^{\mathrm{H,S}}(T)$ (curve B) and Kramers models $\alpha_t^{\mathrm{Kr,S}}(T)$ (curve C) are also presented. Results obtained for $\alpha_t(T)$ of Li by Caves and Dalgarno (1972) are the same as ours for Rb (curve A).

For Rb the radiative recombination coefficients on the lower subshells (4d, 4f) and shells ($n=5$–9) are far from being hydrogenic and a detailed calculation using the correct photoionisation cross sections is valuable. It would be useful to compare our results with others obtained for Rb or other alkali atoms. Unfortunately only few theoretical results have already been obtained for the radiative recombination coefficients of some alkali atoms. Non-hydrogenic features of the radiative recombination coefficients α_{nl} into the lowest states of Cs (Norcross and Stone 1966) and Li (Caves and Dalgarno 1972) have been outlined.

The total radiative recombination coefficient α_t has been given for Li by Caves and Dalgarno (1972) who calculated the non-hydrogenic contribution for $n=2,3$ by use of a model potential and adopted hydrogenic values for $n \geqslant 4$. Their values coincide practically with ours for Rb as shown in figure 6. This was previously noticed by Moskvin (1963) who used the quantum defect method (Burgess and Seaton 1960) to evaluate α_t for the alkali atoms Li–Cs. Precise values cannot, however, be derived for α_t of Rb from Moskvin's curve and this prevents any comparison with other results.

4. Conclusion

This work on the non-hydrogenic behaviour of the radiative recombination coefficients of Rb adds to the previous studies performed with alkali atoms (Moskvin 1963), Li (Caves and Dalgarno 1972) and Cs (Norcross and Stone 1966, Weisheit 1972).

The non-hydrogenic features are significant for recombination in all the ns, np and nd Rydberg series even for large values of n and for the lowest shells ($n=5$–9). For nl Rydberg series, however, with $l \geqslant 4$ and the higher shells ($n \geqslant 10$), the radiative recombination coefficients are close to the hydrogenic ones.

It would be interesting to use our method of calculation for studying the systematics of radiative recombination of alkali atoms and alkali-like ions. It is expected that the central field model which has been used gives more reliable results than those provided by the quantum defect theory (Burgess and Seaton 1960) for that systematics.

It will be also of interest to extend the temperature range and to study the role of excitation of inner-shell electrons for recombination of alkali atoms and alkali-like ions. Extension of the results obtained for one-electron systems to more complex atoms and ions is another good challenge.

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ANNEXE III

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Excited-state photoionisation and radiative recombination for ions of the potassium isoelectronic sequence

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Abstract. Photoionisation cross sections for excited *nl* states ($n \leq 20$, $l \leq 4$) of K and positive K-like ions have been computed in the framework of a non-relativistic single-electron model by the use of a central potential. The evolution of the non-hydrogenic behaviour of photoionisation cross sections near threshold is studied along a given *nl* series and along the K sequence. This evolution and the occurrence of minima and maxima in photoionisation cross sections are analysed in terms of the quantum defect theory.

Radiative recombination coefficients for K-Ti^{3+}, Fe^{7+} and Mo^{23+} have been obtained within the electron temperature range $500 \leq T \leq 10\,000$ K, by the use of the principle of detailed balance. The significant non-hydrogenic features are outlined and the systematics of the recombination of alkali atoms and alkali-like ions are analysed. Comparisons are made with the results of the hydrogenic model and with other available theoretical or experimental results.

1. Introduction

A knowledge of ground- and excited-state photoionisation cross sections and radiative recombination coefficients for atoms and positive ions is of primary importance in radiative transfer in laboratory, astrophysical and thermonuclear plasmas, in addition to the intrinsic interest for atomic theory.

In connection with recent progress in atomic beam techniques, and the development of synchrotron radiation sources and laser research methods, there has been increased attention to the study of photoionisation processes from excited atoms (Wuillemier 1982), mainly from neutral alkalis which have low excitation potentials (Kollath 1980).

For multicharged positive ions laboratory experiments are rather difficult and very few results have been reported to date (Lucatorto and McIlrath 1976, McIlrath and Lucatorto 1977). In addition, results for radiative recombination are still very scarce (Rothe 1969, 1971). Therefore more data are needed for positive ions.

On the theoretical side, some calculations have been performed for mostly ground-state photoionisation cross sections for ions of the Li sequence (McGinn 1970, Tiwari *et al* 1975), Na sequence (Shevelko 1974, Butler *et al* 1984) or other alkali isoelectronic sequences (Black *et al* 1972, Reilman and Manson 1979, Chichkov and Shevelko 1981). Systematic trends in excited-state photoionisation have been found recently mainly for the neutral alkali atoms Li-Cs (Aymar *et al* 1976, Devdariani and Klyucharev 1977, Lahiri and Manson 1982) and the beginning of the Rb sequence (Aymar *et al* 1984).

As far as radiative recombination is concerned, some results for the rate coefficients have been obtained for hydrogenic ions (Seaton 1959, Burgess 1964), alkali atoms (Moskvin 1963, Caves and Dalgarno 1972, Wane 1985), the Li sequence (Barfield 1979, Pradhan 1983), Na sequence (Mital and Narain 1979) and for positive ions of astrophysical interest (Woods *et al* 1981, Shull and Steenberg 1982).

It is then of interest to study the systematics of excited-state photoionisation and of radiative recombination for alkali atoms and along alkali isoelectronic sequences. The K-like ions have been less thoroughly studied than Li-like or Na-like ions. However, some of them are of astrophysical interest (Ca^{+}, Fe^{7+}), are found in Tokamak plasmas as impurities (Cr^{5+}, Fe^{7+}, Mo^{23+}) or are interesting for diagnostic purposes (Kr^{17+}). The K isoelectronic sequence is therefore well suited for investigation.

In this work we present results on excited-state photoionisation cross sections and radiative recombination coefficients for K and K-like ions. Calculations for photoionisation cross sections within the framework of a non-relativistic single-electron model are performed by the method already employed by Aymar *et al* (1984). Radiative recombination coefficients are then deduced by use of the principle of detailed balance, following the procedure already given by Wane (1985).

The model used for the calculations is recalled in § 2. The results on the outer-shell photoionisation cross sections along the nl Rydberg series ($n \leqslant 20, l \leqslant 2$) and along the K sequence are presented in § 4. The systematic trends of the partial photoionisation cross sections are analysed in terms of the quantum defect theory, as indicated in § 3. The results obtained for the radiative recombination coefficients of K-Ti^{3+}, Fe^{7+} and Mo^{23+} within the temperature range $500 \leqslant T \leqslant 10\,000$ K are given in § 5. Emphasis is put on the non-hydrogenic features, and systematic trends of the radiative recombination of alkali atoms and alkali-like ions are analysed. The hydrogenic model or other available theoretical or experimental results are finally given for comparison.

2. Model used to calculate photoionisation cross sections and radiative recombination rate coefficients

We recall in this section the fundamental points and basic formulae of the theory.

2.1. Central-field models used to evaluate photoionisation cross sections

Within the framework of a non-relativistic single-particle central-field model, the cross section (in cm^2) for photoionisation of an nl state of a one-electron system is given in the dipole approximation by (Sobel'man 1972)

$$\sigma_{nl}(\varepsilon) = 0.855 \times 10^{-18}(\varepsilon - \varepsilon_{nl})\left(\frac{l}{2l+1} R^2_{nl,l-1}(\varepsilon) + \frac{l+1}{2l+1} R^2_{nl,l+1}(\varepsilon)\right) \tag{1}$$

where ε_{nl} (<0) is the binding energy of the electron nl and ε (>0) is the energy of the photoelectron. The energy of the incident photon is $h\nu = \varepsilon - \varepsilon_{nl}$ (all energies are in Ryd).

For $l \neq 0$, $\sigma_{nl}(\varepsilon)$ is the sum of two partial cross sections $\sigma_{nl,l-1}(\varepsilon)$ and $\sigma_{nl,l+1}(\varepsilon)$, respectively, associated with the photoelectron continua $l-1$ and $l+1$.

The radial matrix elements $R_{nl,l\pm1}(\varepsilon)$ (expressed in atomic units) are given in the dipole-length formulation by

$$R_{nl,l'}(\varepsilon)=\int_0^\infty P_{nl}(r)rP_{\varepsilon l'}(r)\,\mathrm{d}r \tag{2}$$

where $P_{\varepsilon l'}(r)$ is normalised per unit energy range and has the asymptotic form

$$P_{\varepsilon l'}(r)\to\varepsilon^{-1/4}\sin\left[\varepsilon^{1/2}r-\frac{l'\pi}{2}+\frac{z}{\varepsilon^{1/2}}\ln(2\varepsilon^{1/2}r)+\arg\Gamma\left(l'+1-\frac{\mathrm{i}z}{\varepsilon^{1/2}}\right)+\delta_{l'}(\varepsilon)\right] \tag{3}$$

where $z=Z-N+1$ is the residual charge on the final ion and $\delta_{l'}(\varepsilon)$ is the phaseshift with respect to hydrogen-like wavefunctions.

The radial wavefunctions are calculated using two different central potentials already employed successfully for excited-state photoionisation (Aymar *et al* 1984).

(i) The central potential has a simple analytic form depending on three parameters which are determined by comparing the experimental energies with zero-order calculated ones; this potential has been used for members of the K sequence where experimental energies are available.

(ii) The central potential corresponds to the parametric potential introduced by Klapisch (1971) which is represented by an analytic function depending on a set of parameters, each parameter describing the distribution of charges in a shell n of the atomic core. The optimal potential is determined by minimising the total energy of the ground state. This potential has been used for the other ions of the K sequence where only a few experimental energies are known.

2.2. *Radiative recombination rate coefficients*

In the radiative recombination process of one-electron systems, an ion X^{z+} of charge z in initial state ${}^1S_0$ combines with a free incident electron to produce an ion or atom $X^{(z-1)+}$ of charge $(z-1)$ in a specific final state $nl\,{}^2L$ while a photon of frequency ν is emitted:

$$X^{z+}({}^1S_0)+e^-\to X^{(z-1)+}(nl\,{}^2L)+h\nu. \tag{4}$$

This capture process is the inverse of the photoionisation process. The respective cross sections $\sigma^{C}_{nl}(v)$ and $\sigma^{P}_{nl}(\nu)$ are related through the principle of detailed balance (Massey 1969)

$$\sigma^{C}_{nl}(v)=2(2l+1)\frac{(h\nu/c)^2}{p^2}\sigma^{P}_{nl}(\nu) \tag{5}$$

where v is the relative velocity of the incident electron, p is its momentum and c is the velocity of light.

The corresponding recombination rate coefficient is given by the velocity (or thermal) average

$$\alpha_{nl}(T)=\langle v\sigma^{C}_{nl}(v)\rangle=\int_0^\infty v\sigma^{C}_{nl}(v)f(v)\,\mathrm{d}v \tag{6}$$

where $f(v)$ is the Maxwellian distribution function of electron velocities. The coefficients $\alpha_{nl}(T)$ can be written as (Bates and Dalgarno 1962, Barfield 1979)

$$\alpha_{nl}(T) = (3286.3402)2(2l+1)(kT)^{-3/2} \int_0^\infty (\varepsilon + I_{nl})^2 \sigma^{\mathrm{P}}_{nl}(\varepsilon) \exp\left(-\frac{\varepsilon}{kT}\right) \mathrm{d}\varepsilon \tag{7}$$

where k is the Boltzmann constant, T is the electron temperature and ε is the electron kinetic energy, which satisfies $h\nu = \varepsilon + I_{nl}$ where I_{nl} is the ionisation potential of the captured electron. All the energies are expressed in Ryd, $\sigma^{\mathrm{P}}_{nl}(\varepsilon)$ is in cm^2 and $\alpha_{nl}(T)$ is expressed in $\mathrm{cm}^3\,\mathrm{s}^{-1}$.

The radiative recombination rate coefficient on shell n is then

$$\alpha_n(T) = \sum_{l=0}^{n-1} \alpha_{nl}(T)$$

and the total radiative recombination rate coefficient on all states is

$$\alpha_{\mathrm{t}}(T) = \sum_{n=n_0}^{\infty} \alpha_n(T)$$

where n_0 corresponds to the lowest unfilled shell or subshell of the recombined ion or atom. The coefficients $\alpha_{nl}(T)$ are computed from $\sigma^{\mathrm{P}}_{nl}(\varepsilon)$ values and then $\alpha_n(T)$ and $\alpha_{\mathrm{t}}(T)$ are deduced.

3. Quantum defect theory analysis of excited-state photoionisation

The behaviour of photoionisation cross sections when the potential $V(r)$ is a Coulombic one or a much more realistic potential has been described previously (Burgess and Seaton 1960, Fano and Cooper 1968, Aymar *et al* 1984), and only fundamental points will be mentioned.

3.1. Hydrogenic behaviour and scaling factors

The cross section $\sigma^z(\varepsilon)$ of a hydrogen-like ion of charge z is related to the hydrogen cross section $\sigma^{\mathrm{H}}(\varepsilon)$ by

$$\sigma^z(\varepsilon) = \sigma^{\mathrm{H}}(\varepsilon/z^2)/z^2. \tag{8}$$

The comparison of cross sections along the K isoelectronic sequence will be carried out using scaled energies $\varepsilon' = \varepsilon/z^2$ and scaled cross sections $\sigma'(\varepsilon') = z^2\sigma(z^2\varepsilon')$, where z has already been defined (equation (3)).

For hydrogen H and hydrogenic ions the radial matrix elements $R^z_{nl,l\pm1}(\varepsilon)$ are always monotonically decreasing functions of ε. Then the partial photoionisation cross sections $\sigma^z_{nl,l\pm1}(\varepsilon)$ and the total cross section $\sigma^z_{nl}(\varepsilon)$ are maximum at threshold and drop to zero as ε increases. For $l \neq 0$, the ratio $\sigma^z_{nl,l-1}(\varepsilon)/\sigma^z_{nl,l+1}(\varepsilon)$ is always smaller than 1 and increases with n. For a given nl series the partial and total cross section threshold values increase with n.

3.2. Analysis of non-hydrogenic behaviour

For non-hydrogenic atoms or ions the behaviour of partial and total cross sections can differ strongly from the hydrogen-like one. The most striking non-hydrogenic feature is the occurrrence as ε' increases of zeros in the radial matrix elements $R_{nl,l\pm1}(\varepsilon')$, giving minima in the partial cross section curves $\sigma'_{nl,l\pm1}(\varepsilon')$. Various non-hydrogenic shapes of these curves (see figure 1) involving up to three minima have been obtained for ground and excited alkali atoms (Aymar *et al* 1976, 1984, Msezane and Manson 1982, Lahiri and Manson 1982). The general trends of excited-state photionisation cross sections of alkali atoms (Li–Cs) and Sr^+ have been analysed recently by Aymar *et al* (1984) in terms of the quantum defect theory of Burgess and Seaton (1960). This analysis is used further and we recall its fundamental points.

The contribution to the dipole matrix elements $R_{nl,l'}(\varepsilon')$ comes almost entirely from the large r region where the excited electron moves primarily in the hydrogenic field due to the core. The additional non-Coulomb forces which prevail within the core modify the radial wavefunctions in the external region. Both bound and continuum orbitals are contracted and shifted towards the nucleus with respect to hydrogen-like orbitals, so that their overlap is modified. The relative shift of the two orbitals with respect to each other is responsible for the non-hydrogenic character of photoionisation from excited states.

The phaseshift of a bound orbital nl is measured by $\pi\mu_{nl}$ where μ_{nl} is the quantum defect of the nl state and the phaseshift of the continuum orbital is $\delta_{l'}(\varepsilon')$ (equation (3)). The quantum defect method brings out an oscillatory dependence of radial matrix elements $R_{nl,l'}(\varepsilon')$ on μ_{nl} and $\delta_{l'}(\varepsilon')$ such as $\cos[\pi\Delta_{nl,l'}(\varepsilon')]$ with

$$\Delta_{nl,l'}(\varepsilon') = -\mu_{nl} + \delta_{l'}(\varepsilon')/\pi + \chi_{ll'}(n, \varepsilon') \tag{9}$$

where the empirical parameter χ is a slowly increasing function of n and ε' (Peach 1967). The occurrence of zeros in the radial matrix elements $R_{nl,l'}(\varepsilon')$ is related to half-integer values of $\Delta_{nl,l'}(\varepsilon')$.

Near the threshold, an approximate value of $\Delta_{nl,l'}(\varepsilon')$ can be obtained by using in equation (9) the limiting values obtained for $n=\infty$ and $\varepsilon'=0$:

$$\Delta_{nl,l'}(\varepsilon') \simeq \Delta\mu_{ll'} + \bar{\chi}_{ll'}(0) \tag{10}$$

where the asymptotic value $\bar{\chi}(0)$ of function χ can be extracted from the tables of Peach (1967). The quantity $\Delta\mu_{ll'} = \mu_{l'} - \mu_l$ represents the quantum defect difference for large n values.

A critical quantum defect difference $\Delta\mu^0_{ll'}$ for the zero of radial matrix elements $R_{nl,l'(\varepsilon')}$ to occur is defined by the relation

$$\Delta\mu^0_{ll'} + \bar{\chi}_{ll'}(0) = \pm 0.5. \tag{11}$$

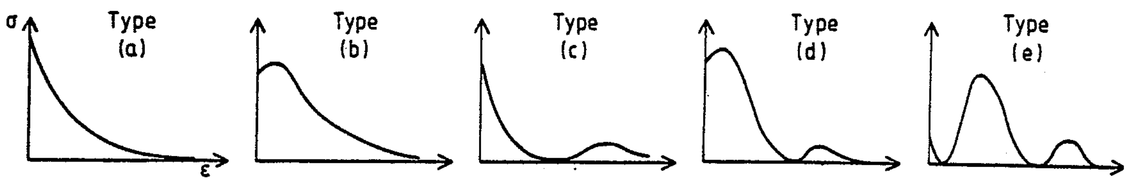

Figure 1. Schematic cross section curves for five typical cases.

Table 1. Shape types of $\sigma'_{nl,l'}(\varepsilon')$ cross sections according to $\Delta\mu_{ll'}$ values.

0		$\lvert\Delta\mu^0_{ll'}\rvert$		$\lvert\Delta\mu^0_{ll'}\rvert+1$		$\lvert\Delta\mu^0_{ll'}\rvert+2$		→	$\lvert\Delta\mu_{ll'}\rvert$
	no zero (a), (b)		one zero (c), (d)		two zeros (e)		three zeros (f)		

The shape types of the partial cross section curves $\sigma'_{nl,l'}(\varepsilon')$ depend on the difference $|\Delta\mu_{ll'}|-|\Delta\mu^0_{ll'}|$ (see table 1), the number k of zeros being determined by the inequalities

$$|\Delta\mu^0_{ll'}|+k-1<|\Delta\mu_{ll'}|<|\Delta\mu^0_{ll'}|+k. \tag{12}$$

4. Results for excited-state photoionisation of K and K-like ions

Photoionisation cross sections have been computed for nl series ($n\leqslant 20$, $0\leqslant l\leqslant 4$) of K, Ca^{+}, Sc^{2+}, Ti^{3+}, V^{4+}, Cr^{5+}, Mn^{6+}, Fe^{7+}, Zn^{11+}, Kr^{17+} and Mo^{23+}. Only the photoionisation of the outer nl electron is considered and autoionisation effects are ignored. The validity of this treatment is confined to the near-threshold energy range. Nevertheless calculations are performed for higher photoelectron energies in order to detect the various minima occurring in the partial cross sections $\sigma'_{nl,l'}(\varepsilon')$ and analyse the systematics of these minima.

The shape type of each $\sigma'_{nl,l'}(\varepsilon')$ curve is given in table 2 for each $nl\rightarrow\varepsilon' l'$ transition of K and K-like ions. In the same table, the asymptotic quantum differences $\Delta\mu_{ll'}$ obtained from our calculations are compared with the critical values $\Delta\mu^0_{ll'}$ (equations (10) and (11)) derived from the tables of Peach (1967).

For large l values ($l>3$), the $|\Delta\mu_{ll'}|$ are small and partial cross sections $\sigma'_{nl,l'}(\varepsilon')$ are not different from those for hydrogen. At the opposite extreme, for $l\leqslant 2$, various cross section curves exhibit extrema, the number of minima being well described by inequalities (12). Let us note that the presence of minima, related to cancellation effects in radial matrix elements, lessens the cross sections as compared with those for hydrogen.

4.1. Evolution of partial cross sections along a Rydberg series

The $\Delta\mu_{ll'}$ and $\Delta\mu^0_{ll'}$ quantities involved in inequalities (12) correspond to asymptotic values. For low-lying levels of a given series, quantum defects μ_{nl} can differ from the limiting value μ_l for large n. Therefore when $|\Delta\mu_{ll'}|=|\Delta\mu^0_{ll'}|+k-1$ the critical value for k zeros is only reached for highly excited states and a change of shape in the photoionisation curves occurs as n increases. It may be noted (see table 2) that the $\sigma'_{nd,f}(\varepsilon')$ curve changes shape type twice along the nd series of Ca^{+}, Sc^{2+} and Ti^{3+}. Indeed for these elements the quantum defect difference $\Delta\mu_{nd,f}$ for low n is quite different from the corresponding value for large n.

For each series of any element, the minima (or maxima) occurring in $\sigma'_{nl,l'}(\varepsilon')$ generally move away (or towards) the threshold as n increases and then become stationary when μ_{nl} and $\chi_{ll'}(n,\varepsilon')$ in (10) reach their asymptotic values. Therefore the non-hydrogenic behaviour remains for highly excited nl states.

4.2. Isoelectronic variation of partial cross sections

The evolution of non-hydrogenic behaviour of the cross sections $\sigma'_{nl,l'}(\varepsilon')$ along a sequence is related to the dependence of the quantum defect $\mu_{nl}(Z)$ on Z, the nuclear charge. The isoelectronic variation of $\mu_{nl}(Z)$ for a given nl series depends strongly on the l value (Edlèn 1964). For small l, $\mu_{nl}(Z)$ is mainly due to the penetration of the nl orbital in the core and decreases as Z increases. For large l, core polarisation giving minima in the partial cross section curves $\sigma'_{nl,l\pm1}(\varepsilon')$. Various non-hydrogenic shapes of these curves (see figure 1) involving up to three minima have been obtained for ground and excited alkali atoms (Aymar *et al* 1976, 1984, Msezane and Manson 1982, Lahiri and Manson 1982). The general trends of excited-state photionisation cross sections of alkali atoms (Li-Cs) and Sr^+ have been analysed recently by Aymar *et al* (1984) in terms of the quantum defect theory of Burgess and Seaton (1960). This analysis is used further and we recall its fundamental points.

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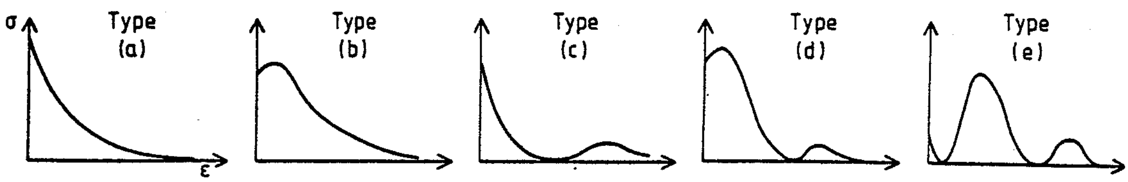

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The shape types of the partial cross section curves $\sigma'_{nl,l'}(\varepsilon')$ depend on the difference $|\Delta\mu_{ll'}|-|\Delta\mu^0_{ll'}|$ (see table 1), the number k of zeros being determined by the inequalities

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4. Results for excited-state photoionisation of K and K-like ions

Photoionisation cross sections have been computed for nl series ($n\leqslant 20$, $0\leqslant l\leqslant 4$) of K, Ca^+, Sc^{2+}, Ti^{3+}, V^{4+}, Cr^{5+}, Mn^{6+}, Fe^{7+}, Zn^{11+}, Kr^{17+} and Mo^{23+}. Only the photoionisation of the outer nl electron is considered and autoionisation effects are ignored. The validity of this treatment is confined to the near-threshold energy range. Nevertheless calculations are performed for higher photoelectron energies in order to detect the various minima occurring in the partial cross sections $\sigma'_{nl,l'}(\varepsilon')$ and analyse the systematics of these minima.

The shape type of each $\sigma'_{nl,l'}(\varepsilon')$ curve is given in table 2 for each $nl\rightarrow\varepsilon' l'$ transition of K and K-like ions. In the same table, the asymptotic quantum differences $\Delta\mu_{ll'}$ obtained from our calculations are compared with the critical values $\Delta\mu^0_{ll'}$ (equations (10) and (11)) derived from the tables of Peach (1967).

For large l values ($l>3$), the $|\Delta\mu_{ll'}|$ are small and partial cross sections $\sigma'_{nl,l'}(\varepsilon')$ are not different from those for hydrogen. At the opposite extreme, for $l\leqslant 2$, various cross section curves exhibit extrema, the number of minima being well described by inequalities (12). Let us note that the presence of minima, related to cancellation effects in radial matrix elements, lessens the cross sections as compared with those for hydrogen.

4.1. *Evolution of partial cross sections along a Rydberg series*

The $\Delta\mu_{ll'}$ and $\Delta\mu^0_{ll'}$ quantities involved in inequalities (12) correspond to asymptotic values. For low-lying levels of a given series, quantum defects μ_{nl} can differ from the limiting value μ_l for large n. Therefore when $|\Delta\mu_{ll'}|=|\Delta\mu^0_{ll'}|+k-1$ the critical value for k zeros is only reached for highly excited states and a change of shape in the photoionisation curves occurs as n increases. It may be noted (see table 2) that the $\sigma'_{nd,f}(\varepsilon')$ curve changes shape type twice along the nd series of Ca^+, Sc^{2+} and Ti^{3+}. Indeed for these elements the quantum defect difference $\Delta\mu_{nd,f}$ for low n is quite different from the corresponding value for large n.

For each series of any element, the minima (or maxima) occurring in $\sigma'_{nl,l'}(\varepsilon')$ generally move away (or towards) the threshold as n increases and then become stationary when μ_{nl} and $\chi_{ll'}(n,\varepsilon')$ in (10) reach their asymptotic values. Therefore the non-hydrogenic behaviour remains for highly excited nl states.

4.2. *Isoelectronic variation of partial cross sections*

The evolution of non-hydrogenic behaviour of the cross sections $\sigma'_{nl,l'}(\varepsilon')$ along a sequence is related to the dependence of the quantum defect $\mu_{nl}(Z)$ on Z, the nuclear charge. The isoelectronic variation of $\mu_{nl}(Z)$ for a given nl series depends strongly on the l value (Edlèn 1964). For small l, $\mu_{nl}(Z)$ is mainly due to the penetration of the nl orbital in the core and decreases as Z increases. For large l, core polarisation

Table 2. For a given $nl \to \varepsilon' l'$ transition, compilation of $\Delta\mu^0_{ll'}$ and $\Delta\mu_{ll'}$ values, and the shape type of $\sigma'_{nl,l'}(\varepsilon')$ cross section for each element.

Transition	K	Elements										$\Delta\mu^0_{ll'}$
		Ca^+	Sc^{2+}	Ti^{3+}	V^{4+}	Cr^{5+}	Mn^{6+}	Fe^{7+}	Zn^{11+}	Kr^{17+}	Mo^{23+}	
$ns \to \varepsilon'$p	−0.46 (c)	−0.35 (b)	−0.30 (a)	−0.27 (a)	−0.24 (a)	−0.22 (a)	−0.21 (a)	−0.19 (a)	−0.15 (a)	−0.11 (a)	−0.09 (a)	−0.37
$np \to \varepsilon'$s	0.46 (a)	0.35 (a)	0.30 (a)	0.27 (a)	0.24 (a)	0.22 (a)	0.21 (a)	0.19 (a)	0.15 (a)	0.11 (a)	0.09 (a)	0.71
$np \to \varepsilon'$d	−1.47 (d) $n \leqslant 8$ (e) $n \geqslant 9$	−0.82 (c)	−0.64 (c)	−0.54 (b) $n \geqslant 4$ (c) $n \geqslant 5$	−0.47 (b) $4 \leqslant n \leqslant 6$ (c) $n \geqslant 7$	−0.42 (b) $4 \leqslant n \leqslant 13$ (c) $n \geqslant 14$	−0.38 (a) $4 \leqslant n \leqslant 7$ (b) $n \geqslant 8$	−0.35 (a)	−0.26 (a)	−0.19 (a)	−0.15 (a)	−0.42
$nd \to \varepsilon'$p	1.47 (c)	0.82 (a) $n \leqslant 3$ (b) $4 \leqslant n \leqslant 5$ (c) $n \geqslant 6$	0.64 (a)	0.54 (a)	0.47 (a)	0.42 (a)	0.38 (a)	0.35 (a)	0.26 (a)	0.19 (a)	0.15 (a)	0.75
$nd \to \varepsilon'$f	−0.22 (a)	−0.62 (a) $n \leqslant 3$ (b) $4 \leqslant n \leqslant 5$ (c) $n \geqslant 6$	−0.55 (a) $n \leqslant 3$ (b) $4 \leqslant n \leqslant 7$ (c) $n \geqslant 8$	−0.49 (a) $n \leqslant 4$ (b) $5 \leqslant n \leqslant 11$ (c) $n \geqslant 12$	−0.43 (a) $3 \leqslant n \leqslant 7$ (b) $n \geqslant 8$	−0.38 (a)	−0.34 (a)	−0.31 (a)	−0.22 (a)	−0.16 (a)	−0.12 (a)	−0.48
$nf \to \varepsilon'$d	0.22 (a)	0.62 (a)	0.55 (a)	0.49 (a)	0.43 (a)	0.38 (a)	0.34 (a)	0.31 (a)	0.22 (a)	0.16 (a)	0.12 (a)	0.78

effects are responsible for most of the μ_{nl}; for these non-penetrating orbits, Edlèn (1964) showed that $\mu_{nl}(Z)$ first increases with Z, then passes through a maximum and ultimately decreases.

So $|\Delta\mu_{sp}|$ and $|\Delta\mu_{pd}|$ decrease along the K sequence. The evolution along the isoelectronic sequence of the shapes of the $\sigma'_{ns,p}(\varepsilon')$, $\sigma'_{np,s}(\varepsilon')$, $\sigma'_{np,d}(\varepsilon')$ and $\sigma'_{nd,p}(\varepsilon')$ curves is quite regular; the extrema observed for low ionisation stages progressively move towards the threshold and then into the discrete spectrum when Z increases.

In contrast, $|\Delta\mu_{df}|$ first increases with Z from K to Ca^+ and then decreases. Thus for photoionisation of d states non-hydrogenic features including advent of new extrema are more important for some ions ($Ca^+ \rightarrow V^{4+}$) than for the neutral K.

4.3. *Typical illustrations*

Non-hydrogenic behaviour of total cross section $\sigma'_{nl}(\varepsilon')$ curves will now be illustrated for s, p and d states.

4.3.1 ns series ($4 \leqslant n \leqslant 20$). Figure 2($a$) shows the evolution of the scaled cross section curve $\sigma'_{4s}(\varepsilon')$ along the sequence and figure 2(b) the evolution with n of the threshold values $\sigma'_{ns}(0)$. Except for low ionisation stages (K, Ca^+) the cross sections move progressively further to the hydrogen ones along the K sequence. The $\sigma'_{ns}(\varepsilon')$ curves of K (type (c)) and of Ca^+ (type (b)) strongly differ from the hydrogen one and

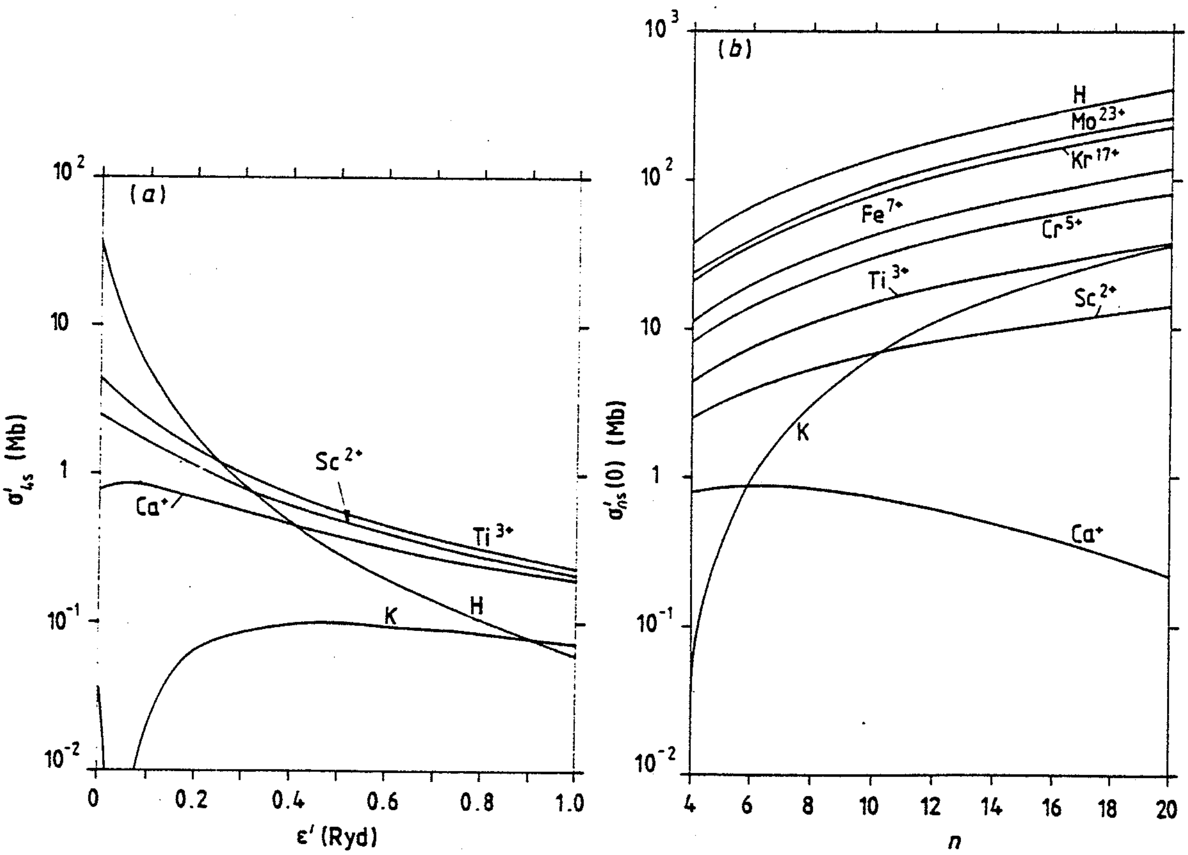

Figure 2. (a) Scaled total cross sections σ'_{nl} (in Mb, 1 Mb = 10^{-18} cm^2) along the K sequence plotted against the scaled photoelectron energy ε' (in Ryd) for 4s. (b) Scaled total cross sections at threshold $\sigma'_{nl}(0)$ along the K sequence plotted against n for ns series.

threshold values are much smaller than that for hydrogen owing to large cancellation effects in the radial matrix element $R_{ns,p}(\varepsilon')$. For the highly ionised ions the cross sections $\sigma'_{ns}(\varepsilon')$ are of hydrogen-like type (a) but nevertheless decrease less rapidly with ε' than in the hydrogen case.

4.3.2. np series ($4 \leq n \leq 20$). Figure 3(*a*) shows the evolution of the scaled cross section curve $\sigma'_{6p}(\varepsilon')$ along the sequence and figure 3(*b*) the evolution with n of the threshold values $\sigma'_{np}(0)$. The curve $\sigma'_{np,d}(\varepsilon')$ presents markedly non-hydrogenic features for the first members of the sequence ($K \rightarrow Mn^{6+}$). In many cases one has $\sigma'_{np,d}(\varepsilon') < \sigma'_{np,s}(\varepsilon')$; thus the extrema occurring in $\sigma'_{np,d}(\varepsilon')$ are not apparent in the total cross section curves. However for K–Ti^{3+} the minima of $\sigma'_{np,d}(\varepsilon')$ result in the change of slope of $\sigma'_{np}(\varepsilon')$ as is obvious on figure 3(*a*) for $n = 6$.

4.3.3. nd series ($3 \leq n \leq 20$). Figure 4(*a*) shows the evolution with Z of $\sigma'_{6d}(\varepsilon')$ and figure 4(*b*) the evolution with n of scaled total and partial threshold cross sections. The decrease of $\sigma'_{nd}(\varepsilon')$ is much slower than the hydrogen one; while the curve $\sigma'_{nd}(\varepsilon')$ is of hydrogen-like shape type (a) for K, the $\sigma'_{nd}(\varepsilon')$ cross sections of many ions ($Ca^{+} \rightarrow Mn^{6+}$) present striking non-hydrogenic traits. For Ca^{+} and Sc^{2+} the extrema of $\sigma'_{nd,f}(\varepsilon')$ profoundly affect the total photoionisation curve for some particular n values. For $n > 3$, the $\sigma'_{nd}(\varepsilon')$ curve of Ca^{+} exhibits extrema corresponding to those of $\sigma'_{nd,f}(\varepsilon')$ (see $\sigma'_{6d}(\varepsilon')$ on figure 4(*a*)); for Sc^{2+} and $3 < n < 8$, the curve $\sigma'_{nd}(\varepsilon')$ is of type (b) (see $\sigma'_{6d}(\varepsilon')$ on figure 4(*a*)) as is $\sigma'_{nd,f}(\varepsilon')$. For more ionised ions the curve $\sigma'_{nd}(\varepsilon')$ is of hydrogen-like type (a) as illustrated on figure 4(*a*) for Ti^{3+} and $n = 6$. Nevertheless non-hydrogenic features are still important; in particular one has in many cases $\sigma'_{nd,f}(\varepsilon') < \sigma'_{nd,p}(\varepsilon')$ for some n values (see figure 4(*b*) for Cr^{5+}). The increase of non-hydrogenic character with n for a given ion which lessens the cross section values $\sigma'_{nd,f}(0)$ (see figure 4(*b*) for Sc^{2+}) explains the pronounced minima presented by the threshold values $\sigma'_{nd}(0)$ for Ca^{+} to Cr^{5+} (figure 4(*b*)).

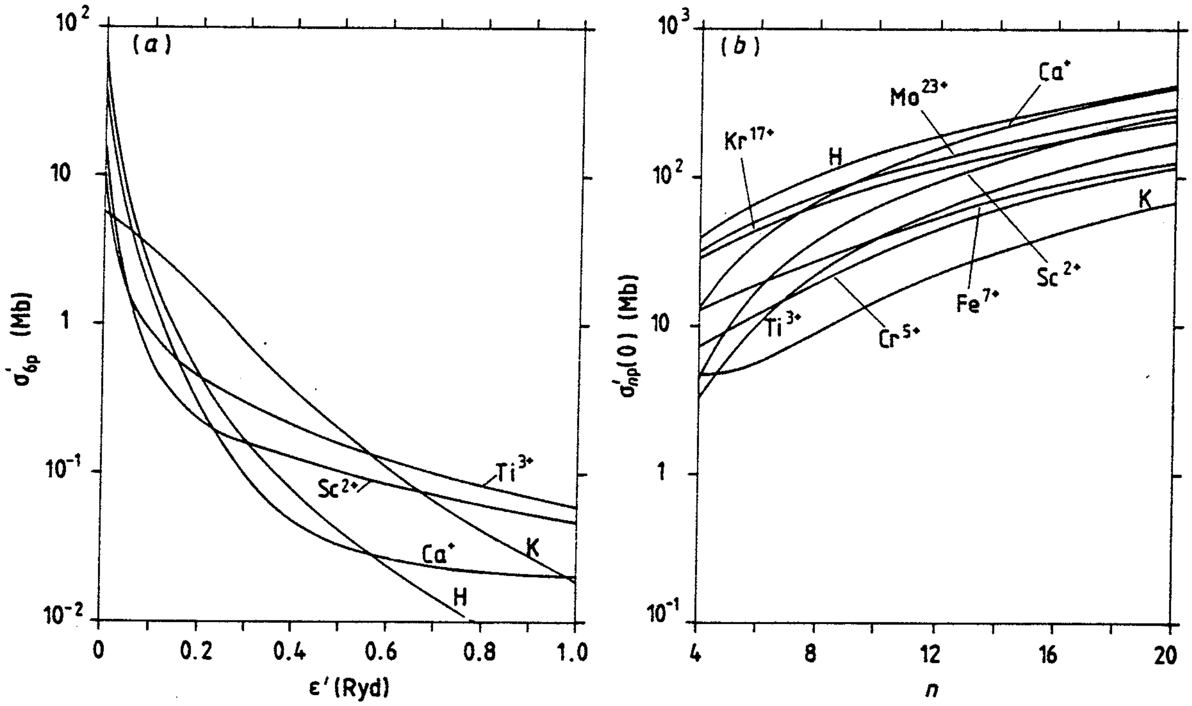

Figure 3. The same as figure 2 for (*a*) 6p and (*b*) *n*p series.

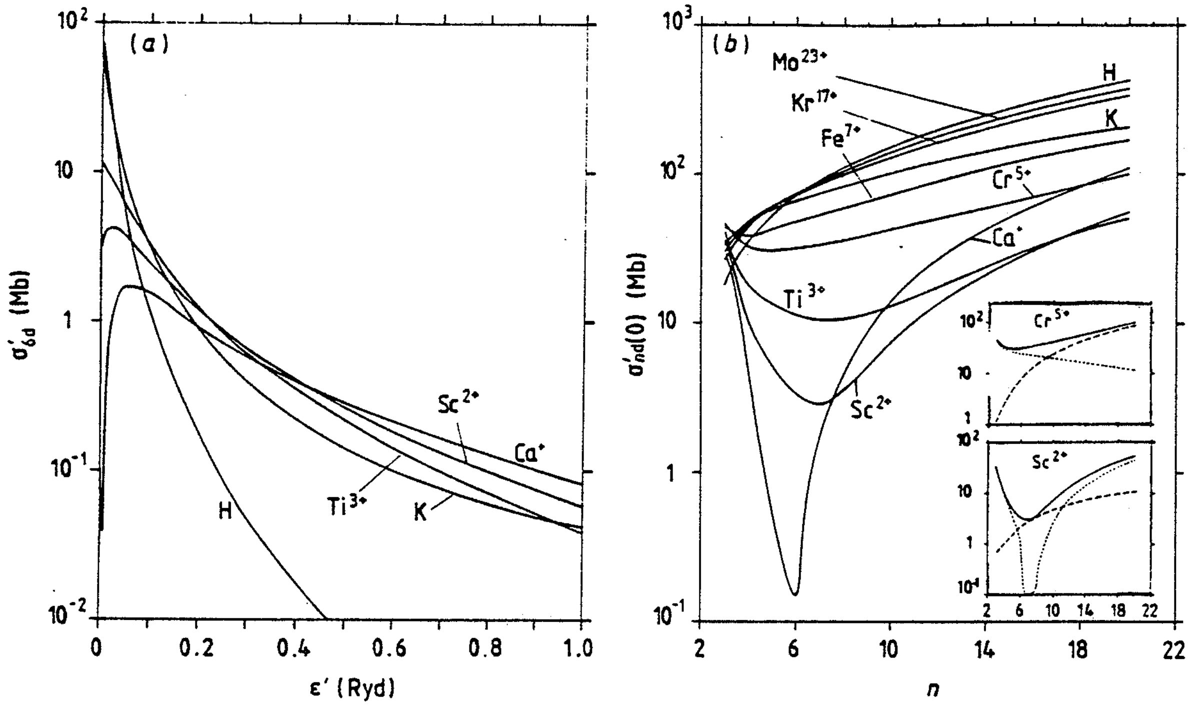

Figure 4. The same as figure 2 for (*a*) 6d and (*b*) *n*d series. For the inset, scaled partial and total cross sections at threshold for Sc^{2+} and Cr^{5+}: - - -, $\sigma'_{nd,p}(0)$; · · · · ·, $\sigma'_{nd,f}(0)$; ——, $\sigma'_{nd}(0)$.

In summary, significant non-hydrogen-like features have been obtained for partial and total photoionisation cross sections from ground and excited *nl* states ($n \leqslant 20, l \leqslant 2$) of K and K-like ions, in connection with the relatively large values of the quantum defects of these states.

4.4. Comparison with previous work

Our predictions are compared with previous work in table 3 for threshold cross sections $\sigma_{nl}(0)$.

(a) For K the only available experimental result concerns the ground state (Marr and Creek 1968, Sandner *et al* 1981). Our curve $\sigma_{4s}(\varepsilon)$ (see figure 2(*a*)) has the same general shape as the experimental curve but the minimum is farther from the threshold than the corresponding experimental one. Our near-threshold cross sections are larger and our values past the minimum smaller than the corresponding experimental ones. Similar discrepancies are observed in the other theoretical results (McGinn 1970, Aymar *et al* 1976). In fact the cross sections $\sigma_{ns}(\varepsilon)$ are much smaller than the hydrogen ones, and very sensitive to a small change of wavefunctions because of strong cancellations effects occurring in the radial matrix elements.

Our results for excited-state photoionisation cross sections are identical to those already given by Aymar *et al* (1976) who used the same kind of central potential. They compare well (table 3) with the results obtained by Moskvin (1963) from the quantum defect theory (Burgess and Seaton 1960), especially for the *n*p and *n*d states. For $\sigma_{3d}(\varepsilon)$ our values are similar but somewhat higher than those obtained by Msezane and Manson (1984) with the velocity Hartree–Fock (HF) formulation. The value of

Table 3. Calculated cross sections (in Mb) at threshold; comparison with previous theoretical results.

		Present work	Moskvin (1963)	Msezane (1984)[a] *HS*	*L*	*V*	McGinn (1970)	Black *et al* (1972)	Reilman and Manson (1978)
K	5s	0.33	0.52						
	4p	4.72	4.80						
	3d	27.14	35.00	31.35	24.83	24.76			
Ca^+	4s	0.198					0.171	0.209	
Fe^{7+}	3d	0.698							0.766

[a] *HS*, Hartree–Slater; *L*, length; *V*, velocity.

$\sigma_{3d}(0)$ compares well (table 3) with the results obtained by Msezane (1984) with the Hartree–Slater potential and the multiconfiguration Hartree–Fock (MCHF) method.

(b) For Ca^+ only theoretical results for the ground state are available. Our values for $\sigma_{4s}(\varepsilon)$ are a little smaller than values obtained by Black *et al* (1972) who take account of core polarisation effects, and a little higher than those of McGinn (1970) who used a pseudopotential method and those of Reilman and Manson (1979) obtained with a Hartree–Slater potential model.

(c) For the other ions of the K sequence the only available theoretical results concern the 3d ground state. Our values for $\sigma_{3d}(\varepsilon)$ of Sc^{2+}–Fe^{7+} and Zn^{11+} are in good agreement with values of Reilman and Manson (1979) within the energy range considered; and our curve $\sigma_{3d}(\varepsilon)$ for Fe^{7+} is practically the same as that obtained by Reilman and Manson (1978) from a Hartree–Slater central-potential model. Here the partial cross sections $\sigma_{3d,l'}(\varepsilon)$ are indeed of hydrogen-like shape type (a) and are not very sensitive to a small change of wavefunctions as are $\sigma_{ns,p}(\varepsilon)$ of K and Ca^+.

Core polarisation effects can be taken into account to improve the photoionisation cross sections, particularly from the ground state of K (Weisheit 1972) and Ca^+. However, only excited nl states ($l \leq 2$) where the cross sections are small are mostly affected (Aymar *et al* 1984) and core polarisation effects decrease rapidly along a sequence (Shevelko 1974, Chichkov and Shevelko 1981).

In conclusion, although the overall trends of photoionisation cross sections given here are expected to be valuable, more theoretical and experimental data are needed to assess the reliability of our calculations.

5. Radiative recombination rate coefficients for K and K-like ions

Radiative recombination rate coefficients have been calculated for the recombining ions K^+, Ca^{2+}, Sc^{3+}, Ti^{4+}, Fe^{8+} and Mo^{24+}; they are compared with the results of the hydrogenic model. Autoionisation effects are completely disregarded in the determinationation of the photoionisation process. Consequently, the computation of the radiative rate coefficients is restricted to the temperature range $500 \leq T \leq 10\,000$ K which confines the effective range of the electron energy closer to threshold the lower the temperature.

5.1. *Results of the hydrogenic model*

The results for recombination of hydrogen H and hydrogen-like ions are first recalled. For atomic hydrogen and hydrogenic ions all the radiative recombination rate coefficients may be calculated exactly (Boardman 1964, Burgess 1964), or approximately using the Kramers–Gaunt factors (Seaton 1959). The radiative recombination rate coefficient $\alpha^z(T)$ of a hydrogen-like ion of charge z is related to the hydrogen one by

$$\alpha^z(T) = z\alpha^{\mathrm{H}}(T/z^2). \tag{13}$$

The comparison of the coefficients $\alpha_{nl}(T)$ along the K sequence will be carried out using scaled temperatures and scaled radiative recombination coefficients defined by the relations

$$\begin{aligned} T' &= T/z^2 \\ \alpha'(T') &= \alpha(z^2T')/z \end{aligned} \tag{14}$$

where z is the charge of the recombining ion.

Recently features of hydrogenic recombination have been outlined (Wane 1985). For given l and T, the coefficients α^z_{nl} decrease monotonically with increasing n for $l \leqslant 3$. For given n and l values the coefficient $\alpha^z_{nl}(T)$ decreases monotonically with increasing temperature. Consequently the coefficient $\alpha^z_n(T)$ decreases with n for given T, decreases with T for given n, and therefore the coefficient $\alpha^z_t(T)$ decreases with T.

5.2. *Results for the radiative recombination rate coefficients of K and K-like ions*

For any n the calculated coefficient $\alpha_{nl}(T)$ is close to the hydrogen-like one $\alpha^z_{nl}(T)$ for $l > 3$, but is quite different for $l \leqslant 2$ mainly for K$-$Ti^{3+}.

5.2.1. $\alpha_{nl}(T)$, $l \leqslant 2$. We will look at two cases.

(*a*) *Evolution of α_{nl} with n for l and T fixed.* For the first members K-Ti^{3+} the evolution with n of α'_{nl} ($l \leqslant 2$) at a fixed temperature $T' = 500$ K is shown in figure 5 and compared with α^{H}_{nl}. Non-hydrogenic characters are obvious, mainly for $\alpha'_{n\mathrm{s}}$ of K-Ca$^+$ and $\alpha'_{n\mathrm{d}}$ of Ca$^+$-Ti^{3+}. The non-hydrogenic behaviour of the cross section $\sigma'_{nl}(\varepsilon')$ near the threshold leads to $\sigma'_{nl}(\varepsilon') \ll \sigma^{\mathrm{H}}_{nl}(\varepsilon')$, and thus to $\alpha'_{nl} \ll \alpha^{\mathrm{H}}_{nl}$. This is particularly noticeable for $\alpha'_{n\mathrm{s}}$ and $\alpha'_{n\mathrm{d}}$ (n close to 6) of Ca$^+$; the evolution with n of α'_{nl} is closely related to that of the $\sigma'_{nl}(0)$ values shown in figure 2. The curve $\alpha'_{n\mathrm{s}}$ presents a maximum for K; indeed the minimum for $\sigma'_{4\mathrm{s}}(\varepsilon')$ is very close to threshold, resulting in a small value of $\alpha'_{n\mathrm{s}}$ for $n = 4$ associated with a maximum at $n = 5$. The $\alpha'_{n\mathrm{p}}$ of Ca$^+$ are greater than the $\alpha^{\mathrm{H}}_{n\mathrm{p}}$; in fact the decrease of $\sigma'_{n\mathrm{p}}(\varepsilon')$ with ε' is slower than in the case of hydrogen. Moreover the great values of the ionisation potentials $I_{n\mathrm{p}}$ give a higher weight to the factor $(\varepsilon + I_{n\mathrm{p}})^2$ occurring in equation (7).

(*b*) *Evolution of $\alpha_{nl}(T)$ with T for n and l fixed.* In this work all the coefficients $\alpha_{nl}(T)$ of any element have been calculated up to a temperature not higher than 10 000 K in order to study the effects of non-hydrogenic behaviour of cross sections near threshold. The comparison of $\alpha'_{nl}(T')$ with $\alpha^{\mathrm{H}}_{nl}(T')$ along the K sequence requires high temperatures for the ions and consequently values of the cross sections corresponding to large electron energies. Therefore here and in the following sections the coefficient $\alpha(T)$ should be considered and compared with the corresponding $\alpha^z(T)$.

For given n and l, the coefficient $\alpha_{nl}(T)$ generally decreases monotonically with increasing temperature T. Departures from this behaviour for K and Ca$^+$ are illustrated

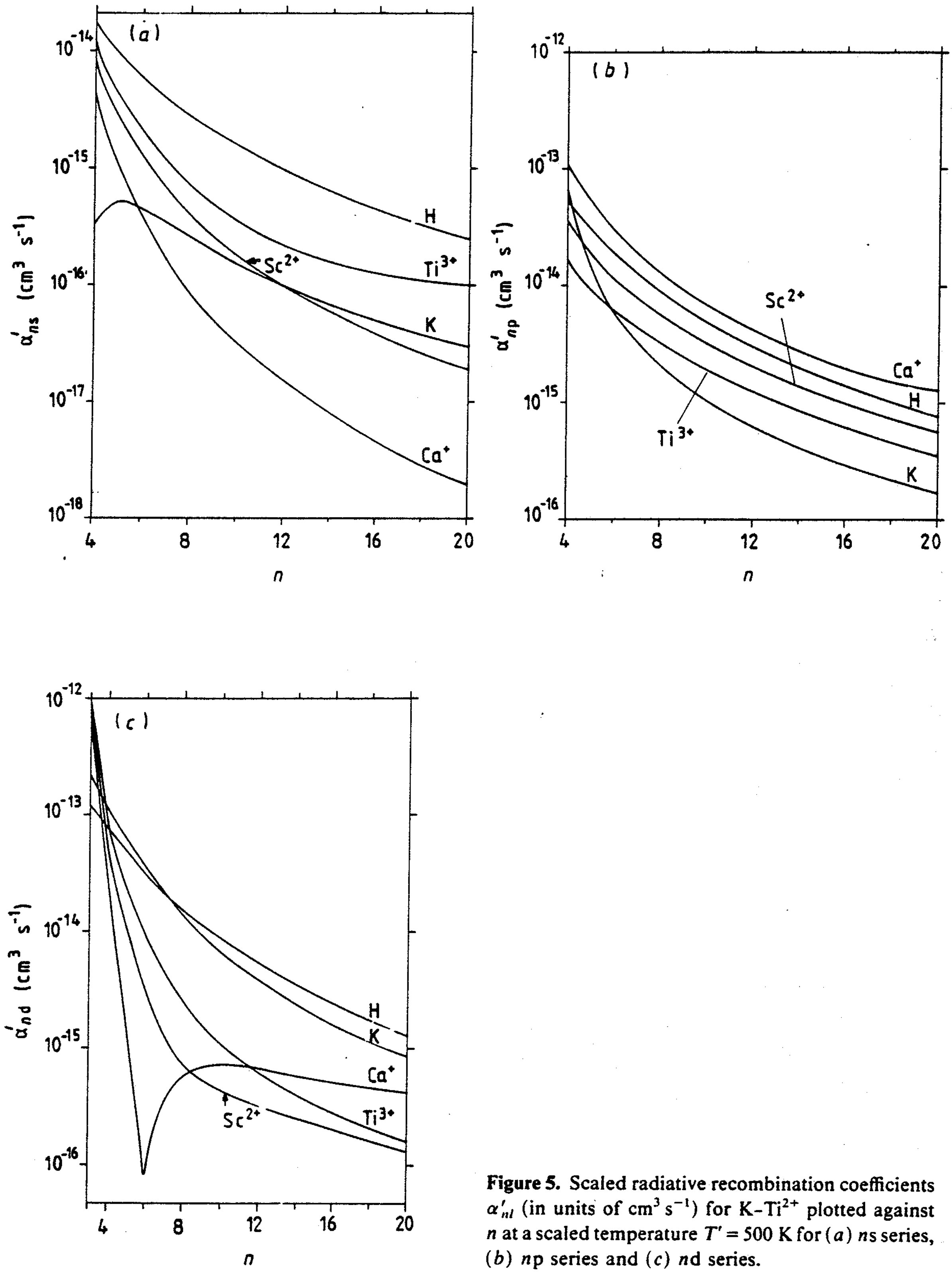

Figure 5. Scaled radiative recombination coefficients α'_{nl} (in units of $cm^3\,s^{-1}$) for K–Ti^{2+} plotted against n at a scaled temperature $T' = 500$ K for (*a*) *n*s series, (*b*) *n*p series and (*c*) *n*d series.

in figure 6; the unusual T dependence of $\alpha_{4s}(T)$ for K and of $\alpha_{nd}(T)$ ($n = 5$–9) for Ca^+ is related to the evolution of the corresponding $\sigma_{nl}(\varepsilon)$ with ε. Indeed the efficient electron energy range increases with T; when a sufficiently pronounced maximum of $\sigma_{nl}(\varepsilon)$ occurs within this range, than $\alpha_{nl}(T)$ does not decrease monotonically with T and may even increase with T from a minimum. In particular the ratio of the maximum of $\sigma_{ns}(\varepsilon)$ to $\sigma_{ns}(0)$ for K is large for $n=4$ and decreases rapidly with increasing n; the same behaviour holds for $\sigma_{nd}(\varepsilon)$ of Ca^+ where the corresponding ratio is very high for $n=6$. The increase of $\alpha_{4s}(T)$ and $\alpha_{nd}(T)$ with T implies the disappearance of the extrema observed in figure 5 at temperatures higher than the relatively low temperature considered there. The coefficients $\alpha_{nl}(T)$ which increase with T from a given temperature will ultimately reach a maximum at a temperature beyond the temperature range studied here, and then decrease with T, as may be expected from equation (7).

The coefficient $\alpha_{nl}(T)$ which decreases with T decreases slower than $\alpha^{z}_{nl}(T)$ because $\sigma_{nl}(\varepsilon)$ decreases with ε slower than $\sigma^{z}_{nl}(\varepsilon)$. For lower n values high ionisation potentials of the nl states ($l \leqslant 2$) enhance $\alpha_{nl}(T)$ relative to $\alpha^{z}_{nl}(T)$. For a given n, the coefficients $\alpha_{nl}(T)$ decrease with T faster the higher l. So the relative importance of the $\alpha_{nl}(T)$ corresponding to lower l values increases with temperature.

5.2.2. $\alpha_n(T)$. The radiative recombination coefficients $\alpha_n(T)$ on the shell n for K, Fe^{7+} and Mo^{23+} ($n \leqslant 10$) and for Ca^+ ($n \leqslant 20$) are given in tables 4–7; the coefficient $\alpha_n(T)$ decreases with n for given T and with T for given n, as for the corresponding hydrogen-like coefficient $\alpha^{z}_{n}(T)$. The ratio $\alpha_n(T)/\alpha^{z}_{n}(T)$ (figure 7) generally increases with T and is higher the lower n becomes. In fact, $\alpha_{nl}(T)$ decreases with T more slowly than $\alpha^{z}_{nl}(T)$. The non-hydrogenic character is enhanced with increasing T due to the relative importance of $\alpha_{nl}(T)$ with low l values.

The increase of $\alpha_n(T)/\alpha^{z}_{n}(T)$ with T is particularly important for K because the ε dependence of $\sigma_{nl}(\varepsilon)$ ($l \leqslant 2$) exhibits well marked non-hydrogenic behaviour.

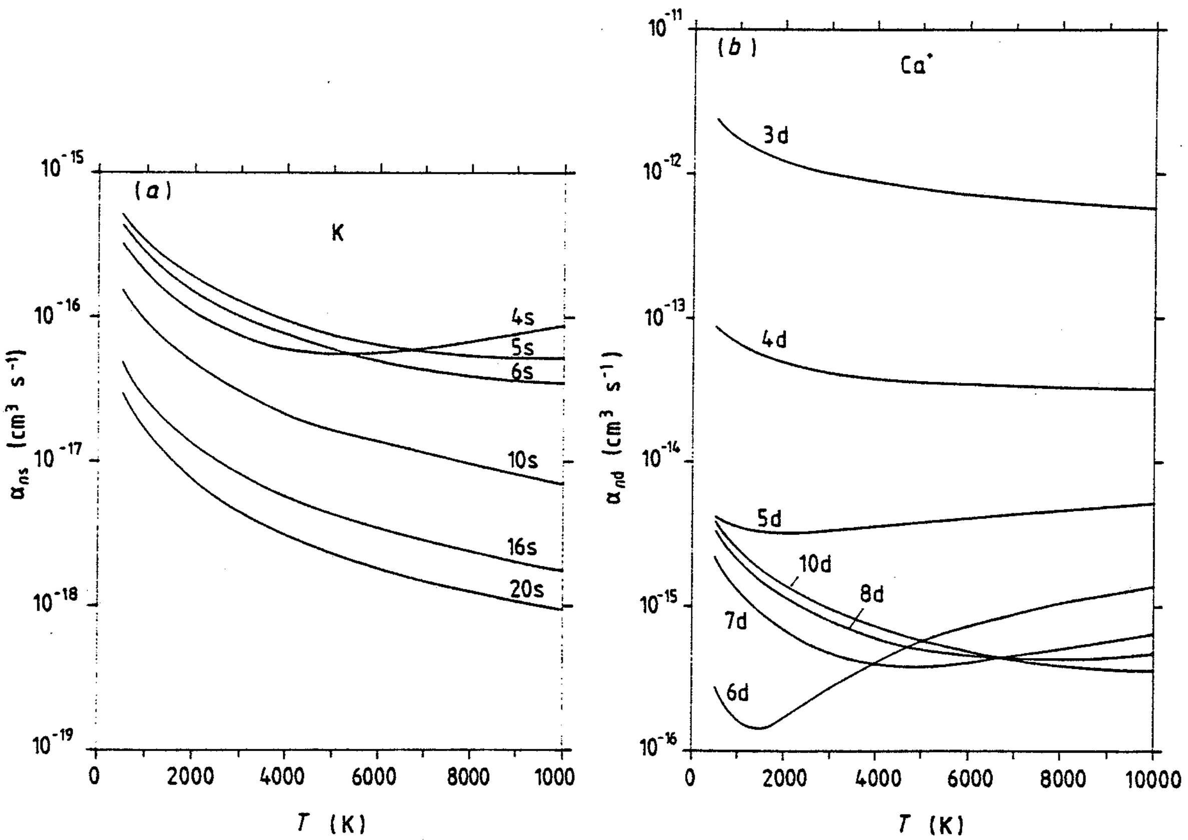

Figure 6. Radiative recombination coefficients plotted against temperature T (in K): (a)$\alpha_{ns}(T)$ for K and (b) $\alpha_{nd}(T)$ for Ca^+.

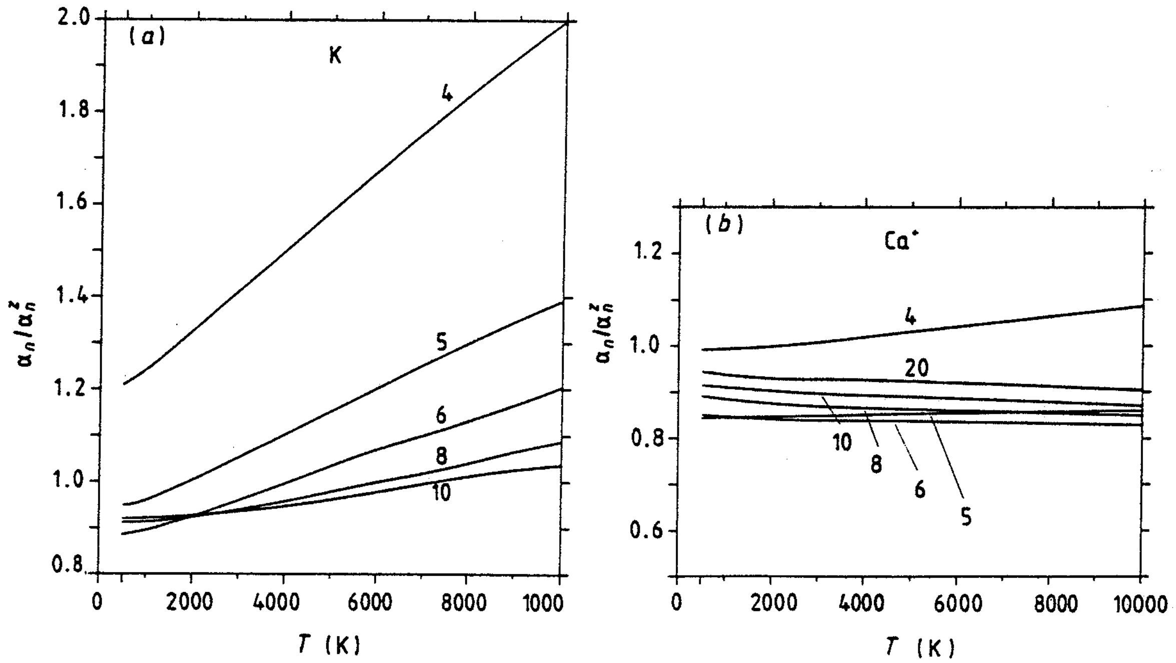

Figure 7. Ratio $\alpha_n(T)/\alpha_n^z(T)$ plotted against temperature for various n values and for (a) K ($z=1$) and (b) Ca^+ ($z=2$).

For Ca^+, $\alpha_n(T)/\alpha_n^z(T)$ decreases with T for $n \geq 6$ in relation with the n and T dependences of $\alpha_{nd}(T)$.

The coefficient $\alpha_n(T)$ differs from $\alpha_n^z(T)$ for K, Fe^{7+} and Mo^{23+} ($n<10$) and for Ca^+ ($n \leq 20$), and $\alpha_n(T)$ may be up to 1.5 and 2 times larger than $\alpha_n^z(T)$ for respectively Mo^{23+} ($n=4$) and K ($n=4$), or up to 1.2 times smaller for Ca^+ ($n=6$). However as n increases the relative importance of the non-hydrogenic contributions to $\alpha_n(T)$ corresponding to $\alpha_{nl}(T)$ with $l \leq 2$ decreases so that for $n \geq 10$ approximately $\alpha_n(T) \simeq \alpha_n^z(T)$ for K, Fe^{7+} and Mo^{23+}. For Ca^+ $\alpha_n(T) \simeq \alpha_n^z(T)$ only for $n>20$, due to the n and T dependences of $\alpha_{nd}(T)$.

5.2.3. Results for $\alpha_t(T)$. The total radiative recombination coefficient $\alpha_t(T)$ has been calculated for K, Ca^+, Fe^{7+} and Mo^{23+} by a procedure already given (Wane 1985). The coefficient $\alpha_t(T)$ is split into one part corresponding to the non-hydrogenic contribution and into another corresponding to the hydrogenic contribution as follows:

$$\alpha_t(T)=\alpha_{3d}(T)+\sum_{n=4}^{n_L}\alpha_n(T)+\alpha_t^z(T)-\sum_{n=1}^{n_L}\alpha_n^z(T)$$

where $n_L=9$ for K, Fe^{7+} and Mo^{23+} and $n_L=20$ for Ca^+. The coefficients $\alpha_n^z(T)$ and $\alpha_t^z(T)$ are obtained from Seaton (1959).

For comparison of $\alpha_t(T)$ with the results of the hydrogenic model, $\alpha_t^z(T)$ must be modified to account for the filled shells and subshells of X^{z+}. We have therefore calculated the corresponding $\alpha_t^{z,s}(T)$. The coefficients $\alpha_{3d}(T)$ and $\alpha_t(T)$ and the ratio $\alpha_t(T)/\alpha_t^{z,s}(T)$ are given in tables 4–7. The ratio $\alpha_t(T)/\alpha_t^{z,s}(T)$ is always higher than 1 and increases with T, rapidly for K and Ca^+, but much less so for Fe^{7+} and Mo^{23+}. Modelling the total radiative recombination coefficient by the hydrogen-like one is therefore not always reliable.

Table 4. Values of $\alpha_{3d}(T)$, $\alpha_n(T)$ ($n \leqslant 10$) and $\alpha_t(T)$ (in units of 10^{-14} cm^3 s^{-1}) for K and of $\alpha_t(T)/\alpha_t^{z,s}(T)$ ($z = 1$), for various values of T.

T(K) = 500		1000	2000	3000	4000	5000	6000	7000	8000	9000	10 000
α_{3d}	21.90	15.22	10.38	8.20	6.89	5.99	5.33	4.82	4.40	4.06	3.77
α_4	24.61	17.44	12.32	10.11	8.83	7.97	7.34	6.86	6.46	6.14	5.86
α_5	15.51	10.69	7.19	5.68	4.80	4.22	3.80	3.48	3.23	3.02	2.84
α_6	12.02	8.07	5.21	3.98	3.28	2.83	2.50	2.25	2.06	1.90	1.77
α_7	9.58	6.60	4.10	3.10	2.5	2.2	1.80	1.70	1.50	1.40	1.2
α_8	8.48	5.44	3.28	2.39	1.90	1.59	1.37	1.20	1.08	0.98	0.90
α_9	7.4	4.6	2.6	1.9	1.5	1.3	1.1	1.0	0.80	0.75	0.70
α_{10}	6.43	3.99	2.27	1.60	1.25	1.01	0.86	0.75	0.66	0.59	0.54
α_t	193.6	115.8	69.1	51.1	41.2	35.0	30.5	27.4	24.8	22.8	21.1
$\alpha_t/\alpha_t^{z,s}$	1.04	1.07	1.11	1.15	1.19	1.23	1.27	1.31	1.35	1.39	1.42

Table 5. Values of $\alpha_{3d}(T)$, $\alpha_n(T)$ ($n \leqslant 20$) and $\alpha_t(T)$ (in units of 10^{-14} cm^3 s^{-1}) for Ca^+ and of $\alpha_t(T)/\alpha_t^{z,s}(T)$ ($z = 2$) for various values of T.

T(K) = 500		1000	2000	3000	4000	5000	6000	7000	8000	9000	10 000
α_{3d}	241.40	171.44	122.23	100.60	87.81	79.15	72.80	67.89	63.97	60.74	58.02
α_4	82.31	58.62	41.01	33.16	28.47	25.27	22.90	21.07	19.59	18.38	17.35
α_5	56.41	39.83	27.31	21.69	18.31	16.00	14.30	12.98	11.92	11.04	10.31
α_6	47.39	33.19	22.37	17.50	14.59	12.59	11.13	10.00	9.09	8.35	7.72
α_8	37.26	25.65	16.77	12.76	10.08	8.85	7.69	6.81	6.11	5.54	5.06
α_{10}	30.87	20.96	13.29	9.90	7.92	6.61	5.67	4.96	4.40	3.96	3.59
α_{12}	25.18	16.38	10.19	7.52	5.95	4.95	4.23	3.68	3.26	2.92	2.64
α_{16}	18.10	11.37	6.74	4.82	3.75	3.06	2.57	2.22	1.94	1.73	1.62
α_{20}	13.64	8.24	4.69	3.28	2.51	2.03	1.69	1.41	1.26	1.11	0.97
α_t	1128.14	711.00	441.89	334.76	276.10	236.77	207.90	187.04	170.34	157.39	145.98
$\alpha_t/\alpha_t^{z,s}$	1.145	1.165	1.192	1.221	1.254	1.279	1.297	1.321	1.341	1.365	1.382

Table 6. The same as table 4 (in units of 10^{-12} cm^3 s^{-1}) for Fe^{7+} with $z = 8$.

T(K) = 500		1000	2000	3000	4000	5000	6000	7000	8000	9000	10 000
α_{3d}	47.40	34.00	24.04	19.62	16.99	15.19	13.87	12.84	12.00	11.32	10.73
α_4	20.45	14.67	10.37	8.47	7.33	6.56	5.98	5.54	5.18	4.88	4.63
α_5	12.88	9.23	6.53	5.33	4.61	4.12	3.76	3.48	3.25	3.07	2.91
α_6	9.69	6.95	4.91	4.01	3.47	3.11	2.83	2.62	2.45	2.31	2.19
α_7	8.00	5.80	4.00	3.20	2.80	2.55	2.40	2.20	2.10	2.00	1.90
α_8	6.80	4.89	3.47	2.84	2.46	2.21	2.02	1.87	1.75	1.66	1.57
α_9	6.10	4.40	3.10	2.50	2.10	1.90	1.70	1.60	1.50	1.40	1.30
α_{10}	5.04	3.88	2.76	2.27	1.97	1.77	1.63	1.51	1.42	1.39	1.27
α_t	286	189	124	96	80	70	62	57	52	48	45
$\alpha_t/\alpha_t^{z,s}$	1.20	1.23	1.25	1.27	1.28	1.29	1.30	1.31	1.32	1.33	1.34

Table 7. The same as table 4 (in units of $10^{-12}\,cm^3\,s^{-1}$) for Mo^{23+} with $z=24$.

$T(K)=$	500	1000	2000	3000	4000	5000	6000	7000	8000	9000	10 000
α_{3d}	183.60	135.34	95.77	78.19	67.71	60.55	55.27	51.17	47.86	45.12	42.80
α_4	186.32	131.03	92.70	75.69	65.53	58.61	53.51	49.53	46.33	43.67	41.43
α_5	126.04	90.40	63.91	52.17	45.19	40.41	36.88	34.14	31.93	30.09	28.55
α_6	95.86	69.44	49.11	40.08	34.71	31.02	28.32	26.21	24.52	23.11	21.91
α_7	80	57	41	34	29	26	24	22	21	19	18
α_8	66.61	48.07	33.98	27.73	24	21.46	19.58	18.12	16.94	15.96	15.13
α_9	58	42	29	25	21	19	17	16	15	14	13
α_{10}	51.80	37.30	26.36	21.47	18.61	16.63	15.17	14.03	13.11	12.35	11.71
α_t	2946	1964	1297	1018	853	745	666	606	559	519	485
$\alpha_t/\alpha_t^{z,s}$	1.083	1.094	1.101	1.107	1.11	1.11	1.12	1.12	1.12	1.12	1.12

It would be useful to compare our results with others obtained for K and K-like ions or for other alkali-like atoms and ions. Unfortunately only a few theoretical results have been reported for the temperature range studied. It is of interest to compare our results for K with those previously obtained for Li (Caves and Dalgarno 1972) and Rb (Wane 1985) where model potentials taking account of core polarisation effects have been used. The two coefficients $\alpha_t(T)$ for Li and Rb are practically the same and always higher than $\alpha_t(T)$ for K; the ratio $\alpha_t(T)/\alpha_t^{H,s}(T)$, which equals 1.82 for Rb and 1.23 for K at $T=5000$ K, is always much higher for Rb than for K.

Calculations have been made for $\alpha_t(T)$ of astrophysically abundant light elements. The value α_t (10 000 K) $=6.78\times10^{-13}\,cm^3\,s^{-1}$ obtained by Shull and Steenberg (1982) for Ca^+ from interpolation along isosequences is twice as small as our α_t (10 000 K) $=14.60\times10^{-13}\,cm^3\,s^{-1}$. This suggests great care in the calculation of $\alpha_t(T)$ for Ca^+ and the need of other results for comparison.

Woods *et al* (1981) have obtained $\alpha_t(T)$ for Fe ions using photoionisation cross sections calculated with a Hartree-Slater central-potential model. Their value of α_t (10 000 K) $=6.05\times10^{-11}\,cm^3\,s^{-1}$ for Fe^{7+} compares well with our α_t (10 000 K) $=4.52\times10^{-11}\,cm^3\,s^{-1}$. The difference may come from the highly excited states they have considered to be hydrogen like.

The results available for $\alpha_t(T)$ of ions like Li (Barfield 1979), Na (Mital and Narain 1979) and K (Kim and Pratt 1983) concern temperatures much higher than those considered here, and have been obtained mostly taking into account relativistic effects.

6. Conclusions

This work on excited-state photoionisation cross sections and radiative recombination coefficients for K and positive K-like ions extends the previous studies performed for Rb–Sr^+ (Aymar *et al* 1984, Wane 1985). The results given add to the ones obtained for alkali atoms (Moskvin 1963, Caves and Dalgarno 1972, Aymar *et al* 1976) and alkali-like ions (McGinn 1970, Pradhan 1983, Butler *et al* 1984). Markedly non-hydrogenic features have been outlined for photoionisation cross sections and radiative recombination coefficients, particularly for K–Ti^{3+}. It would be of interest to extend the temperature range and therefore to study the role of excitation of inner-shell electrons in recombination of alkali atoms and alkali-like ions. It is also worth while to extend the present results to other one-electron systems or more complex atoms and ions. Finally, core polarisation and relativistic effects could be taken into account in the photoionisation cross section calculations.

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Photoionisation and radiative recombination for the rubidium, copper and silver isoelectronic sequences

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Abstract. In the framework of a non-relativistic single-electron model, photoionisation cross sections from *nl* states ($n \leq 20, 0 \leq l \leq 4$) have been computed for the Rb, Cu and Ag sequences. The evolution of non-hydrogenic behaviour of photoionisation near threshold is studied along the sequences, and emphasis is put on the occurrence of minima in the photoionisation cross section curves. Systematic trends along a sequence and the comparison of the behaviour along the different K, Rb, Cu and Ag sequences are analysed in terms of the quantum-defect theory. Through the principle of detailed balance, scaled radiative recombination coefficients $\alpha'_{nl}(T')$ for Sr^+-Y^{2+}, Cu-Ga^{2+} and Ag-Sn^{3+} have been obtained within the scaled electron temperature range $500 \leq T' \leq 5000$ K, and compared with the corresponding hydrogen results. Markedly non-hydrogenic features and systematics of recombination along isoelectronic sequences have been outlined.

1. Introduction

There is a general need for ground- and excited-state photoionisation cross sections and radiative recombination coefficients in atmospheric and astrophysics, plasma physics and fusion technology.

In connection with the development of synchrotron radiation sources, laser technology and various applications of resonance ionisation spectroscopy (Hurst *et al* 1979), there is a continuing interest in the study of photoionisation processes from excited atoms, mainly from neutral alkalis (Gilbert *et al* 1984, Preses *et al* 1985, Msezane *et al* 1986). There are to date very few results on photoionisation of multicharged ions owing to the high temperatures necessary to produce these ions in quantity, and the intensity limitations of a crossed-beam experiment. In addition, experimental results on radiative recombination are still very scarce. More spectroscopic data for stripped ions are therefore needed.

On the theoretical side, calculations on excited-state photoionisation have been performed mainly for neutral alkali atoms (Lahiri and Manson 1982, 1986, Aymar *et al* 1984), for the transition elements Cu and Ag (Msezane and Lee 1985) and for Rb-Sr^+ (Aymar *et al* 1984). Calculations on radiative recombination have been made for the alkali atoms Li (Caves and Dalgarno 1972) and Rb (Wane 1985). General systematic trends of excited-state photoionisation and radiative recombination along the K sequence have been obtained in a recent paper (Wane and Aymar 1987), hereafter referred to as I.

It is highly desirable to extend these previous studies, and outline systematic trends of excited-state photoionisation and radiative recombination along isoelectronic sequences of homologous single-valence-electron systems. The atoms Cu and Ag have a simple ground-state electronic structure: $(n-1)d^{10}ns\ ^2S_{1/2}$ ($n=4$ for Cu and $n=5$ for Ag), and a wide range of practical applications in which excited states participate. In addition, many stripped ions of isoelectronic sequences are found in tokamak plasmas (Hinnov 1976). Therefore, the isoelectronic sequences of Cu and Ag are well suited for investigation.

In this work we present results on excited-state photoionisation cross sections and radiative recombination coefficients for Cu- and Ag-like ions. In addition, the previous study on Rb–Sr^+ has been completed for other ions of the Rb sequence, in parallel to the results given for the K sequence in I. Calculations for photoionisation cross sections within the framework of a non-relativistic single-electron model are performed by the method already employed by Aymar *et al* (1984). Radiative recombination coefficients are then deduced by use of the principle of detailed balance, following the procedure already given by Wane (1985).

The method of calculations is recalled in § 2. The results on the outer-shell photoionisation cross sections along the *nl* Rydberg series ($n \leq 20$, $l \leq 3$) and along the sequences are presented in § 4. The systematic trends of the partial photoionisation cross sections and the evolution of non-hydrogenic behaviour of photoionisation near threshold are analysed in terms of the quantum-defect theory of Burgess and Seaton (1960), as indicated in § 3. The results obtained for the radiative recombination coefficients of Sr^+–Y^{2+}, Cu–Ga^{2+} and Ag–In^{2+} within the scaled temperature range $500 \leq T' \leq 5000$ K are given in § 5. Emphasis is put on the non-hydrogenic features, and systematic trends of radiative recombination along isoelectronic sequences of single-valence-electron systems are analysed.

2. Methods of calculation of the photoionisation cross sections and radiative recombination coefficients

The fundamental points and basic theoretical formulae have been given in I, and the computational procedures for photoionisation cross sections and radiative recombination coefficients recalled. Similar calculations are performed in this work.

Within the framework of a non-relativistic single-particle central-field model the cross section (in cm^2) for photoionisation of an *nl* state of a one-electron system is given in the dipole approximation by (Sobel'man 1972)

$$\sigma_{nl}(\varepsilon)=0.855\times10^{-18}(\varepsilon-\varepsilon_{nl})\left(\frac{l}{2l+1}R^2_{nl,l-1}(\varepsilon)+\frac{l+1}{2l+1}R^2_{nl,l+1}(\varepsilon)\right) \qquad (1)$$

where ε_{nl} (<0) is the binding energy of the *nl* electron and ε (>0) is the energy of the photoelectron. The energy of the incident photon is $h\nu=\varepsilon-\varepsilon_{nl}$ (all the energies are in rydbergs).

The total cross section $\sigma_{nl}(\varepsilon)$ is the sum of two partial cross sections $\sigma_{nl,l-1}(\varepsilon)$ and $\sigma_{nl,l+1}(\varepsilon)$ respectively associated with the photoelectron continua $l-1$ and $l+1$ for $l\neq0$, and reduces to $\sigma_{nl,l+1}(\varepsilon)$ for $l=0$.

The radial matrix elements $R_{nl,l\pm1}(\varepsilon)$ (expressed in atomic units) are given in the dipole-length formulation by

$$R_{nl,l'}(\varepsilon)=\int_0^\infty P_{nl}(r)Q(r)P_{\varepsilon l'}(r)\,dr \qquad (2)$$

where $Q(r)$ is the dipole operator; $P_{nl}(r)$ is normalised to unity and $P_{\varepsilon l'}(r)$ per unit energy range.

The radial wavefunctions are calculated using two different central potentials.

(i) Core polarisation effects are taken into account in the calculations for Cu-Ga^{2+} and Ag-In^{2+}, according to a method previously given for Rb-Sr^+ (Aymar *et al* 1984). The central potential used is $V(r) = V_0(r) + V_{pol}(r)$ where $V_0(r)$ has a simple analytical form depending on three parameters, and the effective polarisation potential $V_{pol}(r)$ depends on the static dipole polarisability of the core and a parameter—the effective core-radius cut-off. The parameters are determined by comparing the experimental energies with zero-order calculated values. In addition, the radial matrix elements (equation (2)) are calculated using a modified dipole operator $Q(r)$ which includes the effects of core polarisation.

(ii) For the other ions of the sequences where only few experimental energies are available, the central potential used corresponds to the parametric potential introduced by Klapisch (1971). This potential already used in I is represented by an analytical function depending on a set of parameters determined by minimising the total energy of the ground state. Without core polarisation effects, $Q(r)$ reduces to the usual r operator (equation (2)).

The radiative recombination rate coefficient $\alpha_{nl}(T)$ is obtained through the principle of detailed balance (Bates and Dalgarno 1962, Barfield 1979) by

$$\alpha_{nl}(T) = (3286.3402)2(2l+1)(kT)^{-3/2} \int_0^\infty (\varepsilon + I_{nl})^2 \sigma_{nl}(\varepsilon) \exp(-\varepsilon/kT)\, d\varepsilon \qquad (3)$$

where k is the Boltzmann constant and T the electronic temperature; ε is the electron kinetic energy which satisfies $h\nu = \varepsilon + I_{nl}$, where I_{nl} is the ionisation potential of the captured electron and $h\nu$ the energy of the emitted photon in the process of radiative recombination. All the energies are expressed in Ryd and $\alpha_{nl}(T)$ is expressed in $cm^3\, s^{-1}$.

3. Quantum-defect theory analysis of excited-state photoionisation

Systematic trends of partial photoionisation cross sections for non-hydrogenic atoms or ions have been analysed recently in I, in terms of the quantum-defect theory of Burgess and Seaton (1960). A detailed discussion on the behaviour of cross sections along a sequence compared with the hydrogen one has been given. This comparison was carried out using scaled energies $\varepsilon' = \varepsilon/z^2$ and scaled cross sections $\sigma'(\varepsilon') = z^2\sigma(z^2\varepsilon')$ where $z = Z - N + 1$ is the residual charge of the final ion. Only some points of the analysis will be mentioned.

For hydrogen the radial matrix elements $R^{H}_{nl,l'}(\varepsilon')$ are always monotonically decreasing functions of ε'. Then the photoionisation cross sections $\sigma^{H}_{nl,l'}(\varepsilon')$ and $\sigma^{H}_{nl}(\varepsilon')$ are maximum at threshold and drop to zero as ε' increases. For $l \neq 0$, the ratio $\sigma^{H}_{nl,l-1}(\varepsilon')/\sigma^{H}_{nl,l+1}(\varepsilon')$ is always smaller than 1 and increases with n. For a given nl series, threshold values $\sigma^{H}_{nl,nl'}(0)$ and $\sigma^{H}_{nl}(0)$ increase with n.

For non-hydrogenic atoms or ions the behaviour of cross sections can differ strongly from that for hydrogen. Zeros in radial matrix elements $R_{nl,l'}(\varepsilon')$ may occur as ε' increases, giving up to three minima in $\sigma'_{nl,l'}(\varepsilon')$ curves. In fact, both bound and continuum orbitals are contracted and shifted towards the nucleus with respect to hydrogen-like orbitals, owing to the non-Coulomb forces that prevail within the core.

The relative shift of the two orbitals with respect to each other is responsible for the non-hydrogenic character of photoionisation.

The quantum-defect method brings out an oscillatory dependence of $R_{nl,l'}(\varepsilon')$ on μ_{nl} and $\delta_{l'}(\varepsilon')$ such as $\cos[\pi\Delta_{nl,l'}(\varepsilon')]$ with

$$\Delta_{nl,l'}(\varepsilon') = -\mu_{nl} + \delta_{l'}(\varepsilon')/\pi + \chi_{ll'}(n, \varepsilon') \tag{4}$$

where μ_{nl} is the quantum defect of the nl state, and $\delta_{l'}(\varepsilon')$ the phaseshift of the continuum orbital with respect to hydrogen-like wavefunctions. The empirical parameter χ is a slowly increasing function of n and ε' (Peach 1967). The occurrence of zeros in $R_{nl,l'}(\varepsilon')$ is related to half-integer values of $\Delta_{nl,l'}(\varepsilon')$.

Near the threshold, an approximate value of $\Delta_{nl,l'}(\varepsilon')$ can be obtained by using in equation (4) the limiting values obtained for $n=\infty$ and $\varepsilon'=0$:

$$\Delta_{nl,l'}(\varepsilon') \simeq \Delta\mu_{ll'} + \bar{\chi}_{ll'}(0) \tag{5}$$

where the asymptotic value $\bar{\chi}(0)$ of χ can be extracted from the tables of Peach (1967). The quantity $\Delta\mu_{ll'} = \mu_{l'} - \mu_l$ represents the quantum-defect difference for large n values.

A critical quantum-defect difference $\Delta\mu^0_{ll'}$ for the zero of $R_{nl,l}(\varepsilon')$ to occur is defined by the relation

$$\Delta\mu^0_{ll'} + \bar{\chi}_{ll'}(0) = \pm 0.5. \tag{6}$$

The shape types $(a)\to(e)$ of $\sigma'_{nl,l'}(\varepsilon')$ depend on the difference $|\Delta\mu_{ll'}| - |\Delta\mu^0_{ll'}|$ (figure 1), the number k of zeros being determined by the inequalities

$$|\Delta\mu^0_{ll'}| + k - 1 < |\Delta\mu_{ll'}| < |\Delta\mu^0_{ll'}| + k. \tag{7}$$

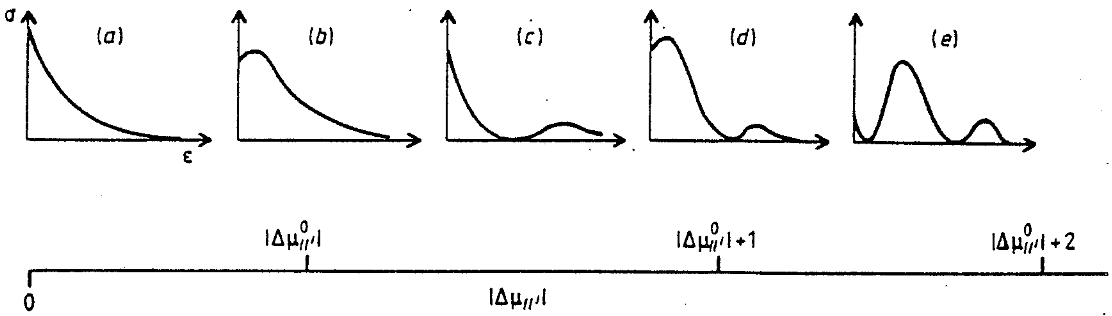

Figure 1. Schematic cross section curves for five typical cases and number of minima according to relative values of $\Delta\mu_{ll'}$.

4. Results for excited-state photoionisation cross sections of Rb-, Cu- and Ag-like ions

Photoionisation cross sections have been computed for nl series ($n \leq 20$, $0 \leq l \leq 4$) of Cu-Mo^{13+}, Ag-Xe^{7+} and Y^{2+}-Xe^{17+} in addition to the results already given for Rb-Sr^+. Only the photoionisation of the outer nl electron is considered and autoionisation effects are ignored. The validity of this treatment is confined to the near-threshold energy. Nevertheless calculations are performed for higher photoelectron energies in order to detect the various minima occurring in $\sigma'_{nl,l'}(\varepsilon')$ curves, and analyse the systematics of these minima.

4.1. Isoelectronic variations of quantum defects

The asymptotic quantum differences $\Delta\mu_{ll'}$ are given for each $nl \to \varepsilon' l'$ transition in table 1 for Cu-like ions, in table 2 for Rb-like ions and in table 3 for Ag-like ions.

Table 1. For a given $nl \to \varepsilon' l'$ transition, compilation of $\Delta\mu^0_{ll'}$ and $\Delta\mu_{ll'}$ values, and the shape type of $\sigma'_{nl,l'}(\varepsilon')$ cross section curve for each element of the Cu sequence.

Transition	Cu	Zn^+	Ga^{2+}	Ge^{3+}	As^{4+}	Se^{5+}	Br^{6+}	Kr^{7+}
$ns \to \varepsilon'$p	−0.54 (*c*)	−0.39 (*b*) $n \leq 8$ (*c*) $n \geq 9$	−0.33 (*b*) $n \leq 4$ (*a*) $n \geq 5$	−0.30 (*a*)	−0.27 (*a*)	−0.25 (*a*)	−0.23 (*a*)	−0.22 (*a*)
$np \to \varepsilon'$s	0.54 (*a*)	0.39 (*a*)	0.33 (*a*)	0.30 (*a*)	0.27 (*a*)	0.25 (*a*)	0.23 (*a*)	0.22 (*a*)
$np \to \varepsilon'$d	−1.02 (*c*)	−0.87 (*c*)	−0.74 (*c*)	−0.62 (*c*)	−0.56 (*c*)	−0.51 (*b*) $n \leq 4$ (*c*) $n \geq 5$	−0.47 (*b*) $n \leq 5$ (*c*) $n \geq 6$	−0.43 (*b*) $n \leq 10$ (*c*) $n \geq 11$
$nd \to \varepsilon'$p	1.02 (*c*)	0.87 (*c*)	0.74 (*a*) $n \leq 13$ (*b*) $14 \leq n \leq 16$ (*c*) $n \geq 17$	0.62 (*a*)	0.56 (*a*)	0.51 (*a*)	0.47 (*a*)	0.43 (*a*)
$nd \to \varepsilon'$f	−1.05 (*c*)	−0.92 (*c*)	−0.86 (*c*)	−0.78 (*c*)	−0.72 (*c*)	−0.66 (*b*) $n \leq 4$ (*c*) $n \geq 5$	−0.61 (*b*) $n \leq 5$ (*c*) $n \geq 6$	−0.56 (*b*) $n \leq 7$ (*c*) $n \geq 8$
$nf \to \varepsilon'$d	1.05 (*c*)	0.92 (*c*)	0.86 (*b*) $n \leq 5$ (*c*) $n \geq 6$	0.78 (*a*) $n \leq 9$ (*b*) $10 \leq n \leq 13$ (*c*) $n \geq 14$	0.72 (*a*)	0.66 (*a*)	0.61 (*a*)	0.56 (*a*)
$nf \to \varepsilon'$g	−0.01 (*a*)	−0.01 (*a*)	−0.02 (*a*)	−0.02 (*a*)	−0.03 (*a*)	−0.05 (*a*)	−0.06 (*a*)	−0.07 (*a*)

Transition	Rb^{8+}	Sr^{9+}	Y^{10+}	Zr^{11+}	Nb^{12+}	Mo^{13+}	$\Delta\mu^0_{ll'}$
$ns \to \varepsilon'$p	−0.20 (*a*)	−0.19 (*a*)	−0.18 (*a*)	−0.18 (*a*)	−0.17 (*a*)	−0.16 (*a*)	−0.37
$np \to \varepsilon'$s	0.20 (*a*)	0.19 (*a*)	0.18 (*a*)	0.18 (*a*)	0.17 (*a*)	0.16 (*a*)	0.71
$np \to \varepsilon'$d	−0.41 (*b*) $n \leq 16$ (*c*) $n \geq 17$	−0.38 (*a*) $n \leq 7$ (*b*) $8 \leq n \leq 19$ (*c*) $n \geq 20$	−0.36 (*a*)	−0.34 (*a*)	−0.32 (*a*)	−0.31 (*a*)	−0.42
$nd \to \varepsilon'$p	0.41 (*a*)	0.38 (*a*)	0.36 (*a*)	0.34 (*a*)	0.32 (*a*)	0.31 (*a*)	0.75
$nd \to \varepsilon'$f	−0.52 (*b*) $n \leq 9$ (*c*) $n \geq 10$	−0.48 (*a*) $n \leq 4$ (*b*) $5 \leq n \leq 12$ (*c*) $n \geq 13$	−0.45 (*a*) $n \leq 5$ (*b*) $6 \leq n \leq 18$ (*c*) $n \geq 19$	−0.42 (*a*) $n \leq 8$ (*b*) $n \geq 9$	−0.39 (*a*)	−0.37 (*a*)	−0.48
$nf \to \varepsilon'$d	0.52 (*a*)	0.48 (*a*)	0.45 (*a*)	0.42 (*a*)	0.39 (*a*)	0.37 (*a*)	0.78
$nf \to \varepsilon'$g	−0.08 (*a*)	−0.09 (*a*)	−0.10 (*a*)	−0.11 (*a*)	−0.11 (*a*)	−0.11 (*a*)	

Table 2. The same as table 1 for the Rb sequence.

Transition	Rb	Sr^+	Y^{2+}	Zr^{3+}	Mo^{5+}	Tc^{6+}	Rh^{8+}	Ag^{10+}	In^{12+}	Sb^{14+}	Te^{15+}	Xe^{17+}	$\Delta\mu^0_{ll'}$
$ns \to \varepsilon' p$	−0.48 (*c*)	−0.37 (*b*) $n \leqslant 12$ (*c*) $n \geqslant 13$	−0.32 (*a*)	−0.29 (*a*)	−0.25 (*a*)	−0.23 (*a*)	−0.21 (*a*)	−0.19 (*a*)	−0.17 (*a*)	−0.16 (*a*)	−0.15 (*a*)	−0.14 (*a*)	−0.37
$np \to \varepsilon' s$	0.48 (*a*)	0.37 (*a*)	0.32 (*a*)	0.29 (*a*)	0.25 (*a*)	0.23 (*a*)	0.21 (*a*)	0.19 (*a*)	0.17 (*a*)	0.16 (*a*)	0.15 (*a*)	0.14 (*a*)	0.71
$np \to \varepsilon' d$	−1.34 (*c*)	−0.88 (*c*)	−0.70 (*c*)	−0.61 (*c*)	−0.51 (*c*)	−0.47 (*b*) $n \leqslant 6$ (*c*) $n \geqslant 7$	−0.41 (*b*) $n \leqslant 14$ (*c*) $n \geqslant 15$	−0.37 (*a*) $n \leqslant 11$ (*b*) $n \geqslant 12$	−0.33 (*a*)	−0.31 (*a*)	−0.29 (*a*)	−0.28 (*a*)	−0.42
$nd \to \varepsilon' p$	1.34 (*c*)	0.88 (*b*) $n \leqslant 4$ (*c*) $n \geqslant 5$	0.70 (*a*)	0.61 (*a*)	0.51 (*a*)	0.47 (*a*)	0.41 (*a*)	0.37 (*a*)	0.33 (*a*)	0.31 (*a*)	0.29 (*a*)	0.28 (*a*)	0.75
$nd \to \varepsilon' f$	−1.29 (*c*)	−1.33 (*c*)	−1.23 (*c*)	−1.03 (*c*)	−0.80 (*c*)	−0.72 (*b*) $n \leqslant 4$ (*c*) $n \geqslant 5$	−0.59 (*b*) $n \leqslant 6$ (*c*) $n \geqslant 7$	−0.52 (*b*) $n \leqslant 9$ (*c*) $n \geqslant 10$	−0.45 (*a*) $n \leqslant 4$ (*b*) $5 \leqslant n \leqslant 16$ (*c*) $n \geqslant 17$	−0.41 (*a*) $n \leqslant 11$ (*b*) $n \geqslant 12$	−0.39 (*a*)	−0.35 (*a*)	−0.48
$nf \to \varepsilon' d$	1.29 (*c*)	1.33 (*c*)	1.23 (*c*)	1.03 (*c*)	0.80 (*b*) $n \leqslant 10$ (*c*) $n \geqslant 11$	0.72 (*a*)	0.59 (*a*)	0.52 (*a*)	0.45 (*a*)	0.41 (*a*)	0.39 (*a*)	0.35 (*a*)	0.78
$nf \to \varepsilon' g$	−0.02 (*a*)	−0.10 (*a*)	−0.15 (*a*)	−0.25 (*a*)	−0.29 (*a*)	−0.30 (*a*)	−0.29 (*a*)	−0.27 (*a*)	−0.26 (*a*)	−0.24 (*a*)	−0.23 (*a*)	−0.22 (*a*)	

Table 3. The same as table 1 for the Ag sequence.

Transition	Elements: Ag	Cd^{+}	In^{2+}	Sn^{3+}	Sb^{4+}	Te^{5+}	I^{6+}	Xe^{7+}	$\Delta\mu^{0}_{ll'}$
$ns \to \varepsilon' p$	−0.53 (*c*)	−0.37 (*b*) $n \leq 14$ (*c*) $n \geq 15$	−0.32 (*a*)	−0.29 (*a*)	−0.27 (*a*)	−0.25 (*a*)	−0.24 (*a*)	−0.22 (*a*)	−0.37
$np \to \varepsilon' s$	0.53 (*a*)	0.37 (*a*)	0.32 (*a*)	0.29 (*a*)	0.27 (*a*)	0.25 (*a*)	0.24 (*a*)	0.22 (*a*)	0.71
$np \to \varepsilon' d$	−1.01 (*c*)	−0.85 (*c*)	−0.74 (*c*)	−0.62 (*c*)	−0.56 (*c*)	−0.52 (*b*) $n \leq 5$ (*c*) $n \geq 6$	−0.48 (*b*) $n \leq 6$ (*c*) $n \geq 7$	−0.45 (*b*) $n \leq 8$ (*c*) $n \geq 9$	−0.42
$nd \to \varepsilon' p$	1.01 (*c*)	0.85 (*b*) $n \leq 5$ (*c*) $n \geq 6$	0.74 (*a*) $5 \leq n \leq 14$ (*b*) $15 \leq n \leq 18$ (*c*) $n \geq 19$	0.62 (*a*)	0.56 (*a*)	0.52 (*a*)	0.48 (*a*)	0.45 (*a*)	0.75
$nd \to \varepsilon' f$	−2.04 (*e*)	−1.79 (*e*)	−1.57 (*d*) $n \leq 8$ (*e*) $n \geq 9$	−1.35 (*c*)	−1.09 (*c*)	−0.90 (*c*)	−0.80 (*c*)	−0.72 (*c*)	−0.48
$nf \to \varepsilon' d$	2.04 (*e*)	1.79 (*c*) $n \leq 7$ (*d*) $8 \leq n \leq 11$ (*e*) $n \geq 12$	1.57 (*c*)	1.35 (*c*)	1.09 (*c*)	0.90 (*c*)	0.80 (*b*) $n \leq 10$ (*c*) $n \geq 11$	0.72 (*a*)	0.78
$nf \to \varepsilon' g$	−0.01 (*a*)	−0.06 (*a*)	−0.13 (*a*)	−0.27 (*a*)	−0.43 (*a*) $n \leq 12$ (*b*) $n \geq 13$	−0.54 (*a*) $n \leq 6$ (*b*) $7 \leq n \leq 12$ (*c*) $n \geq 13$	−0.55 (*a*) $n \leq 6$ (*b*) $7 \leq n \leq 12$ (*c*) $n \geq 13$	−0.55 (*a*) $n \leq 5$ (*b*) $6 \leq n \leq 12$ (*c*) $n \geq 13$	

The isoelectronic variation of the $\Delta\mu_{ll'}$ quantities is related to the evolution of the μ_l quantum defects. The dependence of calculated asymptotic quantum defects μ_s, μ_p, μ_d and μ_f (μ_{nl}, $n\to\infty$) on z and on the sequence (K, Rb, Cu and Ag) is displayed in figure 2. The isoelectronic variation depends strongly on the l value (Edlèn 1964). For small l (s, p), the quantum defect μ_{nl} mainly due to the penetration of the nl orbital in the core decreases as z increases. Core polarisation effects are responsible for most of the quantum defect μ_{nl} for large l (f); for those non-penetrating orbitals μ_{nl} first increases with z, then passes through a maximum and ultimately decreases. As discussed by Manson (1969) the quantum defect of nd states depends strongly on the element, due to the existence of potential barriers in the effective potential seen by the d electron of particular elements. As visible on figure 2 the isoelectronic variation of μ_d for K and Rb differs at low z from that observed for Cu and Ag. Except in the low z range, the continuous decrease with z results from the penetration of the orbital in the core. The evolution with z of the asymptotic quantum-defect differences is drawn in figure 3. The three sets of curves μ_s, μ_p and μ_d ($z\geqslant 3$) are very similar (figure 2), the gaps between successive curves of a given set being close to the gaps between the curves of another set. Thus $\Delta\mu_{sp}$ and to a lesser extent $\Delta\mu_{dp}$ do not depend much on the sequence. Let us note that the curves corresponding to the Rb, Cu and Ag sequences are almost superimposed. Similar behaviour does not remain for $\Delta\mu_{df}$ and $\Delta\mu_{fg}$ due to the very different evolutions of μ_d and μ_f with z.

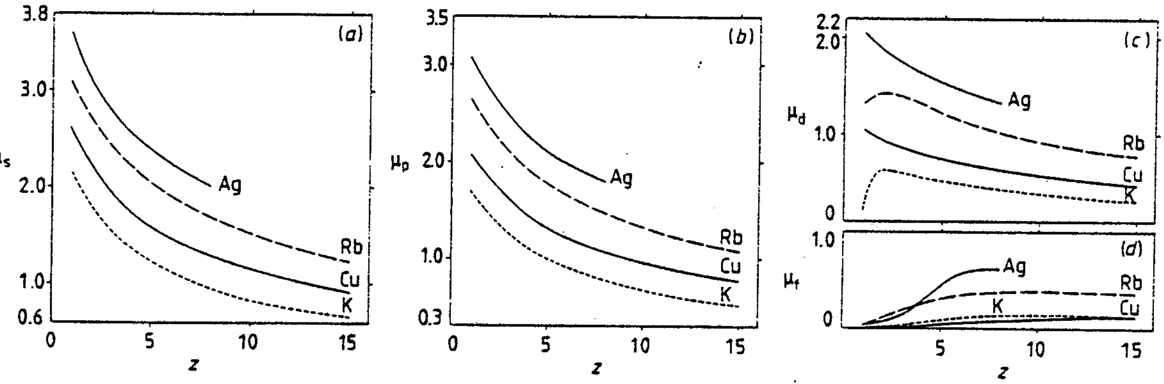

Figure 2. Asymptotic quantum defect μ_l along a sequence plotted against the residual charge z for (a) μ_s, (b) μ_p, (c) μ_d and (d) μ_f.

These general remarks will allow us to analyse the systematics of photoionisation along a given sequence, and to compare the new results obtained for the Rb, Cu and Ag sequences with those already given for the K sequence in I. It will be shown that for low l (s, p) the isoelectronic variation of the $\sigma'_{nl,l'}(\varepsilon')$ cross sections is quite regular. Moreover similar behaviour holds for the four sequences K, Rb, Cu and Ag. In contrast, for f states non-hydrogenic features appear only for highly ionised ions of the Ag sequence. Photoionisation from d states corresponds to an intermediate situation detailed later in § 4.2.3.

4.2. Systematics of photoionisation cross sections of excited states of Rb, Cu and Ag-like ions

The shape type of each $\sigma'_{nl,l'}(\varepsilon')$ curve is given for each $nl\to\varepsilon'l'$ transition in tables 1–3 for Cu-, Rb- and Ag-like ions. In the same tables, the asymptotic quantum

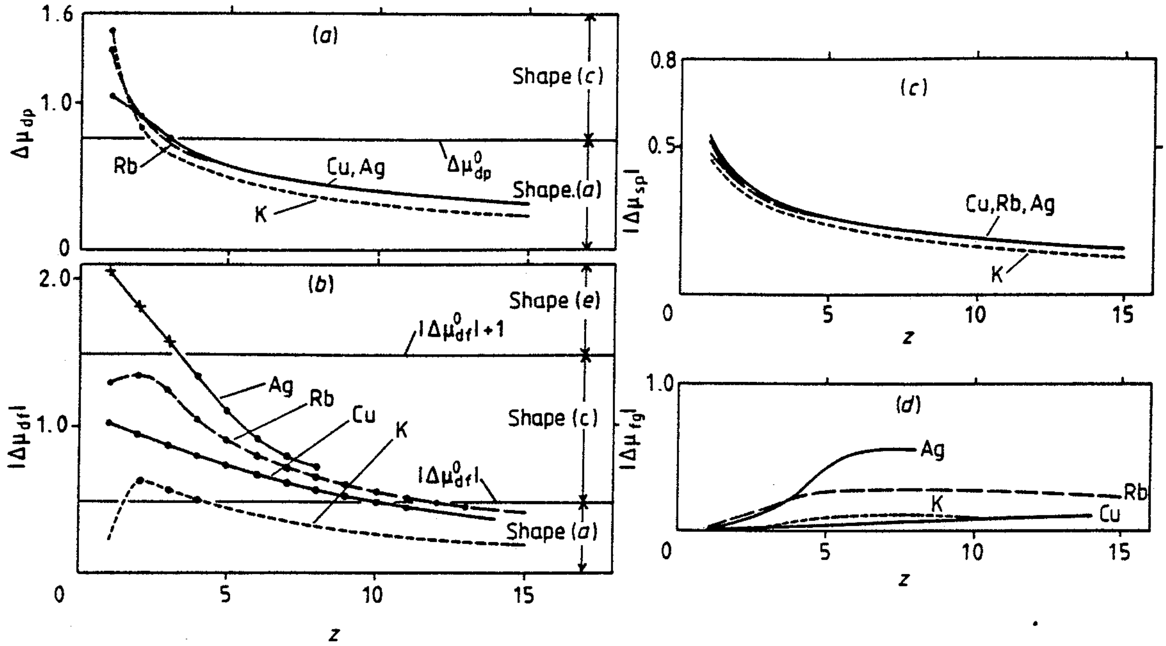

Figure 3. Asymptotic quantum-defect difference $\Delta\mu_{ll'}$ along a sequence plotted against the residual charge z for (a) $\Delta\mu_{dp}$, (b) $|\Delta\mu_{df}|$, (c) $|\Delta\mu_{sp}|$ and (d) $|\Delta\mu_{fg}|$. The elements with $\sigma'_{nd,l'}(\varepsilon')$ of shape type (c) are denoted by full circles and those with $\sigma'_{nd,f}(\varepsilon')$ of shape type (e) by crosses in (a) and (b).

differences $\Delta\mu_{ll'}$ are compared with the critical asymptotic values $\Delta\mu^0_{ll'}$ (equations (5) and (6)) derived from the tables of Peach (1967). These $\Delta\mu^0_{ll'}$ values accurately describe the occurrence of minima in the photoionisation cross sections of Cu-, Rb- and Ag-like ions. This point is illustrated in figures 3(a) and (b) corresponding to the $nd\rightarrow\varepsilon'$p and $nd\rightarrow\varepsilon'$f transitions. Indeed, the horizontal lines in figure 3(b) separate three zones corresponding respectively to shapes (a), (c) and (e) (see figure 1). Similarly one has two zones in figure 3(a).

The elements with $\sigma'_{nd,l'}(\varepsilon')$ of type (c) (for large n) are denoted by full circles and those with $\sigma'_{nd,f}(\varepsilon')$ of type (e) (for large n) by crosses. The circles and crosses are located in the right zones of figures 3(a) and (b).

These figures only illustrate the shape of $\sigma'_{nl,l'}(\varepsilon')$ for large n values. The $\Delta\mu_{ll'}$ and $\Delta\mu^0_{ll'}$ quantities involved in inequalities (7) correspond to asymptotic values. For low-lying levels the μ_{nl} can be different from the limiting value for $n=\infty$; moreover the $\chi_{ll'}(n,\varepsilon')$ function (equation (4)) is also different from its asymptotic value. When $|\Delta\mu_{ll'}|\simeq|\Delta\mu^0_{ll'}|+k-1$ the critical value for k zeros is only reached for highly excited states, and a change of shape in the $\sigma'_{nl,l'}(\varepsilon')$ curves occurs for a given series as n increases. Let us note that the changes from $\sigma'_{n_0l,l'}(\varepsilon')$ of type (b) (or (d)) to $\sigma'_{(n_0+1)l,l'}(\varepsilon')$ of type (c) (or (e)) correspond to a displacement of the minimum from below to above the ionisation limit. The corresponding values at threshold $\sigma'_{n_0l,l'}(0)$ and $\sigma'_{(n_0+1)l,l'}(0)$ are generally particularly small.

The systematics of excited-state photoionisation will now be illustrated for s, p, d and f states.

4.2.1. ns series ($n\leqslant 20$). Figure 4 shows the evolution with n of the threshold values $\sigma'_{ns}(0)$ along the three sequences. Since for a given z the $\Delta\mu_{sp}$ is almost independent of the sequence, the three sets of curves are very similar. The $\sigma'_{ns}(0)$ values of neutral

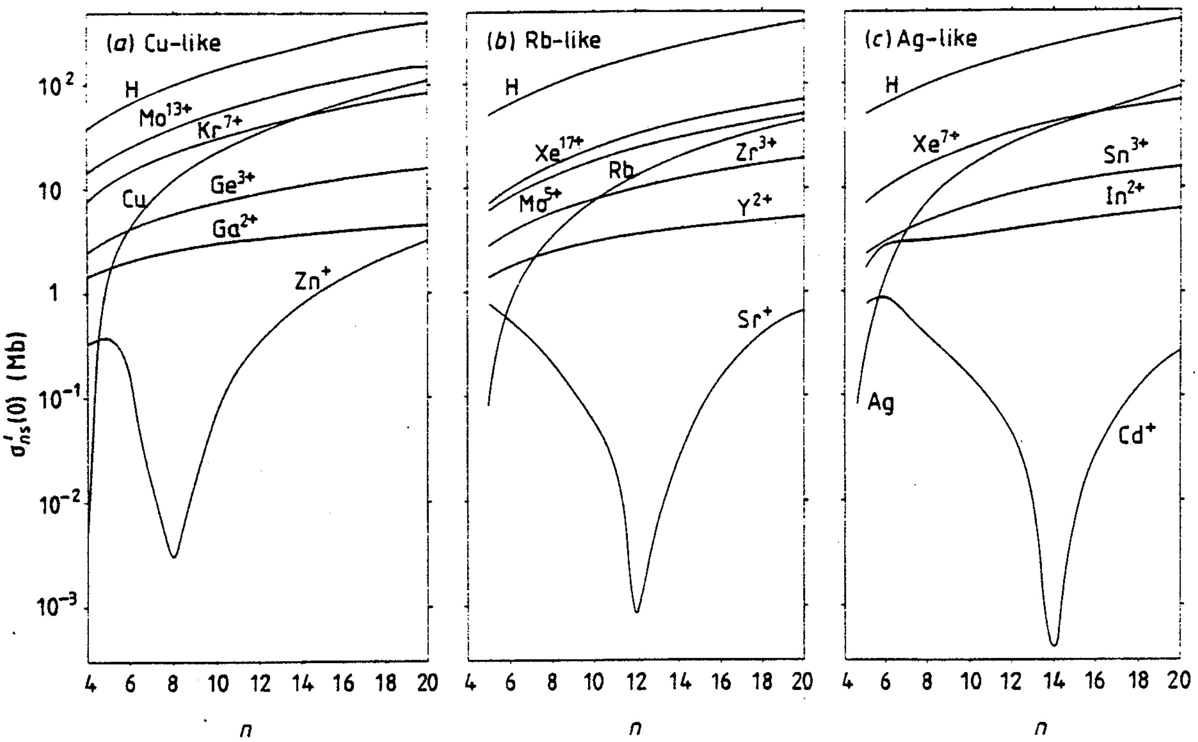

Figure 4. Scaled total cross sections at threshold $\sigma'_{ns}(0)$ (in Mb, 1 Mb = 10^{-18} cm^2) plotted against n along the (a) Cu sequence, (b) Rb sequence and (c) Ag sequence.

atoms (type (c)) and those of the first ions of the sequences (types (b), (c)) differ from hydrogen ones, owing to large cancellation effects in the radial matrix elements $R_{ns,p}(\varepsilon')$. The pronounced minima observed for Zn^+, Sr^+ and Cd^+ correspond to the change of shape from (b) to (c) along their respective ns series. For highly ionised ions ($z \geqslant 3$) the cross sections move progressively to hydrogen ones along the sequences. The evolution of similar $\sigma'_{ns}(0)$ along the K sequence (see I figure 2(a)) is very similar, but the $\sigma'_{ns}(0)$ curve of Ca^+ does not exhibit any minimum (in the range $n \leqslant 20$) because all the $\sigma'_{ns}(\varepsilon')$ curves are there of type (b).

4.2.2. np series ($n \leqslant 20$). Figure 5 shows the evolution with n of the threshold values $\sigma'_{np}(0)$ along the Ag sequence, which are of the same order of magnitude as hydrogen values, for the lower members. The value of $\sigma'_{np}(\varepsilon')$ depends upon the relative weight of $\sigma'_{np,s}(\varepsilon')$ and $\sigma'_{np,d}(\varepsilon')$ which depends strongly upon n and the element considered. In many cases one has $\sigma'_{np,d}(\varepsilon') < \sigma'_{np,s}(\varepsilon')$; thus the cross sections do not move progressively to the hydrogen values along the sequence. Analogous behaviour holds for K (see I, figure 3(a)), Rb and Cu sequences due to the similarity between the $\Delta\mu_{ps}$ and $\Delta\mu_{pd}$ values for the four sequences.

4.2.3. nd series ($n \leqslant 20$). A new feature, compared with the K sequence, is the presence of minima in the partial cross section curve $\sigma'_{nd,f}(\varepsilon')$ for highly ionised ions ($z = 13$ for Rb sequence); moreover the $\sigma'_{nd,f}(\varepsilon')$ of the first members of the Ag sequence have two minima (type (e)). This is clearly related to the large $\Delta\mu_{df}$ values obtained for heavy elements (see figure 3(b)).

Figure 6 displays the evolution with n of threshold values $\sigma'_{nd}(0)$ along the three sequences (Rb, Cu and Ag) and clearly shows the large difference between the sequences. The occurrence of new minima in the $\sigma'_{nd,f}(\varepsilon')$ curve of In^{2+} (change from

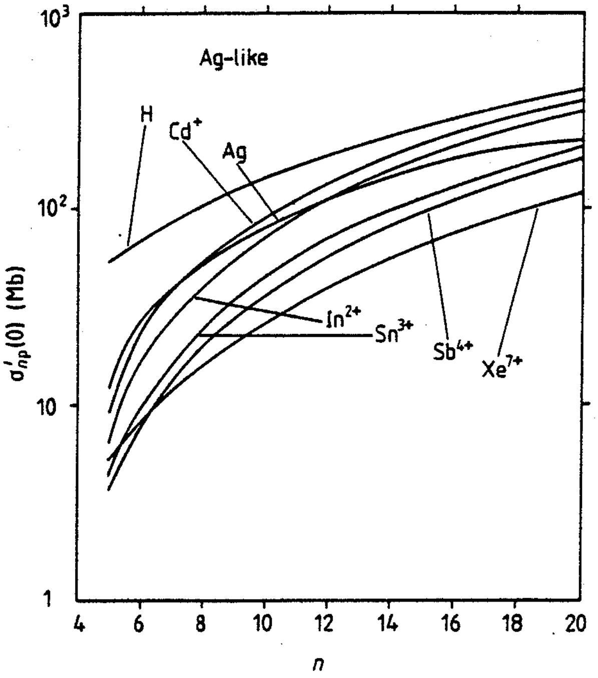

Figure 5. Scaled total cross sections at threshold $\sigma'_{np}(0)$ plotted aginst n along the Ag sequence.

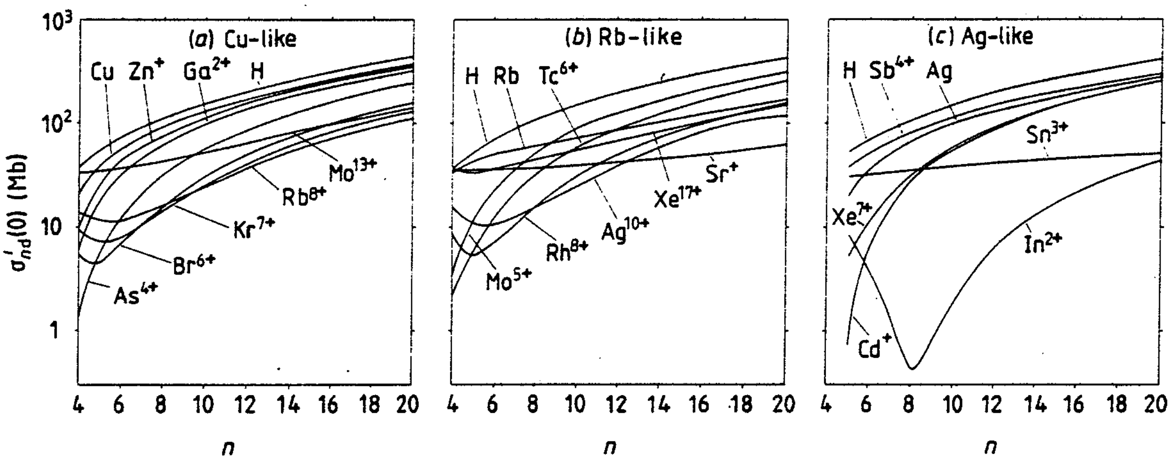

Figure 6. The same as figure 4 for $\sigma'_{nd}(0)$.

shape (d) to shape (e) for $n=8$) explains the minimum visible on figure 6(c). For Rb and Cu sequences the minima occurring for highly ionised ions correspond to the change of shape (b) to (c). Let us recall that the homologous minima occurring in the K sequence concern the Ca^{+}-V^{4+} ions.

The relative weight of $\sigma'_{nd,p}(\varepsilon')$ and $\sigma'_{nd,f}(\varepsilon')$ depends strongly upon n and the element considered; thus the evolution towards the hydrogen values of $\sigma'_{nd}(\varepsilon')$ is not regular for any sequence. Furthermore the $\sigma'_{nd}(\varepsilon')$ curves exhibit minima corresponding to those of $\sigma'_{nd,f}(\varepsilon')$ curves, particularly for the lower members of the sequences, e.g. for Rb-Zr^{3+} and Ag-Sn^{3+}.

4.2.4. nf series ($n \leqslant 20$). The $\Delta\mu^0_{fg}$ value corresponding to the occurrence of one minimum in the $\sigma'_{nf,g}(\varepsilon')$ curve cannot be obtained from the tables of Peach (1967), which are restricted to transitions between small l values, $l \leqslant 3$. However from tables

1–3 and figure 3(d) one can assume that $|\Delta\mu^0_{\mathrm{fg}}| \simeq 0.55$, because minima occur only for highly ionised ions of the Ag sequence. The total cross section $\sigma'_{n\mathrm{f}}(\varepsilon')$ depends mainly on the partial cross section $\sigma'_{n\mathrm{f,g}}(\varepsilon')$ and the zero occurring in $\sigma'_{n\mathrm{f,d}}(\varepsilon')$ does not much affect $\sigma'_{n\mathrm{f}}(\varepsilon')$. So for the K (see I), Rb and Cu sequences the $\sigma'_{n\mathrm{f}}(\varepsilon')$ values are not very different from the hydrogen values. Non-hydrogenic features observed in the Ag sequence are illustrated by figure 7, which shows the evolution of $\sigma'_{15\mathrm{f}}(\varepsilon')$ along the Ag sequence (figure 7(a)), and the evolution with n of the threshold values $\sigma'_{n\mathrm{f}}(0)$ (figure 7(b)). The curve $\sigma'_{15\mathrm{f}}(\varepsilon')$ is of type (c) as is $\sigma'_{15\mathrm{f,g}}(\varepsilon')$ for higher members Te^{5+}–Xe^{7+}, but only of hydrogen-like type (a) for lower members Ag–Sb^{4+}. The minima shown in $\sigma'_{n\mathrm{f}}(0)$ for $n = 12$ correspond to the change of shape (b) to (c) along the nf series of elements.

For comparison with previous work the only available results concern the ground state of Cu–Zn^+ and Ag obtained with the pseudopotential method (McGinn 1970), and the lower excited nd states Cu 4d–5d and Ag 5d obtained with the Hartree–Fock formulation (Msezane and Lee 1985). Near-threshold values given by McGinn for Cu 4s and Ag 5s are much larger than ours and his predicted minima much farther from the threshold, whereas we both find cross section values of the same order for Zn^+ 4s. The threshold values given by Msezane and Lee, $\sigma_{4\mathrm{d}}(0) = 16.62$ Mb and $\sigma_{5\mathrm{d}}(0) = 33.47$ Mb for Cu, and $\sigma_{5\mathrm{d}}(0) = 14.97$ Mb for Ag from the Hartree–Fock length formulation are less than but of the same order as ours (respectively 20.84 and 39.48 for Cu, and 20.19 for Ag). Moreover, we predict the same number of minima although our predicted ones are much farther from the threshold than their minima. When cancellation occurs in radial transition matrix elements, resulting in minima in the photoionisation curves, theoretical results are extremely sensitive to the details of the

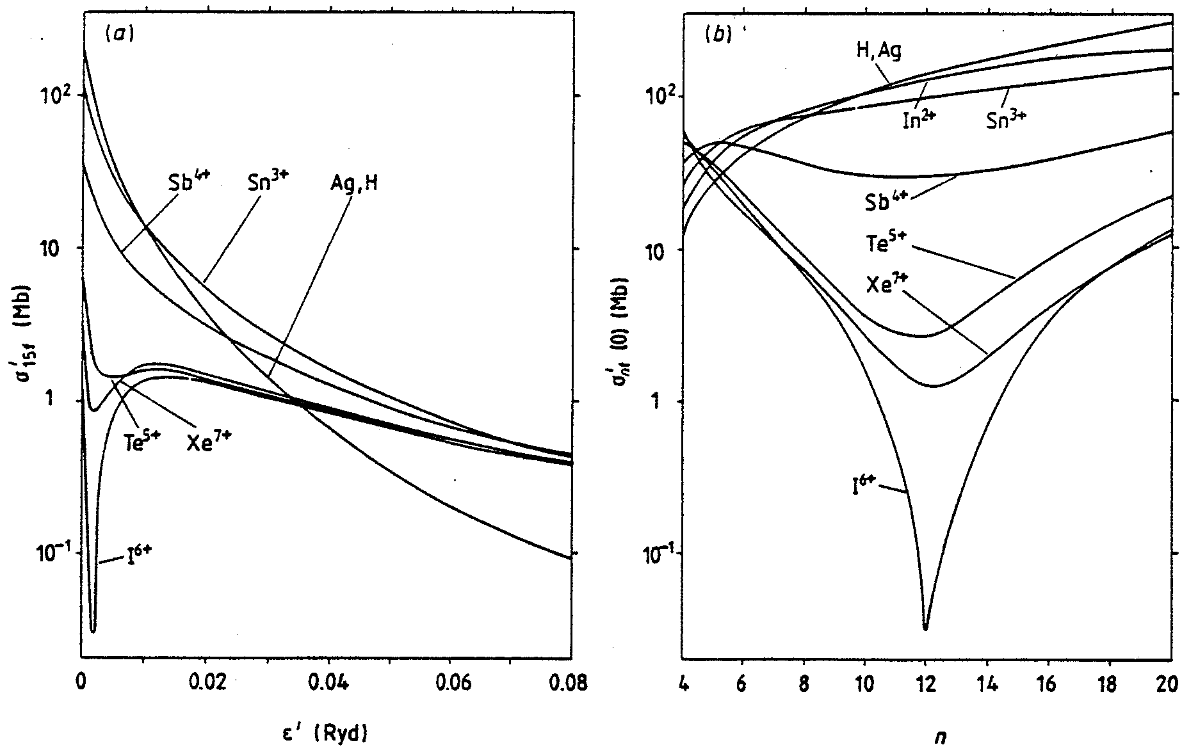

Figure 7. (a) Scaled total cross sections $\sigma'_{15\mathrm{f}}(\varepsilon')$ along the Ag sequence plotted against the scaled photoelectron energy ε' (in Ryd). (b) Scaled total cross sections at threshold $\sigma'_{n\mathrm{f}}(0)$ along the Ag sequence plotted against n.

initial- and final-state wavefunctions. In such cases, more sophisticated models are often required to obtain accurate predictions. These models are however not suited for extensive calculations whereas the central potential model, which reproduces well the qualitative features of the photoionisation process, is well adapted for an extended analysis of systematic trends.

5. Radiative recombination rate coefficients for the Rb, Cu and Ag isoelectronic sequences

Radiative recombination rate coefficients $\alpha_{nl}(T)$ have been calculated for the recombining ions Cu^+-Ga^{3+}, Ag^+-In^{3+} and Sr^{2+}-Y^{3+} in addition to the results already given for Rb^+ (Wane 1985). The scaled coefficients $\alpha'_{nl}(T') = \alpha_{nl}(z^2T')/z$ (with $T' = T/z^2$, z being the charge of the recombining ion) are compared with those for hydrogen. The autoionisation effects are disregarded in the calculation of photoionisation cross sections. Consequently, the computation of the radiative rate coefficients is restricted to the scaled temperature range $500 \leqslant T' \leqslant 5000$ K which confines the efficient electron energy range closer to the threshold the lower the temperature.

5.1. Evolution of $\alpha'_{nl}(T')$ with n for given l and T'

The evolution with n of some particular $\alpha'_{nl}(T')$, $l' \leqslant 2$, at the fixed temperature $T' = 500$ K is shown in figure 8 and compared to the corresponding one for hydrogen. Three typical non-hydrogenic features, already encountered in the K sequence (I), are visible on the figure.

Firstly, the curves α'_{ns} of the three neutral elements as well as α'_{nd} of Cd^+ present a maximum for $n_0 = 5$ or 6. In all cases, this maximum is due to the very small value of $\sigma'_{n_0-1,l}(0)$ compared with $\sigma'_{n_0l}(0)$ (see figures 4 and 6(c)).

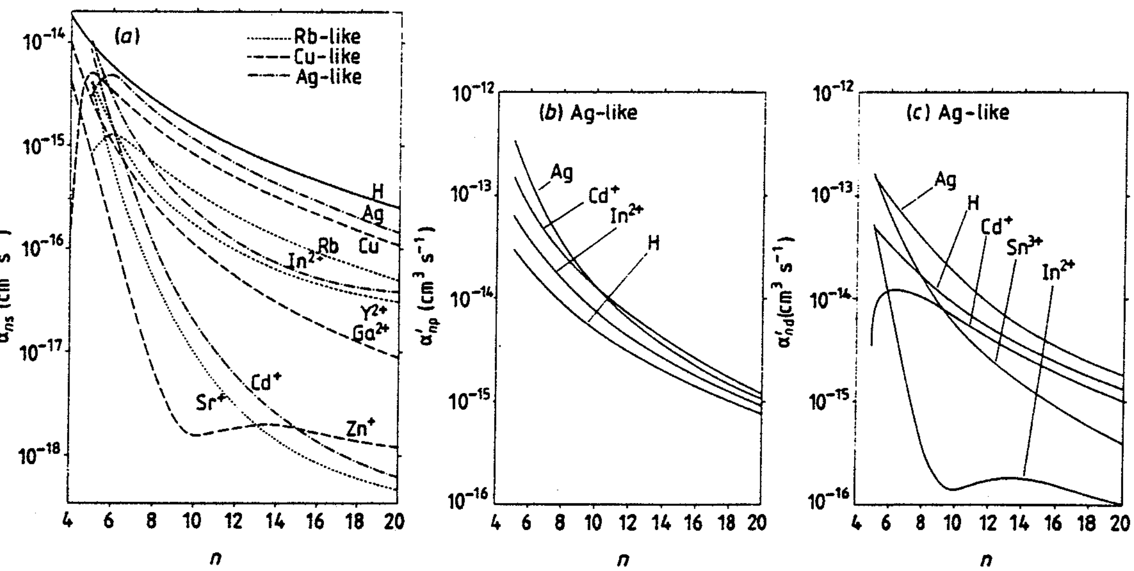

Figure 8. Scaled radiative recombination coefficients α'_{nl} (in units of $cm^3\,s^{-1}$) plotted against n at a scaled temperature $T' = 500$ K for: (a) ns series along the Cu, Rb and Ag sequences; (b) np series along the Ag sequence; (c) nd series along the Ag sequence.

Secondly, the α'_{ns} coefficient of Zn^+ and the α'_{nd} of In^{2+} present a minimum for $n_0 = 10$ followed by a maximum. This irregular n dependence is closely related to that of the $\sigma'_{nl}(0)$ values shown in figures 4(a) and 6(c). Let us note that a similar minimum and maximum occur for α'_{ns} of Sr^+ and Cd^+ for temperatures less than $T' = 500$ K.

The third characteristic non-hydrogenic trait of α'_{nl} coefficients is displayed by the α'_{np} coefficients of the first members of the Ag sequence. While the α'_{ns} and α'_{nd} coefficients shown in figure 8 are much smaller than the α^{H}_{nl}, the α'_{np} are greater than α^{H}_{np}. In fact in the former case, near the threshold $\sigma'_{nl}(\varepsilon') \ll \sigma^{H}_{nl}(\varepsilon')$ whereas in the latter case $\sigma'_{np}(\varepsilon') \leqslant \sigma^{H}_{np}(\varepsilon')$. Moreover the decrease of $\sigma'_{np}(\varepsilon')$ with ε' is slower than in the hydrogen case, and the large values of the ionisation potentials I_{np} give a higher weight to the factor $(\varepsilon + I_{np})^2$ occurring in equation (3). The α'_{nd} of Ag has the same behaviour as the α'_{np}.

A last remark results from figure 8(a). The curves corresponding to the α'_{ns} of neutral atoms are grouped for large n values; similar groups occur for singly and doubly ionised ions, stressing once more the great analogy between the $\sigma'_{ns}(\varepsilon')$ of the three sequences corresponding to a given z value.

5.2. Evolution of $\alpha'_{nl}(T')$ with T' for n and l fixed

For given n and l, the coefficient $\alpha'_{nl}(T')$ generally decreases monotonically with increasing temperature T' as $\alpha^{H}_{nl}(T')$. Departures from this behaviour are illustrated in figure 9 for $\alpha'_{ns}(T')$ of Zn^+ and $\alpha'_{nd}(T')$ of In^{2+}. The unusual evolution with T' of the α'_{ns} ($n \geqslant 12$) of Zn^+ and α'_{20d} of In^{2+} is related to the evolution with ε' of the corresponding $\sigma'_{nl}(\varepsilon')$. Indeed the efficient energy range increases with T'; when a

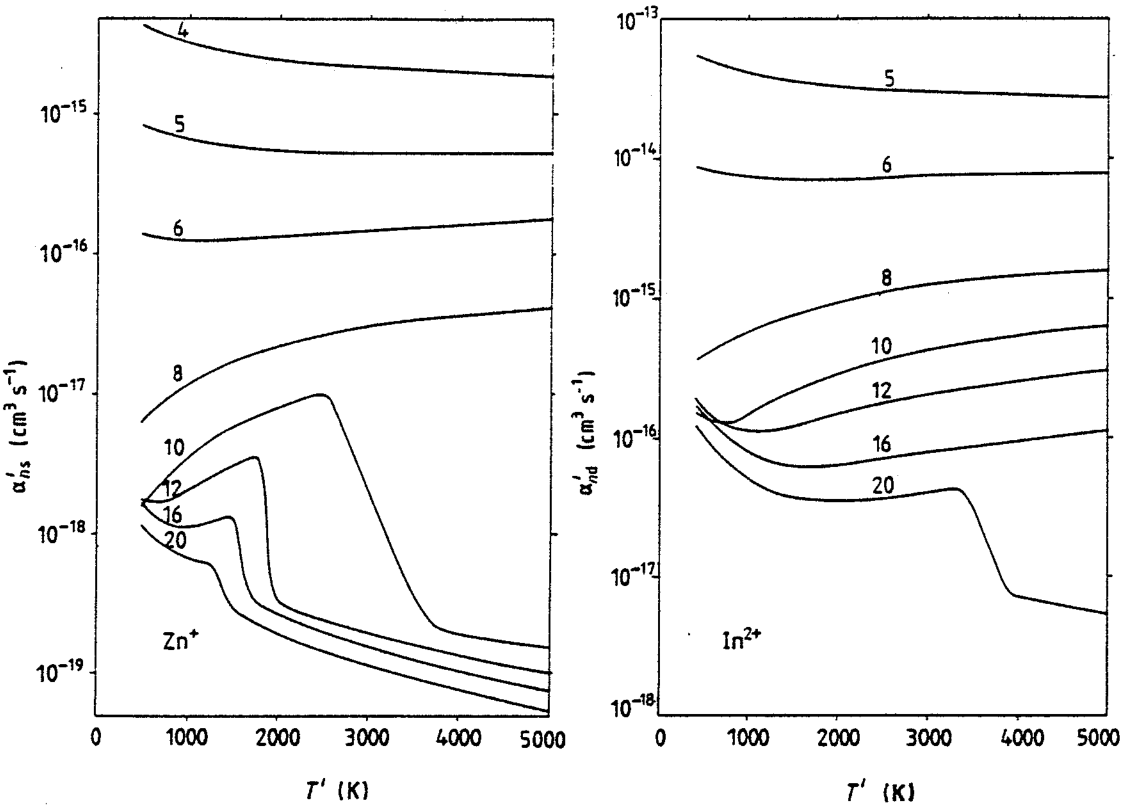

Figure 9. Scaled radiative recombination coefficients plotted against the scaled temperature T' (in K): (a) $\alpha'_{ns}(T')$ for Zn^+; (b) $\alpha'_{nd}(T')$ for In^{2+}.

sufficiently pronounced maximum of $\sigma'_{nl}(\varepsilon')$ occurs within this range the coefficient $\alpha'_{nl}(T')$ presents a maximum. The ratio of the maximum of $\sigma'_{nl}(\varepsilon')$ to either $\sigma'_{nl}(0)$ or the non-zero minimum of $\sigma'_{nl}(\varepsilon')$ is strongly n-dependent and thus some α'_{nl} values are affected much more than others. Let us note that at high termperatures, eventually out of the range represented here, the $\alpha'_{nl}(T')$ finally decreases with increasing T'. Similar behaviour holds for $\alpha'_{ns}(T')$ of Sr^+ and Cd^+, and for $\alpha'_{nf}(T')$ of high members of the Ag sequence ($z \geqslant 6$). Let us note that departures from a monotonic decrease with T' have been observed in the K sequence (I), but there the $\alpha'_{nl}(T')$ curve was less tortuous than in figure 9.

6. Conclusions

In this work, we have performed calculations of excited-state photoionisation cross sections and radiative recombination coefficients along the Rb, Cu and Ag sequences. The results are compared with those previously obtained for the K sequence (Wane and Aymar 1987) and the systematics of photoionisation are analysed in terms of the quantum-defect theory. Near-invariance is found for the isoelectronic variation of photoionisation from ns and np states along the four sequences. At the opposite extreme, the isoelectronic behaviour of photoionisation from nd and nf states is strongly dependent on the sequence. New markedly non-hydrogenic features appear with increasing Z. Thus more minima occur in the partial cross section curves of heavy elements, e.g. one minimum for the $\sigma'_{nf,g}(\varepsilon')$ and two minima for the $\sigma'_{nd,f}(\varepsilon')$ occur for some ions of the Ag sequence only. Moreover, minima occur for relatively highly ionised ions, and even appear for the higher members while absent for the lower members along the Ag sequence. In addition, some of the radiative recombination coefficients exhibit marked minima and maxima in the evolution with temperature within the range considered, due to sufficiently high maxima in the corresponding photoionisation cross section curves. The very irregular and tortuous shapes they have herein was not observed in the K sequence.

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SUJET SYSTEMATIQUE DE LA PHOTOIONISATION ET DE LA RECOMBINAISON RADIATIVE DANS LES SEQUENCES ISOELECTRONIQUES DU POTASSIUM, DU RUBIDIUM, DU CUIVRE ET DE L'ARGENT.

RESUME

Dans le cadre du modèle monoélectronique non relativiste des sections efficaces de photoionisation à partir des états fondamentaux et excités ont été calculées pour les séquences isoélectroniques de K, Rb, Cu et Ag, en utilisant un potentiel central paramétrique. L'évolution du comportement non hydrogénoïde des sections efficaces de photoionisation près des seuils a été étudiée le long des séries de Rydberg et des séquences isoélectroniques, en insistant plus particulièrement sur l'existence de minima et de maxima dans les courbes de sections efficaces. De plus, le comportement des différents alcalins Li-Cs et celui des quatre séquences isoélectroniques étudiées ont été respectivement comparés. La systématique des caractères non hydrogénoïdes et leur évolution le long des séries de Rydberg et des séquences, sont analysées en utilisant une méthode nouvelle basée sur la théorie du défaut quantique.

A l'aide du principe de microéversibilité des coefficients de recombinaison radiative ont été obtenus le long des séquences isoélectroniques, pour des températures relativement faibles. Des caractères non hydrogénoïdes très marqués, singuliers et inhabituels, ont été mis en évidence et soulignés, et la systématique de la recombinaison radiative le long des séquences isoélectroniques a été analysée.

Les résultats obtenus aussi bien pour la photoionisation que pour la recombinaison radiative ont été comparés avec ceux du modèle hydrogénoïde, et avec les résultats théoriques ou expérimentaux existants.

MOTS CLES : PHOTOIONISATION. RECOMBINAISON RADIATIVE. SYSTEMATIQUE. ALCALINS EXCITES. ELEMENTS DE TRANSITION EXCITES. SEQUENCES ISOELECTRO-
[redacted]

APPENDICE

à la THESE présentée pour l'obtention du grade de

DOCTEUR ES SCIENCES

par

Sada Tamimou WANE

ORSAY 1988

DEFAUTS QUANTIQUES, ELEMENTS DE MATRICE DIPOLAIRES ET SECTIONS EFFICACES DE PHOTOIONISATION

Appendice 1 : séquence de K

Appendice 2 : séquence de Rb

Appendice 3 : séquence de Cu

Appendice 4 : séquence de Ag

Pour chaque élement, les états nl sont classés par valeur croissante de l et pour chaque l par valeur croissante de n.

Pour chaque état nl, la première ligne précise :

Nom de l'élement.

NL : état initial nl.

EO : valeur théorique du potentiel d'ionisation $-\varepsilon_{nl}$.

N* : nombre quantique effectif n^* de l'état nl.

MU : valeur théorique du défaut quantique μ_{nl}.

Les valeurs tabulées concernent :

E : énergie ε du photoélectron en Rydberg ou eV.

E PHOT : énergie du photon incident en eV.

LAMBDA : longueur d'onde du photon incident en Å.

(L/R/L/ ± 1) : éléments de matrice dipolaires de transition $R_{nl,l\pm 1}(\varepsilon)$ en u.a.

SIGMA L ± 1 : sections efficaces partielles de photoionisation $\sigma_{nl,l\pm 1}(\varepsilon)$ en Mb (1Mb = 10^{-18} cm^2).

SIGMA : section efficace totale de photoionisation $\sigma_{nl}(\varepsilon)$ en Mb.

Appendice 1 : Séquence de K

K I 4S EO= 3.0370E-01 (RYD) N*= 1.8146 MU= 2.1854

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.132	3000.54	.000	-3.725E-01	.000	3.602E-02	3.602E-02
.0200	.272	4.404	2815.15	.000	-1.750E-01	.000	8.472E-03	8.472E-03
.0400	.544	4.676	2651.34	.000	-2.600E-02	.000	1.987E-04	1.987E-04
.0600	.816	4.948	2505.54	.000	8.703E-02	.000	2.355E-03	2.355E-03
.0800	1.088	5.221	2374.94	.000	1.731E-01	.000	9.834E-03	9.834E-03
.1000	1.361	5.493	2257.28	.000	2.388E-01	.000	1.969E-02	1.969E-02
.3000	4.082	8.214	1509.47	.000	4.178E-01	.000	9.009E-02	9.009E-02
.4000	5.442	9.575	1294.96	.000	4.032E-01	.000	9.781E-02	9.781E-02
.5000	6.803	10.935	1133.84	.000	3.767E-01	.000	9.750E-02	9.750E-02
1.0000	13.606	17.738	698.99	.000	2.539E-01	.000	7.188E-02	7.188E-02

K I 5S EO= 1.2442E-01 (RYD) N*= 2.8350 MU= 2.1650

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.693	7324.26	.000	-1.761E+00	.000	3.301E-01	3.301E-01
.0200	.272	1.965	6309.94	.000	-8.619E-01	.000	9.172E-02	9.172E-02
.0400	.544	2.237	5542.39	.000	-3.448E-01	.000	1.672E-02	1.672E-02
.0600	.816	2.509	4941.32	.000	-3.497E-02	.000	1.928E-04	1.928E-04
.0800	1.088	2.781	4457.87	.000	1.557E-01	.000	4.237E-03	4.237E-03
.1000	1.361	3.053	4060.59	.000	2.746E-01	.000	1.446E-02	1.446E-02
.2000	2.721	4.414	2808.93	.000	4.391E-01	.000	5.349E-02	5.349E-02
.3000	4.082	5.775	2147.10	.000	4.095E-01	.000	6.084E-02	6.084E-02
.4000	5.442	7.135	1737.68	.000	3.570E-01	.000	5.713E-02	5.713E-02
1.0000	13.606	15.299	810.44	.000	1.699E-01	.000	2.774E-02	2.774E-02
2.5000	34.015	35.708	347.23	.000	6.528E-02	.000	9.562E-03	9.562E-03

K I 6S EO= 6.7780E-02 (RYD) N*= 3.8411 MU= 2.1589

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.922	13444.58	.000	-4.037E+00	.000	9.445E-01	9.445E-01
.0200	.272	1.194	10381.32	.000	-1.621E+00	.000	1.973E-01	1.973E-01
.0400	.544	1.466	8454.92	.000	-5.954E-01	.000	3.267E-02	3.267E-02
.0600	.816	1.739	7131.56	.000	-1.040E-01	.000	1.182E-03	1.182E-03
.0800	1.088	2.011	6166.40	.000	1.479E-01	.000	2.763E-03	2.763E-03
.1000	1.361	2.283	5431.34	.000	2.811E-01	.000	1.134E-02	1.134E-02
.2000	2.721	3.643	3403.05	.000	3.990E-01	.000	3.645E-02	3.645E-02
.3000	4.082	5.004	2477.76	.000	3.414E-01	.000	3.665E-02	3.665E-02
.4000	5.442	6.365	1948.07	.000	2.820E-01	.000	3.181E-02	3.181E-02
1.0000	13.606	14.528	853.42	.000	1.188E-01	.000	1.288E-02	1.288E-02
1.5000	20.409	21.331	581.25	.000	7.613E-02	.000	7.768E-03	7.768E-03

K I 8S EO= 2.9270E-02 (RYD) N*= 5.8451 MU= 2.1549

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.398	31133.16	.000	-1.109E+01	.000	3.079E+00	3.079E+00
.0100	.136	.534	23205.19	.000	-5.170E+00	.000	8.975E-01	8.975E-01
.0200	.272	.670	18495.39	.000	-2.676E+00	.000	3.016E-01	3.016E-01
.0400	.544	.942	13155.30	.000	-7.630E-01	.000	3.448E-02	3.448E-02
.0600	.816	1.215	10208.00	.000	-1.211E-01	.000	1.119E-03	1.119E-03
.0800	1.088	1.487	8339.60	.000	1.347E-01	.000	1.696E-03	1.696E-03
.1000	1.361	1.759	7049.34	.000	2.437E-01	.000	6.562E-03	6.562E-03
.2000	2.721	3.119	3974.65	.000	2.865E-01	.000	1.609E-02	1.609E-02
.3000	4.082	4.480	2767.54	.000	2.253E-01	.000	1.429E-02	1.429E-02
.5000	6.803	7.201	1721.74	.000	1.437E-01	.000	9.342E-03	9.342E-03

K I 10S EO= 1.6243E-02 (RYD) N*= 7.8464 MU= 2.1536

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.221	56102.99	.000	-2.131E+01	.000	6.308E+00	6.308E+00
.0200	.272	.493	25143.44	.000	-3.009E+00	.000	2.806E-01	2.806E-01
.0400	.544	.765	16202.40	.000	-7.085E-01	.000	2.414E-02	2.414E-02
.0600	.816	1.037	11952.19	.000	-9.712E-02	.000	6.149E-04	6.149E-04
.0800	1.088	1.309	9468.43	.000	1.142E-01	.000	1.073E-03	1.073E-03
.1000	1.361	1.582	7839.35	.000	1.940E-01	.000	3.741E-03	3.741E-03
.2000	2.721	2.942	4214.10	.000	2.064E-01	.000	7.880E-03	7.880E-03
.3000	4.082	4.303	2881.55	.000	1.568E-01	.000	6.645E-03	6.645E-03

K I 12S EO= 1.0313E-02 (RYD) N*= 9.8470 MU= 2.1530

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.140	88359.65	.000	-3.455E+01	.000	1.053E+01	1.053E+01
.0025	.034	.174	71119.64	.000	-2.181E+01	.000	5.210E+00	5.210E+00
.0200	.272	.412	30061.78	.000	-2.928E+00	.000	2.222E-01	2.222E-01
.0400	.544	.685	18111.91	.000	-6.064E-01	.000	1.582E-02	1.582E-02
.0600	.816	.957	12960.13	.000	-7.511E-02	.000	3.391E-04	3.391E-04
.0800	1.088	1.229	10090.09	.000	9.410E-02	.000	6.837E-04	6.837E-04
.1000	1.361	1.501	8260.73	.000	1.539E-01	.000	2.233E-03	2.233E-03
.2000	2.721	2.862	4332.91	.000	1.551E-01	.000	4.325E-03	4.325E-03
.3000	4.082	4.222	2936.61	.000	1.157E-01	.000	3.551E-03	3.551E-03
1.0000	13.606	13.746	901.97	.000	3.221E-02	.000	8.960E-04	8.960E-04
2.0000	27.212	27.352	453.30	.000	1.415E-02	.000	3.440E-04	3.440E-04

K I 16S EO= 5.2150E-03 (RYD) N*= 13.8475 MU= 2.1525

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.071	174739.07	.000	-6.968E+01	.000	2.165E+01	2.165E+01
.0025	.034	.105	118116.06	.000	-3.201E+01	.000	6.760E+00	6.760E+00
.0100	.136	.207	59892.65	.000	-7.757E+00	.000	7.829E-01	7.829E-01
.0200	.272	.343	36139.88	.000	-2.404E+00	.000	1.246E-01	1.246E-01
.0400	.544	.615	20154.09	.000	-4.307E-01	.000	7.172E-03	7.172E-03
.0600	.816	.887	13973.28	.000	-4.721E-02	.000	1.243E-04	1.243E-04
.0800	1.088	1.159	10693.75	.000	6.499E-02	.000	3.077E-04	3.077E-04
.1000	1.361	1.432	8661.01	.000	1.020E-01	.000	9.357E-04	9.357E-04
.2000	2.721	2.792	4440.55	.000	9.756E-02	.000	1.670E-03	1.670E-03
.3000	4.082	4.153	2985.66	.000	7.164E-02	.000	1.339E-03	1.339E-03
.5000	6.803	6.874	1803.72	.000	4.320E-02	.000	8.063E-04	8.063E-04
1.0000	13.606	13.677	906.54	.000	1.943E-02	.000	3.243E-04	3.243E-04

K I 20S EO= 3.1393E-03 (RYD) N*= 17.8477 MU= 2.1523

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.043	290276.58	.000	-1.159E+02	.000	3.604E+01	3.604E+01
.0025	.034	.077	161592.11	.000	-3.766E+01	.000	6.838E+00	6.838E+00
.0100	.136	.179	69354.32	.000	-6.808E+00	.000	5.206E-01	5.206E-01
.0200	.272	.315	39381.81	.000	-1.897E+00	.000	7.120E-02	7.120E-02
.0400	.544	.587	21123.84	.000	-3.165E-01	.000	3.695E-03	3.695E-03
.0600	.816	.859	14432.65	.000	-3.284E-02	.000	5.823E-05	5.823E-05
.0800	1.088	1.131	10960.73	.000	4.723E-02	.000	1.586E-04	1.586E-04
.1000	1.361	1.403	8835.31	.000	7.268E-02	.000	4.658E-04	4.658E-04
.2000	2.721	2.764	4485.93	.000	6.806E-02	.000	8.045E-04	8.045E-04
.3000	4.082	4.124	3006.10	.000	4.963E-02	.000	6.385E-04	6.385E-04
1.0000	13.606	13.649	908.42	.000	1.340E-02	.000	1.539E-04	1.539E-04
2.0000	27.212	27.255	454.92	.000	5.822E-03	.000	5.805E-05	5.805E-05

K I 4P EO= 1.9526E-01 (RYD) N*= 2.2631 MU= 1.7369

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.657	4667.06	5.203E+00	-5.370E+00	1.507E+00	3.210E+00	4.716E+00
.0400	.544	3.201	3873.53	3.860E+00	-6.164E+00	9.991E-01	5.096E+00	6.095E+00
.0600	.816	3.473	3570.03	3.390E+00	-6.153E+00	8.361E-01	5.508E+00	6.344E+00
.0800	1.088	3.745	3310.63	3.008E+00	-5.994E+00	7.097E-01	5.637E+00	6.347E+00
.1000	1.361	4.017	3086.37	2.692E+00	-5.745E+00	6.097E-01	5.554E+00	6.164E+00
.6000	8.164	10.820	1145.88	5.742E-01	-9.491E-01	7.474E-02	4.083E-01	4.831E-01
1.0000	13.606	16.263	762.40	3.078E-01	-2.953E-01	3.227E-02	5.940E-02	9.167E-02
2.0000	27.212	29.868	415.11	1.232E-01	3.033E-03	9.500E-03	1.151E-05	9.512E-03
3.0000	40.818	43.474	285.19	7.053E-02	4.205E-02	4.530E-03	3.221E-03	7.751E-03
4.0000	54.424	57.080	217.21	4.709E-02	4.665E-02	2.652E-03	5.205E-03	7.857E-03
5.0000	68.030	70.686	175.40	3.425E-02	4.398E-02	1.737E-03	5.728E-03	7.465E-03
6.0000	81.635	84.292	147.09	2.631E-02	3.977E-02	1.222E-03	5.585E-03	6.807E-03

K I 5P EO= 9.2605E-02 (RYD) N*= 3.2861 MU= 1.7139

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.260	9840.38	1.070E+01	-5.756E+00	3.022E+00	1.749E+00	4.771E+00
.0400	.544	1.804	6872.05	5.958E+00	-7.270E+00	1.342E+00	3.995E+00	5.336E+00
.0600	.816	2.076	5971.42	4.745E+00	-7.015E+00	9.794E-01	4.281E+00	5.260E+00
.0800	1.088	2.348	5279.50	3.890E+00	-6.570E+00	7.442E-01	4.247E+00	4.991E+00
.4000	5.442	6.702	1849.90	7.274E-01	-1.468E+00	7.429E-02	6.048E-01	6.791E-01
.8000	10.885	12.145	1020.91	2.858E-01	-3.540E-01	2.078E-02	6.375E-02	8.453E-02
1.0000	13.606	14.866	834.03	2.088E-01	-1.964E-01	1.358E-02	2.402E-02	3.760E-02
1.5000	20.409	21.669	572.19	1.171E-01	-4.479E-02	6.225E-03	1.821E-03	8.046E-03
2.0000	27.212	28.472	435.47	7.743E-02	1.468E-03	3.575E-03	2.569E-06	3.578E-03
2.5000	34.015	35.275	351.49	5.611E-02	1.856E-02	2.326E-03	5.093E-04	2.835E-03
3.0000	40.818	42.078	294.66	4.310E-02	2.519E-02	1.637E-03	1.118E-03	2.755E-03
4.0000	54.424	55.684	222.66	2.837E-02	2.772E-02	9.388E-04	1.793E-03	2.732E-03

K I 6P EO= 5.4231E-02 (RYD) N*= 4.2941 MU= 1.7059

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.738	16803.42	1.775E+01	-5.107E+00	4.868E+00	8.061E-01	5.674E+00
.0025	.034	.772	16062.93	1.647E+01	-5.707E+00	4.388E+00	1.053E+00	5.441E+00
.0400	.544	1.282	9670.56	7.170E+00	-7.575E+00	1.381E+00	3.082E+00	4.462E+00
.0600	.816	1.554	7977.41	5.240E+00	-7.004E+00	8.940E-01	3.194E+00	4.088E+00
.0800	1.088	1.826	6788.80	4.032E+00	-6.305E+00	6.218E-01	3.042E+00	3.664E+00
.4000	5.442	6.180	2006.18	5.657E-01	-1.120E+00	4.142E-02	3.250E-01	3.664E-01
.6000	8.164	8.901	1392.88	3.168E-01	-5.002E-01	1.871E-02	9.329E-02	1.120E-01
.8000	10.885	11.623	1066.77	2.081E-01	-2.550E-01	1.054E-02	3.167E-02	4.221E-02
1.0000	13.606	14.344	864.39	1.498E-01	-1.397E-01	6.742E-03	1.173E-02	1.847E-02
1.5000	20.409	21.147	586.31	8.227E-02	-3.137E-02	2.998E-03	8.716E-04	3.870E-03
2.0000	27.212	27.950	443.61	5.380E-02	9.193E-04	1.695E-03	9.895E-07	1.696E-03
2.5000	34.015	34.753	356.77	3.873E-02	1.268E-02	1.092E-03	2.341E-04	1.326E-03
3.0000	40.818	41.556	298.36	2.962E-02	1.718E-02	7.635E-04	5.138E-04	1.277E-03

K I 8P EO= 2.5195E-02 (RYD) N*= 6.3000 MU= 1.7000

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.343	36168.29	3.619E+01	-1.081E+00	9.405E+00	1.679E-02	9.422E+00
.0025	.034	.377	32903.44	3.094E+01	-3.238E+00	7.555E+00	1.655E-01	7.721E+00
.0100	.136	.479	25891.81	2.082E+01	-6.398E+00	4.348E+00	8.212E-01	5.169E+00
.0200	.272	.615	20162.93	1.379E+01	-7.452E+00	2.451E+00	1.431E+00	3.881E+00
.0400	.544	.887	13977.53	7.562E+00	-6.968E+00	1.063E+00	1.804E+00	2.867E+00
.0600	.816	1.159	10696.23	4.882E+00	-5.971E+00	5.787E-01	1.732E+00	2.310E+00
.2000	2.721	3.064	4046.57	1.004E+00	-2.117E+00	6.463E-02	5.755E-01	6.402E-01
.6000	8.164	8.506	1457.57	1.942E-01	-3.035E-01	6.723E-03	3.282E-02	3.954E-02
1.0000	13.606	13.949	888.87	8.900E-02	-8.246E-02	2.314E-03	3.973E-03	6.288E-03
1.5000	20.409	20.752	597.48	4.807E-02	-1.827E-02	1.005E-03	2.900E-04	1.295E-03
2.0000	27.212	27.555	449.97	3.117E-02	4.906E-04	5.607E-04	2.778E-07	5.610E-04
2.5000	34.015	34.358	360.87	2.232E-02	7.250E-03	3.585E-04	7.565E-05	4.342E-04
3.0000	40.818	41.161	301.23	1.701E-02	9.812E-03	2.494E-04	1.660E-04	4.154E-04

K I 10P EO= 1.4508E-02 (RYD) N*= 8.3021 MU= 1.6979

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.197	62809.37	6.008E+01	6.294E+00	1.493E+01	3.276E-01	1.525E+01
.0025	.034	.231	53577.30	4.614E+01	6.745E-01	1.032E+01	4.410E-03	1.033E+01
.0050	.068	.265	46711.40	3.677E+01	-2.501E+00	7.516E+00	6.956E-02	7.586E+00
.0075	.102	.299	41405.33	3.012E+01	-4.361E+00	5.691E+00	2.386E-01	5.930E+00
.0200	.272	.470	26407.08	1.435E+01	-6.740E+00	2.026E+00	8.936E-01	2.919E+00
.0400	.544	.742	16717.91	6.775E+00	-5.890E+00	7.130E-01	1.078E+00	1.791E+00
.0600	.816	1.014	12230.39	4.060E+00	-4.792E+00	3.501E-01	9.754E-01	1.326E+00
.2000	2.721	2.919	4248.17	7.237E-01	-1.512E+00	3.202E-02	2.794E-01	3.114E-01
.4000	5.442	5.640	2198.43	2.493E-01	-4.839E-01	7.343E-03	5.532E-02	6.267E-02
.8000	10.885	11.082	1118.79	8.484E-02	-1.028E-01	1.671E-03	4.907E-03	6.578E-03
1.0000	13.606	13.803	898.24	6.006E-02	-5.550E-02	1.043E-03	1.781E-03	2.824E-03
1.5000	20.409	20.606	601.69	3.223E-02	-1.224E-02	4.483E-04	1.293E-04	5.776E-04
2.0000	27.212	27.409	452.35	2.083E-02	3.379E-04	2.491E-04	1.311E-07	2.492E-04
2.5000	34.015	34.212	362.40	1.488E-02	4.820E-03	1.587E-04	3.330E-05	1.920E-04

K I 12P EO= 9.4202E-03 (RYD) N*= 10.3031 MU= 1.6969

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.128	96735.15	8.912E+01	1.682E+01	2.132E+01	1.520E+00	2.284E+01
.0025	.034	.162	76447.14	6.029E+01	5.072E+00	1.235E+01	1.748E-01	1.252E+01
.0050	.068	.196	63193.69	4.397E+01	-3.698E-01	7.947E+00	1.124E-03	7.948E+00
.0075	.102	.230	53858.69	3.376E+01	-3.112E+00	5.495E+00	9.340E-02	5.589E+00
.0100	.136	.264	46923.62	2.689E+01	-4.553E+00	4.002E+00	2.295E-01	4.231E+00
.0200	.272	.400	30974.19	1.356E+01	-5.895E+00	1.542E+00	5.828E-01	2.125E+00
.0400	.544	.672	18439.16	5.786E+00	-4.886E+00	4.716E-01	6.724E-01	1.144E+00
.0600	.816	.945	13126.83	3.315E+00	-3.845E+00	2.174E-01	5.850E-01	8.024E-01
.1000	1.361	1.489	8328.15	1.575E+00	-2.533E+00	7.733E-02	4.002E-01	4.775E-01
.2000	2.721	2.849	4351.38	5.466E-01	-1.136E+00	1.783E-02	1.540E-01	1.718E-01
.4000	5.442	5.571	2225.75	1.846E-01	-3.572E-01	3.976E-03	2.978E-02	3.375E-02
.6000	8.164	8.292	1495.30	9.747E-02	-1.514E-01	1.650E-03	7.962E-03	9.612E-03
.8000	10.885	11.013	1125.83	6.209E-02	-7.511E-02	8.894E-04	2.603E-03	3.492E-03
1.0000	13.606	13.734	902.76	4.388E-02	-4.052E-02	5.540E-04	9.445E-04	1.498E-03
1.5000	20.409	20.537	603.72	2.346E-02	-8.884E-03	2.368E-04	6.790E-05	3.047E-04
2.0000	27.212	27.340	453.50	1.515E-02	2.360E-04	1.314E-04	6.381E-08	1.314E-04
2.5000	34.015	34.143	363.14	1.082E-02	3.504E-03	8.367E-05	1.756E-05	1.012E-04

K I 16P EO= 4.8875E-03 (RYD) N*= 14.3040 MU= 1.6960

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.066	186449.95	1.618E+02	4.684E+01	3.647E+01	6.111E+00	4.259E+01
.0025	.034	.101	123353.23	8.149E+01	1.293E+01	1.398E+01	7.045E-01	1.468E+01
.0050	.068	.135	92163.94	5.028E+01	2.607E+00	7.123E+00	3.831E-02	7.161E+00
.0075	.102	.169	73563.70	3.464E+01	-1.429E+00	4.236E+00	1.442E-02	4.251E+00
.0100	.136	.203	61210.40	2.558E+01	-3.180E+00	2.776E+00	8.584E-02	2.862E+00
.0200	.272	.339	36615.53	1.097E+01	-4.418E+00	8.536E-01	2.770E-01	1.131E+00
.0400	.544	.611	20301.16	4.163E+00	-3.421E+00	2.217E-01	2.994E-01	5.211E-01
.0600	.816	.883	14043.82	2.274E+00	-2.598E+00	9.560E-02	2.496E-01	3.452E-01
.1000	1.361	1.427	8688.05	1.036E+00	-1.652E+00	3.206E-02	1.631E-01	1.952E-01
.2000	2.721	2.788	4447.65	3.472E-01	-7.188E-01	7.039E-03	6.034E-02	6.737E-02
.4000	5.442	5.509	2250.67	1.153E-01	-2.224E-01	1.534E-03	1.142E-02	1.295E-02
.6000	8.164	8.230	1506.51	6.049E-02	-9.376E-02	6.309E-04	3.031E-03	3.662E-03
.8000	10.885	10.951	1132.17	3.838E-02	-4.639E-02	3.380E-04	9.873E-04	1.325E-03
1.0000	13.606	13.672	906.84	2.701E-02	-2.490E-02	2.089E-04	3.553E-04	5.641E-04
1.5000	20.409	20.475	605.54	1.444E-02	-5.499E-03	8.947E-05	2.594E-05	1.154E-04
2.0000	27.212	27.278	454.52	9.313E-03	1.691E-04	4.956E-05	3.268E-08	4.960E-05
2.5000	34.015	34.081	363.80	6.854E-03	2.129E-03	3.161E-05	6.473E-06	3.808E-05
3.0000	40.818	40.884	303.26	5.052E-03	2.879E-03	2.185E-05	1.419E-05	3.605E-05

K I 20P EO= 2.9846E-03 (RYD) N*= 18.3044 MU= 1.6956

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.041	305320.72	2.531E+02	8.834E+01	5.449E+01	1.328E+01	6.777E+01
.0025	.034	.075	166149.52	9.212E+01	1.802E+01	1.326E+01	1.015E+00	1.428E+01
.0050	.068	.109	114127.82	4.948E+01	3.934E+00	5.571E+00	7.043E-02	5.641E+00
.0075	.102	.143	86914.68	3.155E+01	-5.809E-01	2.974E+00	2.017E-03	2.976E+00
.0100	.136	.177	70180.53	2.217E+01	-2.331E+00	1.819E+00	4.023E-02	1.859E+00
.0200	.272	.313	39646.84	8.656E+00	-3.373E+00	4.908E-01	1.491E-01	6.399E-01
.0400	.544	.585	21199.85	3.094E+00	-2.515E+00	1.172E-01	1.550E-01	2.723E-01
.0600	.816	.857	14468.10	1.653E+00	-1.875E+00	4.905E-02	1.262E-01	1.752E-01
.1000	1.361	1.401	8848.58	7.389E-01	-1.173E+00	1.603E-02	8.081E-02	9.684E-02
.2000	2.721	2.762	4489.34	2.441E-01	-5.041E-01	3.448E-03	2.940E-02	3.285E-02
.4000	5.442	5.483	2261.30	8.022E-02	-1.547E-01	7.391E-04	5.500E-03	6.239E-03
.8000	10.885	10.925	1134.85	2.660E-02	-3.212E-02	1.619E-04	4.721E-04	6.340E-04
1.0000	13.606	13.647	908.56	1.879E-02	-1.730E-02	1.009E-04	1.711E-04	2.720E-04
1.5000	20.409	20.449	606.31	1.003E-02	-3.810E-03	4.306E-05	1.244E-05	5.550E-05
2.0000	27.212	27.252	454.95	6.426E-03	1.179E-04	2.358E-05	1.588E-08	2.359E-05
2.5000	34.015	34.055	364.07	4.610E-03	1.462E-03	1.516E-05	3.052E-06	1.821E-05

K I 3D EO= 1.1890E-01 (RYD) N*= 2.9001 MU= .0999

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.618	7664.18	-3.414E+00	2.091E+01	4.740E-01	2.667E+01	2.714E+01
.0600	.816	2.434	5093.74	-1.673E+00	9.568E+00	1.712E-01	8.401E+00	8.573E+00
.2000	2.721	4.339	2857.54	-5.508E-01	3.270E+00	3.309E-02	1.750E+00	1.783E+00
.4000	5.442	7.060	1756.15	-1.771E-01	1.421E+00	5.567E-03	5.378E-01	5.434E-01
.8000	10.885	12.502	991.69	-2.054E-02	6.007E-01	1.326E-04	1.701E-01	1.702E-01
1.0000	13.606	15.224	814.43	-3.307E-04	4.590E-01	4.186E-08	1.209E-01	1.209E-01
1.5000	20.409	22.027	562.89	1.566E-02	2.836E-01	1.357E-04	6.680E-02	6.694E-02
2.0000	27.212	28.830	430.07	1.756E-02	2.005E-01	2.234E-04	4.372E-02	4.394E-02
2.5000	34.015	35.633	347.96	1.639E-02	1.513E-01	2.407E-04	3.077E-02	3.101E-02
3.0000	40.818	42.435	292.18	1.461E-02	1.186E-01	2.275E-04	2.249E-02	2.272E-02
4.5000	61.227	62.844	197.29	9.934E-03	6.479E-02	1.559E-04	9.948E-03	1.010E-02

K I 4D EO= 6.7578E-02 (RYD) N*= 3.8468 MU= .1532

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.919	13484.77	-8.795E+00	3.567E+01	1.788E+00	4.410E+01	4.589E+01
.0200	.272	1.192	10405.27	-5.655E+00	2.341E+01	9.578E-01	2.462E+01	2.558E+01
.0800	1.088	2.008	6174.84	-2.259E+00	9.709E+00	2.576E-01	7.136E+00	7.394E+00
.2000	2.721	3.641	3405.62	-7.222E-01	3.510E+00	4.774E-02	1.691E+00	1.739E+00
.4000	5.442	6.362	1948.91	-2.039E-01	1.407E+00	6.646E-03	4.747E-01	4.813E-01
.6000	8.164	9.083	1365.04	-7.180E-02	8.192E-01	1.177E-03	2.298E-01	2.310E-01
.8000	10.885	11.804	1050.36	-2.322E-02	5.643E-01	1.600E-04	1.417E-01	1.419E-01
1.0000	13.606	14.525	853.58	-2.092E-03	4.260E-01	1.598E-06	9.940E-02	9.940E-02
1.5000	20.409	21.328	581.32	1.403E-02	2.589E-01	1.055E-04	5.390E-02	5.400E-02
2.0000	27.212	28.131	440.74	1.591E-02	1.815E-01	1.790E-04	3.494E-02	3.512E-02
2.5000	34.015	34.934	354.91	1.484E-02	1.363E-01	1.933E-04	2.445E-02	2.465E-02
3.0000	40.818	41.737	297.06	1.319E-02	1.064E-01	1.825E-04	1.782E-02	1.800E-02
4.5000	61.227	62.146	199.51	8.920E-03	5.784E-02	1.243E-04	7.839E-03	7.963E-03

K I 5D EO= 4.3061E-02 (RYD) N*= 4.8190 MU= .1810

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.586	21162.38	-1.602E+01	4.941E+01	3.779E+00	5.393E+01	5.771E+01
.0400	.544	1.130	10971.10	-5.226E+00	1.815E+01	7.757E-01	1.404E+01	1.482E+01
.0600	.816	1.402	8842.05	-3.580E+00	1.285E+01	4.517E-01	8.732E+00	9.183E+00
.2000	2.721	3.307	3749.14	-7.138E-01	3.135E+00	4.236E-02	1.225E+00	1.268E+00
.4000	5.442	6.028	2056.76	-1.863E-01	1.196E+00	5.258E-03	3.249E-01	3.302E-01
.6000	8.164	8.749	1417.08	-6.399E-02	6.833E-01	9.005E-04	1.540E-01	1.549E-01
.8000	10.885	11.471	1080.90	-2.078E-02	4.660E-01	1.245E-04	9.391E-02	9.404E-02
1.0000	13.606	14.192	873.65	-2.432E-03	3.496E-01	2.109E-06	6.540E-02	6.540E-02
1.5000	20.409	20.995	590.56	1.131E-02	2.106E-01	6.755E-05	3.512E-02	3.518E-02
2.0000	27.212	27.798	446.03	1.290E-02	1.470E-01	1.163E-04	2.265E-02	2.277E-02
2.5000	34.015	34.601	358.34	1.202E-02	1.101E-01	1.257E-04	1.581E-02	1.593E-02
3.0000	40.818	41.404	299.46	1.067E-02	8.582E-02	1.186E-04	1.150E-02	1.162E-02
3.5000	47.621	48.207	257.20	9.355E-03	6.871E-02	1.060E-04	8.582E-03	8.688E-03
4.0000	54.424	55.010	225.39	8.194E-03	5.611E-02	9.283E-05	6.529E-03	6.622E-03

K I 6D EO= 2.9691E-02 (RYD) N*= 5.8034 MU= .1966

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.404	30691.39	-2.487E+01	6.307E+01	6.283E+00	6.060E+01	6.688E+01
.0400	.544	.948	13075.77	-5.837E+00	1.805E+01	8.122E-01	1.164E+01	1.246E+01
.0600	.816	1.220	10160.05	-3.755E+00	1.219E+01	4.324E-01	6.832E+00	7.264E+00
.2000	2.721	3.125	3967.36	-6.456E-01	2.677E+00	3.274E-02	8.445E-01	8.772E-01
.4000	5.442	5.846	2120.75	-1.605E-01	9.900E-01	3.785E-03	2.160E-01	2.198E-01
.6000	8.164	8.568	1447.17	-5.427E-02	5.595E-01	6.342E-04	1.011E-01	1.017E-01
.8000	10.885	11.289	1098.32	-1.764E-02	3.793E-01	8.834E-05	6.125E-02	6.133E-02
1.0000	13.606	14.010	884.99	-2.295E-03	2.836E-01	1.855E-06	4.248E-02	4.248E-02
1.5000	20.409	20.813	595.72	9.088E-03	1.700E-01	4.321E-05	2.268E-02	2.272E-02
2.0000	27.212	27.616	448.97	1.039E-02	1.184E-01	7.495E-05	1.459E-02	1.466E-02
2.5000	34.015	34.419	360.23	9.680E-03	8.851E-02	8.107E-05	1.017E-02	1.025E-02
3.0000	40.818	41.222	300.78	8.587E-03	6.894E-02	7.641E-05	7.386E-03	7.462E-03

K I 8D EO= 1.6488E-02 (RYD) N*= 7.7878 MU= .2122

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.224	55268.60	-4.703E+01	9.160E+01	1.247E+01	7.097E+01	8.345E+01
.0025	.034	.258	47991.81	-3.714E+01	7.574E+01	8.960E+00	5.587E+01	6.483E+01
.0200	.272	.496	24974.46	-1.238E+01	3.033E+01	1.913E+00	1.722E+01	1.913E+01
.0400	.544	.769	16132.06	-5.860E+00	1.594E+01	6.635E-01	7.359E+00	8.023E+00
.2000	2.721	2.946	4209.32	-4.958E-01	1.940E+00	1.820E-02	4.179E-01	4.361E-01
.4000	5.442	5.667	2187.98	-1.169E-01	6.934E-01	1.947E-03	1.027E-01	1.047E-01
.6000	8.164	8.388	1478.16	-3.889E-02	3.873E-01	3.188E-04	4.743E-02	4.775E-02
.8000	10.885	11.109	1116.08	-1.264E-02	2.610E-01	4.463E-05	2.853E-02	2.858E-02
1.0000	13.606	13.830	896.49	-1.782E-03	1.944E-01	1.104E-06	1.971E-02	1.971E-02
1.5000	20.409	20.633	600.91	6.173E-03	1.160E-01	1.976E-05	1.046E-02	1.048E-02
2.0000	27.212	27.436	451.91	7.079E-03	8.055E-02	3.456E-05	6.712E-03	6.747E-03
2.5000	34.015	34.239	362.12	6.586E-03	6.014E-02	3.733E-05	4.669E-03	4.707E-03
3.0000	40.818	41.042	302.10	5.841E-03	4.680E-02	3.519E-05	3.389E-03	3.424E-03

K I 10D EO= 1.0454E-02 (RYD) N*= 9.7806 MU= .2194

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.142	87172.75	-7.467E+01	1.225E+02	1.993E+01	8.049E+01	1.004E+02
.0050	.068	.210	58968.05	-3.891E+01	7.233E+01	8.001E+00	4.147E+01	4.948E+01
.0200	.272	.414	29923.17	-1.245E+01	2.798E+01	1.613E+00	1.223E+01	1.385E+01
.0400	.544	.686	18061.51	-5.251E+00	1.339E+01	4.757E-01	4.642E+00	5.117E+00
.1000	1.361	1.503	8250.23	-1.309E+00	4.041E+00	6.473E-02	9.254E-01	9.901E-01
.2000	2.721	2.863	4330.02	-3.821E-01	1.455E+00	1.051E-02	2.286E-01	2.391E-01
.4000	5.442	5.585	2220.15	-8.783E-02	5.115E-01	1.083E-03	5.509E-02	5.617E-02
.6000	8.164	8.306	1492.77	-2.899E-02	2.841E-01	1.754E-04	2.528E-02	2.545E-02
.8000	10.885	11.027	1124.39	-9.417E-03	1.909E-01	2.458E-05	1.515E-02	1.518E-02
1.0000	13.606	13.748	901.84	-1.368E-03	1.420E-01	6.464E-07	1.045E-02	1.045E-02
1.5000	20.409	20.551	603.31	4.489E-03	8.449E-02	1.041E-05	5.531E-03	5.541E-03
2.0000	27.212	27.354	453.26	5.149E-03	5.861E-02	1.823E-05	3.543E-03	3.561E-03
2.5000	34.015	34.157	362.99	4.794E-03	4.373E-02	1.973E-05	2.463E-03	2.483E-03
3.0000	40.818	40.960	302.70	4.248E-03	3.402E-02	1.858E-05	1.787E-03	1.806E-03

K I 12D EO= 7.2102E-03 (RYD) N*= 11.7768 MU= .2232

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.098	126385.86	-1.075E+02	1.560E+02	2.847E+01	9.006E+01	1.185E+02
.0050	.068	.166	74631.66	-4.470E+01	7.653E+01	8.345E+00	3.668E+01	4.503E+01
.0200	.272	.370	33489.93	-1.165E+01	2.493E+01	1.264E+00	8.673E+00	9.937E+00
.0400	.544	.642	19302.35	-4.546E+00	1.118E+01	3.336E-01	3.028E+00	3.362E+00
.0800	1.088	1.187	10449.10	-1.545E+00	4.420E+00	7.121E-02	8.742E-01	9.454E-01
.2000	2.721	2.819	4397.79	-3.022E-01	1.134E+00	6.472E-03	1.367E-01	1.431E-01
.4000	5.442	5.540	2237.83	-6.849E-02	3.948E-01	6.533E-04	3.257E-02	3.322E-02
.6000	8.164	8.262	1500.75	-2.250E-02	2.167E-01	1.052E-04	1.490E-02	1.500E-02
.8000	10.885	10.983	1128.91	-7.290E-03	1.467E-01	1.467E-05	8.915E-03	8.930E-03
1.0000	13.606	13.704	904.74	-1.146E-03	1.090E-01	4.526E-07	6.137E-03	6.137E-03
1.5000	20.409	20.507	604.61	3.394E-03	6.481E-02	5.937E-06	3.247E-03	3.253E-03
2.0000	27.212	27.310	454.00	3.934E-03	4.492E-02	1.063E-05	2.077E-03	2.088E-03
2.5000	34.015	34.113	363.46	3.683E-03	3.348E-02	1.163E-05	1.442E-03	1.453E-03
3.0000	40.818	40.916	303.03	3.283E-03	2.604E-02	1.109E-05	1.046E-03	1.057E-03

K I 16D EO= 4.0195E-03 (RYD) N*= 15.7730 MU= .2270

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.055	226711.20	-1.875E+02	2.310E+02	4.833E+01	1.100E+02	1.583E+02
.0025	.034	.089	139775.52	-8.398E+01	1.195E+02	1.572E+01	4.775E+01	6.347E+01
.0050	.068	.123	101032.97	-4.896E+01	7.637E+01	7.395E+00	2.699E+01	3.438E+01
.0200	.272	.327	37938.65	-9.492E+00	1.928E+01	7.401E-01	4.580E+00	5.320E+00
.0400	.544	.599	20701.45	-3.375E+00	7.999E+00	1.715E-01	1.445E+00	1.616E+00
.0600	.816	.871	14234.22	-1.757E+00	4.573E+00	6.759E-02	6.868E-01	7.544E-01
.2000	2.721	2.776	4466.57	-2.041E-01	7.531E-01	2.905E-03	5.937E-02	6.227E-02
.4000	5.442	5.497	2255.50	-4.554E-02	2.597E-01	2.865E-04	1.398E-02	1.427E-02
.6000	8.164	8.218	1508.67	-1.487E-02	1.434E-01	4.570E-05	6.368E-03	6.413E-03
.8000	10.885	10.939	1133.39	-4.742E-03	9.598E-02	6.184E-06	3.800E-03	3.806E-03
1.0000	13.606	13.661	907.62	-7.232E-04	7.125E-02	1.796E-07	2.614E-03	2.615E-03
1.5000	20.409	20.464	605.89	2.281E-03	4.215E-02	2.677E-06	1.371E-03	1.373E-03
2.0000	27.212	27.267	454.72	2.633E-03	2.932E-02	4.753E-06	8.839E-04	8.886E-04
2.5000	34.015	34.069	363.92	2.318E-03	2.180E-02	4.602E-06	6.106E-04	6.152E-04
3.0000	40.818	40.872	303.35	2.117E-03	1.699E-02	4.605E-06	4.448E-04	4.494E-04

K I 20D EO= 2.5582E-03 (RYD) N*= 19.7712 MU= .2288

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.035	356215.38	-2.860E+02	3.161E+02	7.155E+01	1.311E+02	2.027E+02
.0025	.034	.069	180156.78	-9.230E+01	1.232E+02	1.474E+01	3.938E+01	5.412E+01
.0050	.068	.103	120566.88	-4.738E+01	7.040E+01	5.802E+00	1.922E+01	2.502E+01
.0100	.136	.171	72563.61	-2.033E+01	3.455E+01	1.774E+00	7.689E+00	9.464E+00
.0200	.272	.307	40396.31	-7.597E+00	1.505E+01	4.452E-01	2.621E+00	3.067E+00
.0400	.544	.579	21412.28	-2.571E+00	5.990E+00	9.617E-02	7.833E-01	8.795E-01
.0600	.816	.851	14566.72	-1.314E+00	3.373E+00	3.692E-02	3.650E-01	4.020E-01
.2000	2.721	2.756	4498.80	-1.481E-01	5.435E-01	1.518E-03	3.070E-02	3.222E-02
.4000	5.442	5.477	2263.69	-3.282E-02	1.867E-01	1.483E-04	7.201E-03	7.349E-03
.6000	8.164	8.198	1512.33	-1.070E-02	1.029E-01	2.357E-05	3.271E-03	3.295E-03
.8000	10.885	10.920	1135.45	-3.471E-03	6.886E-02	3.306E-06	1.952E-03	1.955E-03
1.0000	13.606	13.641	908.94	-5.326E-04	5.109E-02	9.728E-08	1.342E-03	1.343E-03
1.5000	20.409	20.444	606.48	1.576E-03	3.031E-02	1.276E-06	7.083E-04	7.096E-04
2.0000	27.212	27.247	455.05	1.849E-03	2.097E-02	2.343E-06	4.517E-04	4.541E-04
2.5000	34.015	34.050	364.13	1.700E-03	1.569E-02	2.473E-06	3.159E-04	3.184E-04
3.0000	40.818	40.853	303.50	1.503E-03	1.216E-02	2.319E-06	2.276E-04	2.300E-04

K I 4F EO= 6.2521E-02 (RYD) N*= 3.9993 MU= .0007

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.851	14575.33	6.627E+00	2.491E+01	1.006E+00	1.896E+01	1.997E+01
.0013	.017	.868	14289.64	6.382E+00	2.376E+01	9.517E-01	1.759E+01	1.854E+01
.0200	.272	1.123	11042.83	3.884E+00	1.269E+01	4.562E-01	6.492E+00	6.948E+00
.0800	1.088	1.939	6393.91	1.294E+00	3.156E+00	8.748E-02	6.934E-01	7.809E-01
.2000	2.721	3.572	3471.22	3.337E-01	6.065E-01	1.071E-02	4.718E-02	5.789E-02
.4000	5.442	6.293	1970.22	7.985E-02	1.228E-01	1.081E-03	3.410E-03	4.490E-03

K I 5F EO= 4.0017E-02 (RYD) N*= 4.9989 MU= .0011

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.544	22771.85	1.429E+01	4.546E+01	2.995E+00	4.040E+01	4.340E+01
.0200	.272	.817	15183.42	6.635E+00	1.914E+01	9.683E-01	1.074E+01	1.171E+01
.0300	.408	.953	13014.90	4.924E+00	1.357E+01	6.221E-01	6.298E+00	6.920E+00
.0800	1.088	1.633	7592.80	1.676E+00	3.814E+00	1.236E-01	8.531E-01	9.766E-01
.1000	1.361	1.905	6508.25	1.216E+00	2.605E+00	7.585E-02	4.641E-01	5.400E-01
.2000	2.721	3.266	3796.68	3.687E-01	6.465E-01	1.196E-02	4.901E-02	6.096E-02
.4000	5.442	5.987	2070.98	8.178E-02	1.232E-01	1.078E-03	3.261E-03	4.339E-03

K I 6F EO= 2.7790E-02 (RYD) N*= 5.9987 MU= .0013

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.378	32791.21	2.408E+01	6.752E+01	5.906E+00	6.190E+01	6.780E+01
.0300	.408	.786	15768.61	6.068E+00	1.554E+01	7.797E-01	6.819E+00	7.599E+00
.0800	1.088	1.467	8454.10	1.761E+00	3.840E+00	1.225E-01	7.766E-01	8.991E-01
.1000	1.361	1.739	7130.98	1.238E+00	2.559E+00	7.182E-02	4.087E-01	4.806E-01
.2000	2.721	3.099	4000.47	3.482E-01	5.980E-01	1.012E-02	3.979E-02	4.991E-02
.4000	5.442	5.820	2130.18	7.376E-02	1.098E-01	8.529E-04	2.518E-03	3.371E-03

K I 8F EO= 1.5631E-02 (RYD) N*= 7.9984 MU= .0016

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.213	58298.24	4.992E+01	1.169E+02	1.427E+01	1.044E+02	1.187E+02
.0013	.017	.230	53981.42	4.346E+01	1.024E+02	1.169E+01	8.644E+01	9.813E+01
.0025	.034	.247	50259.83	3.820E+01	9.039E+01	9.694E+00	7.237E+01	8.206E+01
.0200	.272	.485	25575.04	1.096E+01	2.615E+01	1.568E+00	1.191E+01	1.347E+01
.0300	.408	.621	19970.31	6.848E+00	1.608E+01	7.842E-01	5.765E+00	6.550E+00
.0600	.816	1.029	12048.84	2.557E+00	5.593E+00	1.812E-01	1.156E+00	1.337E+00
.0800	1.088	1.301	9528.99	1.596E+00	3.322E+00	8.927E-02	5.156E-01	6.049E-01
.2000	2.721	2.934	4226.05	2.786E-01	4.680E-01	6.131E-03	2.308E-02	2.921E-02
.4000	5.442	5.655	2192.49	5.614E-02	8.248E-02	4.801E-04	1.381E-03	1.861E-03

K I 10F EO= 1.0003E-02 (RYD) N*= 9.9983 MU= .0017

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.136	91095.96	8.380E+01	1.735E+02	2.574E+01	1.472E+02	1.729E+02
.0025	.034	.170	72881.70	5.632E+01	1.197E+02	1.453E+01	8.757E+01	1.021E+02
.0050	.068	.204	60737.49	4.057E+01	8.788E+01	9.051E+00	5.860E+01	6.566E+01
.0200	.272	.408	30372.17	1.133E+01	2.550E+01	1.411E+00	9.534E+00	1.095E+01
.0300	.408	.544	22779.77	6.576E+00	1.474E+01	6.339E-01	4.244E+00	4.878E+00
.0600	.816	.952	13017.48	2.218E+00	4.713E+00	1.262E-01	7.596E-01	8.858E-01
.0800	1.088	1.225	10124.82	1.341E+00	2.728E+00	5.935E-02	3.271E-01	3.865E-01
.2000	2.721	2.857	4339.30	2.192E-01	3.644E-01	3.697E-03	1.363E-02	1.732E-02
.4000	5.442	5.578	2222.59	4.309E-02	6.301E-02	2.789E-04	7.952E-04	1.074E-03

K I 12F EO= 6.9465E-03 (RYD) N*= 11.9982 MU= .0018

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.095	131184.12	1.254E+02	2.372E+02	4.005E+01	1.910E+02	2.310E+02
.0025	.034	.129	96466.39	7.288E+01	1.438E+02	1.838E+01	9.545E+01	1.138E+02
.0100	.136	.231	53773.28	2.543E+01	5.362E+01	4.016E+00	2.381E+01	2.782E+01
.0200	.272	.367	33817.69	1.079E+01	2.345E+01	1.151E+00	7.241E+00	8.391E+00
.0300	.408	.503	24664.54	5.953E+00	1.298E+01	4.797E-01	3.039E+00	3.519E+00
.0500	.680	.775	16002.18	2.586E+00	5.502E+00	1.396E-01	8.424E-01	9.819E-01
.0600	.816	.911	13611.89	1.882E+00	3.931E+00	8.686E-02	5.055E-01	5.923E-01
.1000	1.361	1.455	8520.78	7.315E-01	1.410E+00	2.097E-02	1.038E-01	1.248E-01
.2000	2.721	2.816	4403.40	1.755E-01	2.901E-01	2.336E-03	8.511E-03	1.085E-02

K I 16F EO= 3.9071E-03 (RYD) N*= 15.9982 MU= .0018

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.053	233231.71	2.309E+02	3.851E+02	7.635E+01	2.832E+02	3.595E+02
.0025	.034	.087	142227.03	9.728E+01	1.747E+02	2.222E+01	9.558E+01	1.178E+02
.0050	.068	.121	102307.62	5.425E+01	1.021E+02	9.605E+00	4.538E+01	5.499E+01
.0100	.136	.189	65525.20	2.433E+01	4.845E+01	3.016E+00	1.595E+01	1.897E+01
.0200	.272	.325	38116.98	8.974E+00	1.876E+01	7.054E-01	4.111E+00	4.817E+00
.0400	.544	.597	20754.44	2.839E+00	5.988E+00	1.297E-01	7.692E-01	8.989E-01
.0500	.680	.733	16904.40	1.910E+00	3.982E+00	7.207E-02	4.175E-01	4.896E-01
.1000	1.361	1.414	8770.02	5.141E-01	9.798E-01	1.006E-02	4.873E-02	5.879E-02
.2000	2.721	2.774	4469.03	1.203E-01	1.976E-01	1.081E-03	3.888E-03	4.969E-03

K I 20F EO= 2.5005E-03 (RYD) N*= 19.9982 MU= .0018

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.034	364439.98	3.652E+02	5.596E+02	1.222E+02	3.826E+02	5.048E+02
.0013	.017	.051	242974.91	1.811E+02	2.948E+02	4.507E+01	1.593E+02	2.044E+02
.0025	.034	.068	182236.78	1.096E+02	1.862E+02	2.199E+01	8.473E+01	1.067E+02
.0050	.068	.102	121494.92	5.349E+01	9.657E+01	7.864E+00	3.417E+01	4.204E+01
.0100	.136	.170	72898.74	2.140E+01	4.138E+01	2.098E+00	1.046E+01	1.256E+01
.0200	.272	.306	40499.96	7.265E+00	1.490E+01	4.352E-01	2.442E+00	2.877E+00
.0300	.408	.442	28038.61	3.647E+00	7.608E+00	1.584E-01	9.192E-01	1.078E+00
.0400	.544	.578	21441.36	2.187E+00	4.558E+00	7.446E-02	4.314E-01	5.058E-01
.0800	1.088	1.122	11045.61	5.922E-01	1.166E+00	1.060E-02	5.483E-02	6.543E-02
.1000	1.361	1.395	8890.38	3.803E-01	7.227E-01	5.433E-03	2.615E-02	3.159E-02
.2000	2.721	2.755	4500.08	8.785E-02	1.444E-01	5.727E-04	2.063E-03	2.636E-03

CA II 4S EO= 8.6848E-01 (RYD) N*= 2.1461 MU= 1.8539

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.816	1049.27	.000	5.164E-01	.000	1.980E-01	1.980E-01
.1000	1.361	13.177	940.93	.000	5.053E-01	.000	2.114E-01	2.114E-01
.2000	2.721	14.538	852.87	.000	4.846E-01	.000	2.146E-01	2.146E-01
.4000	5.442	17.259	718.40	.000	4.352E-01	.000	2.054E-01	2.054E-01
1.0000	13.606	25.422	487.71	.000	3.102E-01	.000	1.538E-01	1.538E-01
2.0000	27.212	39.028	317.68	.000	1.976E-01	.000	9.579E-02	9.579E-02

CA II 5S EO= 3.9738E-01 (RYD) N*= 3.1728 MU= 1.8272

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.406	2293.33	.000	7.977E-01	.000	2.162E-01	2.162E-01
.0600	.816	6.223	1992.47	.000	7.686E-01	.000	2.310E-01	2.310E-01
.0800	1.088	6.495	1908.99	.000	7.539E-01	.000	2.320E-01	2.320E-01
.1000	1.361	6.767	1832.23	.000	7.380E-01	.000	2.316E-01	2.316E-01
1.0000	13.606	19.012	652.14	.000	2.767E-01	.000	9.150E-02	9.150E-02
3.0000	40.818	46.224	268.23	.000	9.504E-02	.000	2.624E-02	2.624E-02

CA II 6S EO= 2.2880E-01 (RYD) N*= 4.1812 MU= 1.8188

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.113	3982.81	.000	1.064E+00	.000	2.214E-01	2.214E-01
.0400	.544	3.657	3390.13	.000	1.020E+00	.000	2.393E-01	2.393E-01
.0600	.816	3.929	3155.36	.000	9.858E-01	.000	2.399E-01	2.399E-01
.0800	1.088	4.202	2951.00	.000	9.482E-01	.000	2.374E-01	2.374E-01
.6000	8.164	11.277	1099.50	.000	3.657E-01	.000	9.476E-02	9.476E-02
1.0000	13.606	16.719	741.59	.000	2.282E-01	.000	5.471E-02	5.471E-02
4.0000	54.424	57.537	215.49	.000	4.863E-02	.000	8.552E-03	8.552E-03

CA II 8S EO= 1.0449E-01 (RYD) N*= 6.1872 MU= 1.8128

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.422	8721.03	.000	1.527E+00	.000	2.082E-01	2.082E-01
.0200	.272	1.694	7319.96	.000	1.478E+00	.000	2.327E-01	2.327E-01
.0400	.544	1.966	6306.75	.000	1.376E+00	.000	2.337E-01	2.337E-01
.0600	.816	2.238	5539.93	.000	1.263E+00	.000	2.244E-01	2.244E-01
.4000	5.442	6.864	1806.31	.000	4.046E-01	.000	7.062E-02	7.062E-02
1.0000	13.606	15.028	825.06	.000	1.529E-01	.000	2.207E-02	2.207E-02
2.0000	27.212	28.634	433.01	.000	6.660E-02	.000	7.981E-03	7.981E-03
4.0000	54.424	55.845	222.02	.000	2.834E-02	.000	2.819E-03	2.819E-03

CA II 10S EO= 5.9645E-02 (RYD) N*= 8.1892 MU= 1.8108

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.812	15278.25	.000	1.891E+00	.000	1.824E-01	1.824E-01
.0200	.272	1.084	11441.65	.000	1.792E+00	.000	2.187E-01	2.187E-01
.0400	.544	1.356	9145.17	.000	1.566E+00	.000	2.088E-01	2.088E-01
.2000	2.721	3.533	3509.67	.000	6.157E-01	.000	8.417E-02	8.417E-02
.6000	8.164	8.975	1381.45	.000	1.988E-01	.000	2.230E-02	2.230E-02
1.0000	13.606	14.417	859.97	.000	1.081E-01	.000	1.058E-02	1.058E-02
2.0000	27.212	28.023	442.44	.000	4.541E-02	.000	3.631E-03	3.631E-03

CA II 12S EO= 3.8521E-02 (RYD) N*= 10.1902 MU= 1.8098

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.524	23656.66	.000	2.157E+00	.000	1.533E-01	1.533E-01
.0200	.272	.796	15571.75	.000	1.995E+00	.000	1.992E-01	1.992E-01
.0400	.544	1.068	11605.47	.000	1.623E+00	.000	1.769E-01	1.769E-01
.2000	2.721	3.245	3820.50	.000	5.128E-01	.000	5.363E-02	5.363E-02
.8000	10.885	11.409	1086.76	.000	1.067E-01	.000	8.160E-03	8.160E-03
1.0000	13.606	14.130	877.47	.000	8.069E-02	.000	5.781E-03	5.781E-03
4.0000	54.424	54.948	225.64	.000	1.377E-02	.000	6.547E-04	6.547E-04

CA II 16S EO= 1.9862E-02 (RYD) N*= 14.1911 MU= 1.8089

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.270	45879.32	.000	2.395E+00	.000	9.741E-02	9.741E-02
.0200	.272	.542	22860.40	.000	2.134E+00	.000	1.553E-01	1.553E-01
.0400	.544	.814	15222.74	.000	1.515E+00	.000	1.175E-01	1.175E-01
.0600	.816	1.087	11410.49	.000	1.137E+00	.000	8.833E-02	8.833E-02
.2000	2.721	2.991	4144.72	.000	3.591E-01	.000	2.423E-02	2.423E-02
.4000	5.442	5.713	2170.40	.000	1.606E-01	.000	9.260E-03	9.260E-03
.8000	10.885	11.155	1111.49	.000	6.758E-02	.000	3.202E-03	3.202E-03
1.0000	13.606	13.876	893.52	.000	5.072E-02	.000	2.243E-03	2.243E-03
2.0000	27.212	27.482	451.15	.000	2.060E-02	.000	7.330E-04	7.330E-04

CA II 20S EO= 1.2087E-02 (RYD) N*= 18.1914 MU= 1.8086

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.164	75391.09	.000	2.243E+00	.000	5.200E-02	5.200E-02
.0200	.272	.437	28399.72	.000	2.051E+00	.000	1.154E-01	1.154E-01
.0400	.544	.709	17495.04	.000	1.308E+00	.000	7.621E-02	7.621E-02
.2000	2.721	2.886	4296.67	.000	2.633E-01	.000	1.257E-02	1.257E-02
.4000	5.442	5.607	2211.35	.000	1.144E-01	.000	4.610E-03	4.610E-03
1.0000	13.606	13.770	900.38	.000	3.544E-02	.000	1.087E-03	1.087E-03
2.0000	27.212	27.376	452.90	.000	1.429E-02	.000	3.515E-04	3.515E-04

CA II 4P EO= 6.4485E-01 (RYD) N*= 2.4906 MU= 1.5094

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.774	1413.14	1.800E+00	-2.657E+00	5.957E-01	2.596E+00	3.191E+00
.2000	2.721	11.495	1078.61	1.171E+00	-1.391E+00	3.301E-01	9.323E-01	1.262E+00
.4000	5.442	14.216	872.15	8.364E-01	-7.929E-01	2.083E-01	3.744E-01	5.827E-01
.8000	10.885	19.659	630.70	5.021E-01	-2.812E-01	1.038E-01	6.513E-02	1.690E-01
1.0000	13.606	22.380	554.01	4.098E-01	-1.632E-01	7.873E-02	2.498E-02	1.037E-01
2.0000	27.212	35.986	344.54	1.955E-01	4.312E-02	2.882E-02	2.803E-03	3.163E-02
3.0000	40.818	49.592	250.01	1.190E-01	7.763E-02	1.471E-02	1.252E-02	2.723E-02
4.0000	54.424	63.197	196.19	8.176E-02	7.995E-02	8.849E-03	1.692E-02	2.577E-02
5.0000	68.030	76.803	161.43	6.042E-02	7.455E-02	5.873E-03	1.788E-02	2.375E-02
6.0000	81.635	90.409	137.14	4.687E-02	6.753E-02	4.159E-03	1.727E-02	2.143E-02

CA II 5P EO= 3.2285E-01 (RYD) N*= 3.5199 MU= 1.4801

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.393	2822.55	3.545E+00	-5.170E+00	1.156E+00	4.918E+00	6.075E+00
.0400	.544	4.937	2511.40	2.928E+00	-4.095E+00	8.867E-01	3.468E+00	4.354E+00
.4000	5.442	9.835	1260.65	9.522E-01	-9.029E-01	1.868E-01	3.359E-01	5.227E-01
.8000	10.885	15.277	811.56	4.668E-01	-2.676E-01	6.972E-02	4.583E-02	1.155E-01
1.0000	13.606	17.999	688.87	3.585E-01	-1.493E-01	4.845E-02	1.682E-02	6.527E-02
2.0000	27.212	31.605	392.31	1.459E-01	2.731E-02	1.410E-02	9.872E-04	1.509E-02
3.0000	40.818	45.210	274.24	8.295E-02	5.087E-02	6.517E-03	4.902E-03	1.142E-02

CA II 6P EO= 1.9489E-01 (RYD) N*= 4.5304 MU= 1.4696

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.652	4675.92	5.794E+00	-8.312E+00	1.864E+00	7.674E+00	9.538E+00
.0800	1.088	3.740	3315.09	3.285E+00	-4.345E+00	8.457E-01	2.959E+00	3.804E+00
.4000	5.442	8.094	1531.84	9.227E-01	-8.689E-01	1.443E-01	2.560E-01	4.003E-01
.6000	8.164	10.815	1146.41	5.738E-01	-4.284E-01	7.459E-02	8.316E-02	1.578E-01
.8000	10.885	13.536	915.95	3.977E-01	-2.286E-01	4.484E-02	2.963E-02	7.448E-02
1.0000	13.606	16.258	762.64	2.952E-01	-1.242E-01	2.967E-02	1.051E-02	4.018E-02
2.0000	27.212	29.863	415.18	1.107E-01	1.938E-02	7.670E-03	4.700E-04	8.140E-03
3.0000	40.818	43.469	285.23	6.095E-02	3.646E-02	3.383E-03	2.421E-03	5.804E-03
4.0000	54.424	57.075	217.23	3.966E-02	3.653E-02	1.880E-03	3.191E-03	5.071E-03
5.0000	68.030	70.681	175.42	2.832E-02	3.334E-02	1.188E-03	3.292E-03	4.480E-03
6.0000	81.635	84.287	147.10	2.146E-02	2.974E-02	8.133E-04	3.124E-03	3.937E-03

CA II 8P EO= 9.3565E-02 (RYD) N*= 6.5384 MU= 1.4616

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.273	9739.41	1.171E+01	-1.635E+01	3.654E+00	1.426E+01	1.791E+01
.0200	.272	1.545	8024.20	8.489E+00	-1.165E+01	2.332E+00	8.787E+00	1.112E+01
.0800	1.088	2.362	5250.30	4.201E+00	-5.448E+00	8.729E-01	2.936E+00	3.809E+00
.2000	2.721	3.994	3104.14	1.757E+00	-2.022E+00	2.584E-01	6.838E-01	9.422E-01
.4000	5.442	6.715	1846.30	7.430E-01	-6.927E-01	7.765E-02	1.350E-01	2.126E-01
.6000	8.164	9.437	1313.89	4.234E-01	-3.143E-01	3.543E-02	3.905E-02	7.448E-02
1.0000	13.606	14.879	833.30	2.002E-01	-8.463E-02	1.249E-02	4.464E-03	1.695E-02
2.0000	27.212	28.485	435.27	6.966E-02	1.156E-02	2.895E-03	1.596E-04	3.055E-03
3.0000	40.818	42.091	294.57	3.729E-02	2.187E-02	1.226E-03	8.438E-04	2.070E-03
4.0000	54.424	55.697	222.61	2.391E-02	2.173E-02	6.671E-04	1.102E-03	1.769E-03
5.0000	68.030	69.303	178.91	1.693E-02	1.972E-02	4.160E-04	1.129E-03	1.545E-03
6.0000	81.635	82.909	149.55	1.275E-02	1.752E-02	2.825E-04	1.066E-03	1.348E-03

CA II 10P EO= 5.4828E-02 (RYD) N*= 8.5414 MU= 1.4586

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.746	16620.50	1.941E+01	-2.659E+01	5.885E+00	2.210E+01	2.798E+01
.0400	.544	1.290	9609.70	7.807E+00	-1.037E+01	1.647E+00	5.817E+00	7.464E+00
.0800	1.088	1.834	6758.75	4.349E+00	-5.576E+00	7.268E-01	2.389E+00	3.116E+00
.2000	2.721	3.467	3576.01	1.509E+00	-1.722E+00	1.654E-01	4.307E-01	5.960E-01
.4000	5.442	6.188	2003.54	5.760E-01	-5.342E-01	4.300E-02	7.399E-02	1.170E-01
.6000	8.164	8.910	1391.61	3.147E-01	-2.329E-01	1.848E-02	2.024E-02	3.872E-02
.8000	10.885	11.631	1066.02	2.025E-01	-1.161E-01	9.993E-03	6.568E-03	1.656E-02
1.0000	13.606	14.352	863.90	1.432E-01	-6.062E-02	6.168E-03	2.209E-03	8.378E-03
2.0000	27.212	27.958	443.48	4.830E-02	7.858E-03	1.366E-03	7.232E-05	1.439E-03
3.0000	40.818	41.564	298.30	2.556E-02	1.489E-02	5.689E-04	3.859E-04	9.548E-04
4.0000	54.424	55.170	224.74	1.630E-02	1.472E-02	3.070E-04	5.010E-04	8.080E-04
5.0000	68.030	68.776	180.28	1.150E-02	1.333E-02	1.905E-04	5.123E-04	7.028E-04
6.0000	81.635	82.381	150.50	8.642E-03	1.183E-02	1.289E-04	4.832E-04	6.121E-04

CA II 12P EO= 3.5987E-02 (RYD) N*= 10.5428 MU= 1.4572

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.490	25322.13	2.881E+01	-3.891E+01	8.512E+00	3.106E+01	3.957E+01
.0200	.272	.762	16276.41	1.381E+01	-1.846E+01	3.043E+00	1.087E+01	1.391E+01
.0400	.544	1.034	11992.42	8.308E+00	-1.094E+01	1.495E+00	5.186E+00	6.681E+00
.0600	.816	1.306	9493.66	5.631E+00	-7.296E+00	8.675E-01	2.913E+00	3.780E+00
.2000	2.721	3.211	3861.52	1.259E+00	-1.430E+00	1.066E-01	2.752E-01	3.818E-01
.4000	5.442	5.932	2090.13	4.531E-01	-4.190E-01	2.551E-02	4.363E-02	6.914E-02
.8000	10.885	11.374	1090.05	1.538E-01	-8.812E-02	5.638E-03	3.700E-03	9.339E-03
1.0000	13.606	14.096	879.61	1.080E-01	-4.571E-02	3.443E-03	1.234E-03	4.677E-03
2.0000	27.212	27.701	447.58	3.583E-02	5.767E-03	7.449E-04	3.860E-05	7.835E-04
3.0000	40.818	41.307	300.16	1.886E-02	1.094E-02	3.077E-04	2.071E-04	5.148E-04
4.0000	54.424	54.913	225.79	1.199E-02	1.082E-02	1.653E-04	2.691E-04	4.344E-04
5.0000	68.030	68.519	180.95	8.448E-03	9.776E-03	1.024E-04	2.743E-04	3.768E-04
6.0000	81.635	82.125	150.97	6.338E-03	8.665E-03	6.911E-05	2.583E-04	3.274E-04

CA II 16P EO= 1.8910E-02 (RYD) N*= 14.5441 MU= 1.4559

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.257	48190.40	5.247E+01	-6.948E+01	1.484E+01	5.204E+01	6.688E+01
.0200	.272	.529	23420.05	1.578E+01	-2.083E+01	2.762E+00	9.624E+00	1.239E+01
.0400	.544	.802	15468.88	7.910E+00	-1.032E+01	1.050E+00	3.574E+00	4.624E+00
.0600	.816	1.074	11548.23	4.860E+00	-6.245E+00	5.312E-01	1.754E+00	2.285E+00
.1000	1.361	1.618	7663.53	2.453E+00	-3.047E+00	2.040E-01	6.293E-01	8.333E-01
.2000	2.721	2.978	4162.76	8.864E-01	-1.002E+00	4.902E-02	1.254E-01	1.744E-01
.4000	5.442	5.700	2175.33	3.004E-01	-2.770E-01	1.077E-02	1.832E-02	2.909E-02
.6000	8.164	8.421	1472.38	1.569E-01	-1.157E-01	4.342E-03	4.721E-03	9.063E-03
1.0000	13.606	13.863	894.36	6.872E-02	-2.909E-02	1.371E-03	4.916E-04	1.863E-03
2.0000	27.212	27.469	451.37	2.247E-02	3.592E-03	2.905E-04	1.484E-05	3.053E-04
3.0000	40.818	41.075	301.85	1.176E-02	6.799E-03	1.191E-04	7.954E-05	1.986E-04
4.0000	54.424	54.681	226.75	7.460E-03	6.708E-03	6.374E-05	1.031E-04	1.668E-04
5.0000	68.030	68.287	181.57	5.246E-03	6.065E-03	3.937E-05	1.052E-04	1.446E-04
6.0000	81.635	81.893	151.40	3.936E-03	5.368E-03	2.658E-05	9.884E-05	1.254E-04

CA II 20P EO= 1.1631E-02 (RYD) N*= 18.5447 MU= 1.4553

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.158	78347.30	8.235E+01	-1.076E+02	2.248E+01	7.675E+01	9.923E+01
.0200	.272	.430	28809.21	1.555E+01	-2.039E+01	2.181E+00	7.499E+00	9.681E+00
.0400	.544	.702	17649.58	6.877E+00	-8.924E+00	6.958E-01	2.344E+00	3.040E+00
.0800	1.088	1.247	9944.96	2.641E+00	-3.326E+00	1.821E-01	5.778E-01	7.599E-01
.2000	2.721	2.879	4305.93	6.532E-01	-7.372E-01	2.574E-02	6.555E-02	9.129E-02
.4000	5.442	5.601	2213.80	2.152E-01	-1.983E-01	5.434E-03	9.222E-03	1.466E-02
.6000	8.164	8.322	1489.90	1.114E-01	-8.203E-02	2.163E-03	2.346E-03	4.509E-03
.8000	10.885	11.043	1122.76	6.952E-02	-3.974E-02	1.118E-03	7.307E-04	1.849E-03
1.0000	13.606	13.764	900.79	4.843E-02	-2.048E-02	6.763E-04	2.418E-04	9.181E-04
2.0000	27.212	27.370	453.00	1.570E-02	2.516E-03	1.413E-04	7.258E-06	1.486E-04
3.0000	40.818	40.976	302.58	8.220E-03	4.735E-03	5.799E-05	3.848E-05	9.647E-05
4.0000	54.424	54.582	227.16	5.197E-03	4.674E-03	3.087E-05	4.995E-05	8.083E-05
5.0000	68.030	68.188	181.83	3.643E-03	4.206E-03	1.895E-05	5.054E-05	6.950E-05
6.0000	81.635	81.794	151.58	2.746E-03	3.717E-03	1.292E-05	4.734E-05	6.026E-05

CA II 3D EO= 7.4787E-01 (RYD) N*= 2.3127 MU= .6873

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.176	1218.48	3.558E-01	4.368E+00	3.238E-02	7.319E+00	7.352E+00
1.0000	13.606	23.781	521.36	1.922E-01	1.657E+00	2.209E-02	2.462E+00	2.484E+00
3.0000	40.818	50.993	243.14	8.565E-02	5.729E-01	9.403E-03	6.310E-01	6.404E-01

CA II 4D EO= 3.5542E-01 (RYD) N*= 3.3548 MU= .6452

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.836	2563.94	2.028E-01	2.542E+00	5.001E-03	1.178E+00	1.183E+00
.0800	1.088	5.924	2092.86	2.147E-01	2.559E+00	6.666E-03	1.462E+00	1.469E+00
.1000	1.361	6.196	2000.95	2.152E-01	2.524E+00	7.210E-03	1.488E+00	1.496E+00
.2000	2.721	7.557	1640.69	2.096E-01	2.281E+00	8.345E-03	1.482E+00	1.490E+00
.4000	5.442	10.278	1206.31	1.848E-01	1.786E+00	8.819E-03	1.236E+00	1.245E+00
.6000	8.164	12.999	953.79	1.595E-01	1.418E+00	8.317E-03	9.856E-01	9.939E-01
1.0000	13.606	18.442	672.32	1.209E-01	9.609E-01	6.773E-03	6.420E-01	6.488E-01
4.0000	54.424	59.259	209.23	3.300E-02	1.937E-01	1.622E-03	8.379E-02	8.541E-02

CA II 5D EO= 2.1046E-01 (RYD) N*= 4.3596 MU= .6404

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.863	4329.95	1.126E-03	1.141E+00	9.120E-08	1.407E-01	1.407E-01
.0200	.272	3.136	3954.18	4.733E-02	1.503E+00	1.766E-04	2.671E-01	2.673E-01
.0600	.816	3.680	3369.37	1.062E-01	1.864E+00	1.044E-03	4.819E-01	4.829E-01
.1000	1.361	4.224	2935.25	1.381E-01	1.974E+00	2.024E-03	6.205E-01	6.226E-01
.2000	2.721	5.585	2220.13	1.644E-01	1.873E+00	3.795E-03	7.384E-01	7.422E-01
.4000	5.442	8.306	1492.76	1.523E-01	1.435E+00	4.843E-03	6.445E-01	6.493E-01
.6000	8.164	11.027	1124.39	1.293E-01	1.103E+00	4.631E-03	5.056E-01	5.103E-01
1.0000	13.606	16.469	752.83	9.381E-02	7.140E-01	3.643E-03	3.166E-01	3.202E-01
3.0000	40.818	43.681	283.84	3.274E-02	1.992E-01	1.177E-03	6.534E-02	6.652E-02
4.0000	54.424	57.287	216.43	2.305E-02	1.322E-01	7.654E-04	3.773E-02	3.850E-02

CA II 6D EO= 1.3916E-01 (RYD) N*= 5.3614 MU= .6386

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.893	6548.44	-3.587E-01	-6.634E-01	6.124E-03	3.142E-02	3.754E-02
.0200	.272	2.165	5725.55	-2.047E-01	3.082E-01	2.280E-03	7.758E-03	1.004E-02
.0400	.544	2.438	5086.39	-1.016E-01	8.788E-01	6.322E-04	7.097E-02	7.161E-02
.0600	.816	2.710	4575.60	-3.090E-02	1.218E+00	6.504E-05	1.515E-01	1.516E-01
.0800	1.088	2.982	4158.04	1.845E-02	1.417E+00	2.552E-05	2.258E-01	2.258E-01
.1000	1.361	3.254	3810.32	5.335E-02	1.530E+00	2.328E-04	2.871E-01	2.873E-01
.2000	2.721	4.615	2686.85	1.238E-01	1.581E+00	1.777E-03	4.238E-01	4.256E-01
.4000	5.442	7.336	1690.17	1.257E-01	1.176E+00	2.914E-03	3.824E-01	3.853E-01
.6000	8.164	10.057	1232.85	1.058E-01	8.831E-01	2.830E-03	2.957E-01	2.985E-01
1.0000	13.606	15.499	799.95	7.472E-02	5.552E-01	2.175E-03	1.801E-01	1.823E-01
2.0000	27.212	29.105	425.99	3.912E-02	2.536E-01	1.119E-03	7.058E-02	7.170E-02
3.0000	40.818	42.711	290.29	2.475E-02	1.484E-01	6.578E-04	3.548E-02	3.614E-02

CA II 8D EO= 7.3788E-02 (RYD) N*= 7.3627 MU= .6373

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.004	12349.87	-1.617E+00	-5.551E+00	6.598E-02	1.166E+00	1.232E+00
.0200	.272	1.276	9716.29	-8.942E-01	-2.166E+00	2.565E-02	2.257E-01	2.514E-01
.0400	.544	1.548	8008.49	-5.158E-01	-5.807E-01	1.035E-02	1.969E-02	3.004E-02
.0600	.816	1.820	6811.30	-2.990E-01	2.326E-01	4.090E-03	3.714E-03	7.803E-03
.0800	1.088	2.092	5925.49	-1.667E-01	6.711E-01	1.461E-03	3.553E-02	3.699E-02
.1000	1.361	2.365	5243.57	-8.219E-02	9.116E-01	4.015E-04	7.409E-02	7.449E-02
.2000	2.721	3.725	3328.37	6.739E-02	1.120E+00	4.252E-04	1.762E-01	1.766E-01
.4000	5.442	6.446	1923.37	8.795E-02	8.253E-01	1.253E-03	1.656E-01	1.668E-01
.6000	8.164	9.167	1352.46	7.364E-02	6.023E-01	1.250E-03	1.254E-01	1.267E-01
.8000	10.885	11.889	1042.89	6.054E-02	4.608E-01	1.095E-03	9.517E-02	9.627E-02
1.0000	13.606	14.610	848.65	5.051E-02	3.664E-01	9.369E-04	7.396E-02	7.490E-02
3.0000	40.818	41.822	296.46	1.586E-02	9.383E-02	2.645E-04	1.388E-02	1.415E-02
4.0000	54.424	55.428	223.69	1.098E-02	6.153E-02	1.681E-04	7.911E-03	8.079E-03

CA II 10D EO= 4.5626E-02 (RYD) N*= 9.3632 MU= .6368

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.621	19972.75	-3.627E+00	-1.208E+01	2.053E-01	3.417E+00	3.622E+00
.0200	.272	.893	13885.87	-1.644E+00	-4.334E+00	6.063E-02	6.324E-01	6.931E-01
.0400	.544	1.165	10642.48	-8.567E-01	-1.558E+00	2.149E-02	1.066E-01	1.281E-01
.0600	.816	1.437	8627.34	-4.779E-01	-3.408E-01	8.251E-03	6.292E-03	1.454E-02
.0800	1.088	1.709	7253.84	-2.727E-01	2.534E-01	3.195E-03	4.139E-03	7.334E-03
.1000	1.361	1.981	6257.61	-1.525E-01	5.598E-01	1.158E-03	2.341E-02	2.457E-02
.2000	2.721	3.342	3709.99	3.770E-02	8.400E-01	1.194E-04	8.891E-02	8.903E-02
.4000	5.442	6.063	2044.92	6.467E-02	6.109E-01	6.374E-04	8.531E-02	8.594E-02
.6000	8.164	8.784	1411.45	5.414E-02	4.391E-01	6.471E-04	6.385E-02	6.450E-02
.8000	10.885	11.506	1077.63	4.417E-02	3.326E-01	5.643E-04	4.800E-02	4.856E-02
1.0000	13.606	14.227	871.50	3.661E-02	2.628E-01	4.794E-04	3.705E-02	3.752E-02
3.0000	40.818	41.439	299.21	1.122E-02	6.596E-02	1.311E-04	6.798E-03	6.929E-03
4.0000	54.424	55.044	225.25	7.738E-03	4.313E-02	8.285E-05	3.861E-03	3.944E-03

CA II 12D EO= 3.0977E-02 (RYD) N*= 11.3635 MU= .6365

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.421	29417.77	-6.400E+00	-2.018E+01	4.339E-01	6.473E+00	6.907E+00
.0200	.272	.694	17876.13	-2.292E+00	-5.957E+00	9.162E-02	9.279E-01	1.020E+00
.0400	.544	.966	12838.96	-1.070E+00	-2.098E+00	2.779E-02	1.603E-01	1.881E-01
.0600	.816	1.238	10016.49	-5.641E-01	-6.259E-01	9.901E-03	1.828E-02	2.818E-02
.0800	1.088	1.510	8211.34	-3.149E-01	3.655E-02	3.763E-03	7.604E-05	3.839E-03
.1000	1.361	1.782	6957.48	-1.779E-01	3.612E-01	1.417E-03	8.765E-03	1.018E-02
.2000	2.721	3.143	3945.28	2.232E-02	6.547E-01	3.934E-05	5.078E-02	5.082E-02
.4000	5.442	5.864	2114.42	4.974E-02	4.722E-01	3.646E-04	4.931E-02	4.967E-02
.6000	8.164	8.585	1444.22	4.166E-02	3.365E-01	3.746E-04	3.665E-02	3.702E-02
.8000	10.885	11.306	1096.62	3.386E-02	2.535E-01	3.258E-04	2.739E-02	2.772E-02
1.0000	13.606	14.027	883.89	2.797E-02	1.996E-01	2.758E-04	2.106E-02	2.134E-02
2.0000	27.212	27.633	448.68	1.371E-02	8.635E-02	1.306E-04	7.769E-03	7.899E-03
3.0000	40.818	41.239	300.65	8.452E-03	4.955E-02	7.405E-05	3.817E-03	3.891E-03

CA II 16D EO= 1.6946E-02 (RYD) N*= 15.3637 MU= .6363

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.231	53774.88	-1.423E+01	-4.087E+01	1.173E+00	1.452E+01	1.569E+01
.0200	.272	.503	24664.87	-3.084E+00	-7.610E+00	1.201E-01	1.098E+00	1.218E+00
.0400	.544	.775	16002.32	-1.197E+00	-2.386E+00	2.789E-02	1.663E-01	1.942E-01
.0600	.816	1.047	11842.96	-5.769E-01	-7.724E-01	8.759E-03	2.355E-02	3.231E-02
.0800	1.088	1.319	9399.75	-3.080E-01	-1.231E-01	3.146E-03	7.535E-04	3.900E-03
.1000	1.361	1.591	7792.21	-1.718E-01	1.746E-01	1.181E-03	1.828E-03	3.009E-03
.2000	2.721	2.952	4200.44	9.174E-03	4.342E-01	6.245E-06	2.098E-02	2.099E-02
.4000	5.442	5.673	2185.58	3.250E-02	3.105E-01	1.506E-04	2.062E-02	2.077E-02
.6000	8.164	8.394	1477.06	2.727E-02	2.192E-01	1.569E-04	1.521E-02	1.537E-02
.8000	10.885	11.115	1115.46	2.205E-02	1.642E-01	1.359E-04	1.131E-02	1.144E-02
1.0000	13.606	13.836	896.08	1.814E-02	1.288E-01	1.145E-04	8.656E-03	8.771E-03
2.0000	27.212	27.442	451.81	8.832E-03	5.532E-02	5.381E-05	3.166E-03	3.220E-03
4.0000	54.424	54.654	226.86	3.708E-03	2.064E-02	1.889E-05	8.781E-04	8.970E-04

CA II 20D EO= 1.0668E-02 (RYD) N*= 19.3638 MU= .6362

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.145	85421.81	-2.506E+01	-6.726E+01	2.291E+00	2.476E+01	2.705E+01
.0200	.272	.417	29714.10	-3.306E+00	-7.849E+00	1.146E-01	9.693E-01	1.084E+00
.0400	.544	.689	17985.13	-1.128E+00	-2.230E+00	2.204E-02	1.293E-01	1.513E-01
.0600	.816	.962	12895.08	-5.134E-01	-7.202E-01	6.369E-03	1.880E-02	2.517E-02
.0800	1.088	1.234	10050.62	-2.663E-01	-1.517E-01	2.199E-03	1.070E-03	3.269E-03
.1000	1.361	1.506	8234.26	-1.465E-01	9.934E-02	8.125E-04	5.603E-04	1.373E-03
.2000	2.721	2.866	4325.61	4.547E-03	3.130E-01	1.490E-06	1.058E-02	1.059E-02
.4000	5.442	5.588	2218.99	2.323E-02	2.228E-01	7.580E-05	1.046E-02	1.053E-02
.6000	8.164	8.309	1492.25	1.949E-02	1.566E-01	7.933E-05	7.685E-03	7.764E-03
.8000	10.885	11.030	1124.10	1.571E-02	1.171E-01	6.844E-05	5.699E-03	5.767E-03
1.0000	13.606	13.751	901.65	1.295E-02	9.166E-02	5.800E-05	4.356E-03	4.414E-03
3.0000	40.818	40.963	302.68	3.849E-03	2.240E-02	1.525E-05	7.750E-04	7.902E-04
4.0000	54.424	54.569	227.21	2.639E-03	1.459E-02	9.556E-06	4.378E-04	4.473E-04

CA II 4F EO= 2.5112E-01 (RYD) N*= 3.9910 MU= .0090

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.417	3628.76	1.164E+00	6.439E+00	1.246E-01	5.087E+00	5.212E+00
.0400	.544	3.961	3130.17	8.843E-01	4.541E+00	8.343E-02	2.933E+00	3.017E+00
.2000	2.721	6.138	2020.00	3.783E-01	1.571E+00	2.366E-02	5.438E-01	5.674E-01
.4000	5.442	8.859	1399.53	1.766E-01	6.299E-01	7.442E-03	1.262E-01	1.337E-01
.6000	8.164	11.580	1070.66	9.791E-02	3.211E-01	2.990E-03	4.286E-02	4.585E-02
1.0000	13.606	17.023	728.36	3.971E-02	1.221E-01	7.228E-04	9.120E-03	9.843E-03
2.0000	27.212	30.629	404.81	8.923E-03	2.921E-02	6.568E-05	9.385E-04	1.004E-03

CA II 5F EO= 1.6088E-01 (RYD) N*= 4.9863 MU= .0137

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.189	5664.26	2.385E+00	1.169E+01	3.352E-01	1.075E+01	1.108E+01
.0200	.272	2.461	5037.96	1.938E+00	9.202E+00	2.490E-01	7.483E+00	7.732E+00
.1000	1.361	3.550	3493.05	9.980E-01	4.232E+00	9.522E-02	2.283E+00	2.378E+00
.2000	2.721	4.910	2525.13	5.398E-01	2.057E+00	3.853E-02	7.458E-01	7.843E-01
.4000	5.442	7.631	1624.71	2.224E-01	7.385E-01	1.017E-02	1.495E-01	1.596E-01
.6000	8.164	10.352	1197.65	1.157E-01	3.560E-01	3.732E-03	4.710E-02	5.084E-02
1.0000	13.606	15.795	784.98	4.398E-02	1.280E-01	8.227E-04	9.290E-03	1.011E-02

CA II 6F EO= 1.1172E-01 (RYD) N*= 5.9836 MU= .0164

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.520	8156.69	3.823E+00	1.727E+01	5.983E-01	1.628E+01	1.688E+01
.0400	.544	2.064	6006.24	2.251E+00	9.654E+00	2.817E-01	6.909E+00	7.191E+00
.2000	2.721	4.241	2923.35	6.071E-01	2.197E+00	4.210E-02	7.348E-01	7.769E-01
.4000	5.442	6.962	1780.79	2.281E-01	7.264E-01	9.755E-03	1.319E-01	1.417E-01
.6000	8.164	9.684	1280.37	1.136E-01	3.372E-01	3.366E-03	3.953E-02	4.290E-02
1.0000	13.606	15.126	819.69	4.144E-02	1.170E-01	6.996E-04	7.430E-03	8.130E-03

CA II 8F EO= 6.2800E-02 (RYD) N*= 7.9809 MU= .0191

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.854	14510.73	7.261E+00	2.964E+01	1.213E+00	2.696E+01	2.817E+01
.0200	.272	1.127	11005.70	4.574E+00	1.841E+01	6.348E-01	1.371E+01	1.435E+01
.0400	.544	1.399	8864.51	3.172E+00	1.253E+01	3.791E-01	7.891E+00	8.271E+00
.1000	1.361	2.215	5597.48	1.430E+00	5.325E+00	1.220E-01	2.256E+00	2.378E+00
.2000	2.721	3.576	3467.54	5.997E-01	2.051E+00	3.463E-02	5.400E-01	5.746E-01
.4000	5.442	6.297	1969.03	2.000E-01	6.097E-01	6.780E-03	8.406E-02	9.084E-02
.6000	8.164	9.018	1374.88	9.467E-02	2.707E-01	2.177E-03	2.373E-02	2.591E-02
.8000	10.885	11.739	1056.18	5.309E-02	1.470E-01	8.911E-04	9.104E-03	9.995E-03
1.0000	13.606	14.460	857.42	3.297E-02	9.023E-02	4.234E-04	4.227E-03	4.650E-03

CA II 10F EO= 4.0164E-02 (RYD) N*= 9.9796 MU= .0204

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.546	22688.92	1.134E+01	4.370E+01	1.892E+00	3.747E+01	3.936E+01
.0200	.272	.819	15146.51	5.834E+00	2.239E+01	7.504E-01	1.474E+01	1.549E+01
.0400	.544	1.091	11367.61	3.618E+00	1.369E+01	3.844E-01	7.345E+00	7.729E+00
.1000	1.361	1.907	6501.46	1.391E+00	5.004E+00	9.944E-02	1.714E+00	1.814E+00
.2000	2.721	3.268	3794.36	5.290E-01	1.759E+00	2.463E-02	3.631E-01	3.877E-01
.4000	5.442	5.989	2070.29	1.648E-01	4.921E-01	4.382E-03	5.208E-02	5.647E-02
.8000	10.885	11.431	1084.63	4.199E-02	1.144E-01	5.428E-04	5.376E-03	5.919E-03
1.0000	13.606	14.152	876.08	2.585E-02	6.971E-02	2.546E-04	2.470E-03	2.724E-03

CA II 12F EO= 2.7876E-02 (RYD) N*= 11.9789 MU= .0211

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.379	32690.49	1.598E+01	5.944E+01	2.607E+00	4.812E+01	5.073E+01
.0200	.272	.651	19034.07	6.623E+00	2.473E+01	7.696E-01	1.431E+01	1.508E+01
.0400	.544	.924	13425.55	3.724E+00	1.376E+01	3.449E-01	6.275E+00	6.620E+00
.1000	1.361	1.740	7126.20	1.272E+00	4.482E+00	7.576E-02	1.255E+00	1.331E+00
.2000	2.721	3.100	3998.97	4.532E-01	1.484E+00	1.715E-02	2.451E-01	2.622E-01
.4000	5.442	5.822	2129.75	1.355E-01	4.000E-01	2.880E-03	3.344E-02	3.632E-02
.6000	8.164	8.543	1451.35	6.149E-02	1.711E-01	8.700E-04	8.984E-03	9.854E-03
.8000	10.885	11.264	1100.73	3.368E-02	9.109E-02	3.442E-04	3.356E-03	3.700E-03
1.0000	13.606	13.985	886.55	2.063E-02	5.525E-02	1.603E-04	1.533E-03	1.693E-03

CA II 16F EO= 1.5668E-02 (RYD) N*= 15.9782 MU= .0218

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.213	58162.51	2.672E+01	9.586E+01	4.100E+00	7.034E+01	7.444E+01
.0200	.272	.485	25548.89	7.114E+00	2.586E+01	6.614E-01	1.165E+01	1.231E+01
.0400	.544	.757	16369.80	3.441E+00	1.240E+01	2.415E-01	4.179E+00	4.421E+00
.0800	1.088	1.302	9525.35	1.392E+00	4.877E+00	6.790E-02	1.112E+00	1.180E+00
.1000	1.361	1.574	7878.33	1.005E+00	3.472E+00	4.284E-02	6.811E-01	7.239E-01
.2000	2.721	2.934	4225.33	3.327E-01	1.072E+00	8.749E-03	1.210E-01	1.298E-01
.4000	5.442	5.656	2192.30	9.516E-02	2.776E-01	1.379E-03	1.565E-02	1.703E-02
.6000	8.164	8.377	1480.13	4.244E-02	1.170E-01	4.064E-04	4.121E-03	4.527E-03

CA II 20F EO= 1.0022E-02 (RYD) N*= 19.9779 MU= .0221

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.136	90925.53	3.922E+01	1.386E+02	5.648E+00	9.409E+01	9.974E+01
.0200	.272	.408	30353.20	6.795E+00	2.441E+01	5.079E-01	8.740E+00	9.247E+00
.0400	.544	.681	18217.29	2.968E+00	1.057E+01	1.615E-01	2.731E+00	2.892E+00
.0600	.816	.953	13014.00	1.702E+00	5.988E+00	7.437E-02	1.226E+00	1.301E+00
.0800	1.088	1.225	10122.71	1.116E+00	3.871E+00	4.109E-02	6.591E-01	7.002E-01
.2000	2.721	2.858	4338.91	2.524E-01	8.067E-01	4.901E-03	6.677E-02	7.167E-02
.4000	5.442	5.579	2222.48	7.060E-02	2.048E-01	7.488E-04	8.403E-03	9.151E-03
.6000	8.164	8.300	1493.83	3.127E-02	8.579E-02	2.185E-04	2.193E-03	2.412E-03

SC III 4S EO= 1.5369E+00 (RYD) N*= 2.4199 MU= 1.5801

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	20.911	592.93	.000	4.562E-01	.000	2.735E-01	2.735E-01
1.0000	13.606	34.517	359.20	.000	2.838E-01	.000	1.747E-01	1.747E-01
3.0000	40.818	61.729	200.86	.000	1.457E-01	.000	8.231E-02	8.231E-02

SC III 5S EO= 7.5872E-01 (RYD) N*= 3.4441 MU= 1.5559

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.323	1201.05	.000	7.425E-01	.000	3.576E-01	3.576E-01
1.0000	13.606	23.929	518.14	.000	3.000E-01	.000	1.354E-01	1.354E-01
1.5000	20.409	30.732	403.44	.000	2.204E-01	.000	9.381E-02	9.381E-02
3.0000	40.818	51.141	242.44	.000	1.154E-01	.000	4.280E-02	4.280E-02

SC III 6S EO= 4.5401E-01 (RYD) N*= 4.4523 MU= 1.5477

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.177	2007.15	.000	1.066E+00	.000	4.413E-01	4.413E-01
1.0000	13.606	19.783	626.73	.000	2.803E-01	.000	9.766E-02	9.766E-02
2.0000	27.212	33.389	371.34	.000	1.418E-01	.000	4.220E-02	4.220E-02

SC III 8S EO= 2.1577E-01 (RYD) N*= 6.4584 MU= 1.5416

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.936	4223.35	.000	1.805E+00	.000	6.011E-01	6.011E-01
.6000	8.164	11.099	1117.07	.000	3.691E-01	.000	9.500E-02	9.500E-02
1.0000	13.606	16.542	749.54	.000	2.174E-01	.000	4.913E-02	4.913E-02
3.0000	40.818	43.753	283.37	.000	5.835E-02	.000	9.362E-03	9.362E-03

SC III 10S EO= 1.2573E-01 (RYD) N*= 8.4607 MU= 1.5393

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.711	7247.90	.000	2.654E+00	.000	7.571E-01	7.571E-01
.2000	2.721	4.432	2797.63	.000	8.605E-01	.000	2.062E-01	2.062E-01
.4000	5.442	7.153	1733.34	.000	4.616E-01	.000	9.578E-02	9.578E-02
.8000	10.885	12.595	984.38	.000	2.160E-01	.000	3.693E-02	3.693E-02
1.0000	13.606	15.317	809.49	.000	1.655E-01	.000	2.636E-02	2.636E-02
2.0000	27.212	28.922	428.68	.000	6.924E-02	.000	8.713E-03	8.713E-03
4.0000	54.424	56.134	220.87	.000	2.803E-02	.000	2.772E-03	2.772E-03

SC III 12S EO= 8.2231E-02 (RYD) N*= 10.4617 MU= 1.5383

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.119	11081.81	.000	3.605E+00	.000	9.135E-01	9.135E-01
.0800	1.088	2.207	5617.10	.000	1.615E+00	.000	3.617E-01	3.617E-01
.4000	5.442	6.561	1889.69	.000	3.884E-01	.000	6.221E-02	6.221E-02
1.0000	13.606	14.725	842.03	.000	1.288E-01	.000	1.536E-02	1.536E-02
2.0000	27.212	28.331	437.64	.000	5.219E-02	.000	4.850E-03	4.850E-03

SC III 16S EO= 4.3027E-02 (RYD) N*= 14.4627 MU= 1.5373

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.585	21178.80	.000	5.792E+00	.000	1.234E+00	1.234E+00
.0200	.272	.858	14458.29	.000	3.664E+00	.000	7.235E-01	7.235E-01
.1000	1.361	1.946	6371.28	.000	1.274E+00	.000	1.984E-01	1.984E-01
.2000	2.721	3.307	3749.65	.000	6.258E-01	.000	8.138E-02	8.138E-02
.4000	5.442	6.028	2056.91	.000	2.760E-01	.000	2.885E-02	2.885E-02
.8000	10.885	11.470	1080.95	.000	1.136E-01	.000	9.297E-03	9.297E-03
1.0000	13.606	14.191	873.68	.000	8.450E-02	.000	6.368E-03	6.368E-03

SC III 20S EO= 2.6402E-02 (RYD) N*= 18.4631 MU= 1.5369

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.359	34515.35	.000	8.338E+00	.000	1.569E+00	1.569E+00
.0200	.272	.631	19638.63	.000	4.114E+00	.000	6.713E-01	6.713E-01
.0800	1.088	1.448	8564.40	.000	1.368E+00	.000	1.701E-01	1.701E-01
.2000	2.721	3.080	4025.00	.000	4.888E-01	.000	4.624E-02	4.624E-02
.6000	8.164	8.523	1454.77	.000	1.198E-01	.000	7.691E-03	7.691E-03
1.0000	13.606	13.965	887.83	.000	6.022E-02	.000	3.183E-03	3.183E-03

SC III 4P EO= 1.2257E+00 (RYD) N*= 2.7098 MU= 1.2902

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	16.676	743.50	9.633E-01	-4.782E-01	3.242E-01	1.597E-01	4.839E-01
.1000	1.361	18.037	687.41	8.491E-01	-3.447E-01	2.724E-01	8.976E-02	3.622E-01
.4000	5.442	22.118	560.55	6.119E-01	-1.045E-01	1.734E-01	1.011E-02	1.836E-01
.6000	8.164	24.840	499.15	5.080E-01	-1.873E-02	1.343E-01	3.652E-04	1.346E-01
.8000	10.885	27.561	449.86	4.300E-01	3.577E-02	1.068E-01	1.478E-03	1.082E-01
1.0000	13.606	30.282	409.44	3.699E-01	7.105E-02	8.677E-02	6.404E-03	9.318E-02
2.0000	27.212	43.888	282.51	2.045E-01	1.273E-01	3.845E-02	2.981E-02	6.826E-02
3.0000	40.818	57.494	215.65	1.331E-01	1.245E-01	2.134E-02	3.733E-02	5.867E-02
4.0000	54.424	71.100	174.38	9.505E-02	1.120E-01	1.345E-02	3.735E-02	5.081E-02
5.0000	68.030	84.706	146.37	7.204E-02	9.901E-02	9.208E-03	3.478E-02	4.399E-02

SC III 5P EO= 6.4375E-01 (RYD) N*= 3.7391 MU= 1.2609

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.759	1415.55	1.824E+00	-1.171E+00	6.102E-01	5.034E-01	1.114E+00
.4000	5.442	14.201	873.07	8.245E-01	-2.281E-01	2.022E-01	3.097E-02	2.332E-01
.6000	8.164	16.922	732.68	6.182E-01	-8.301E-02	1.355E-01	4.885E-03	1.404E-01
.8000	10.885	19.644	631.18	4.840E-01	-4.211E-03	9.640E-02	1.459E-05	9.642E-02
1.0000	13.606	22.365	554.38	3.913E-01	4.066E-02	7.171E-02	1.549E-03	7.326E-02
1.5000	20.409	29.168	425.08	2.533E-01	8.717E-02	3.919E-02	9.286E-03	4.848E-02
2.0000	27.212	35.971	344.69	1.798E-01	9.760E-02	2.437E-02	1.436E-02	3.873E-02
2.5000	34.015	42.774	289.87	1.357E-01	9.658E-02	1.649E-02	1.672E-02	3.320E-02
3.0000	40.818	49.577	250.09	1.068E-01	9.174E-02	1.184E-02	1.748E-02	2.931E-02
3.5000	47.621	56.380	219.91	8.669E-02	8.578E-02	8.876E-03	1.738E-02	2.626E-02

SC III 6P EO= 3.9891E-01 (RYD) N*= 4.7499 MU= 1.2501

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.428	2284.40	2.924E+00	-2.084E+00	9.718E-01	9.880E-01	1.960E+00
.0800	1.088	6.516	1902.80	2.161E+00	-1.335E+00	6.373E-01	4.862E-01	1.123E+00
.4000	5.442	10.870	1140.64	9.258E-01	-2.958E-01	1.951E-01	3.984E-02	2.350E-01
.6000	8.164	13.591	912.26	6.392E-01	-1.105E-01	1.163E-01	6.957E-03	1.233E-01
.8000	10.885	16.312	760.08	4.723E-01	-2.128E-02	7.624E-02	3.095E-04	7.654E-02
1.0000	13.606	19.033	651.41	3.658E-01	2.522E-02	5.335E-02	5.071E-04	5.385E-02
2.0000	27.212	32.639	379.87	1.500E-01	7.655E-02	1.539E-02	8.012E-03	2.340E-02
3.0000	40.818	46.245	268.11	8.469E-02	7.011E-02	6.948E-03	9.523E-03	1.647E-02
4.0000	54.424	59.851	207.16	5.561E-02	5.980E-02	3.877E-03	8.968E-03	1.284E-02

SC III 8P EO= 1.9704E-01 (RYD) N*= 6.7583 MU= 1.2417

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.681	4624.70	5.799E+00	-4.532E+00	1.888E+00	2.307E+00	4.195E+00
.0600	.816	3.497	3545.19	3.728E+00	-2.594E+00	1.018E+00	9.855E-01	2.004E+00
.0800	1.088	3.769	3289.26	3.291E+00	-2.205E+00	8.551E-01	7.675E-01	1.623E+00
.2000	2.721	5.402	2295.13	1.807E+00	-9.652E-01	3.696E-01	2.108E-01	5.804E-01
.4000	5.442	8.123	1526.30	9.148E-01	-3.223E-01	1.424E-01	3.535E-02	1.778E-01
.6000	8.164	10.845	1143.31	5.645E-01	-1.143E-01	7.239E-02	5.938E-03	7.833E-02
.8000	10.885	13.566	913.97	3.883E-01	-2.839E-02	4.284E-02	4.582E-04	4.330E-02
1.0000	13.606	16.287	761.27	2.861E-01	1.192E-02	2.792E-02	9.691E-05	2.802E-02
2.0000	27.212	29.893	414.77	1.040E-01	5.033E-02	6.770E-03	3.172E-03	9.943E-03
3.0000	40.818	43.499	285.03	5.590E-02	4.485E-02	2.847E-03	3.665E-03	6.512E-03
4.0000	54.424	57.105	217.12	3.575E-02	3.756E-02	1.529E-03	3.374E-03	4.903E-03
5.0000	68.030	70.711	175.34	2.522E-02	3.158E-02	9.420E-04	2.955E-03	3.897E-03

SC III 10P EO= 1.1724E-01 (RYD) N*= 8.7616 MU= 1.2384

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.595	7772.61	9.529E+00	-7.760E+00	3.034E+00	4.024E+00	7.058E+00
.0800	1.088	2.684	4620.08	4.007E+00	-2.766E+00	9.024E-01	8.604E-01	1.763E+00
.2000	2.721	4.316	2872.48	1.812E+00	-9.942E-01	2.968E-01	1.787E-01	4.755E-01
.4000	5.442	7.038	1761.79	7.994E-01	-2.909E-01	9.419E-02	2.496E-02	1.191E-01
.6000	8.164	9.759	1270.52	4.621E-01	-9.855E-02	4.365E-02	3.970E-03	4.762E-02
.8000	10.885	12.480	993.49	3.059E-01	-2.555E-02	2.446E-02	3.413E-04	2.480E-02
1.0000	13.606	15.201	815.64	2.197E-01	6.901E-03	1.538E-02	3.033E-05	1.541E-02
2.0000	27.212	28.807	430.40	7.545E-02	3.576E-02	3.435E-03	1.543E-03	4.978E-03
3.0000	40.818	42.413	292.33	3.970E-02	3.145E-02	1.400E-03	1.758E-03	3.158E-03
4.0000	54.424	56.019	221.33	2.511E-02	2.613E-02	7.396E-04	1.602E-03	2.342E-03
5.0000	68.030	69.625	178.08	1.759E-02	2.186E-02	4.512E-04	1.394E-03	1.845E-03

SC III 12P EO= 7.7690E-02 (RYD) N*= 10.7631 MU= 1.2369

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.057	11729.56	1.408E+01	-1.173E+01	4.387E+00	6.090E+00	1.048E+01
.0800	1.088	2.146	5778.86	4.324E+00	-3.027E+00	8.405E-01	8.236E-01	1.664E+00
.2000	2.721	3.778	3281.60	1.679E+00	-9.319E-01	2.230E-01	1.375E-01	3.605E-01
.4000	5.442	6.499	1907.66	6.760E-01	-2.496E-01	6.221E-02	1.697E-02	7.918E-02
.6000	8.164	9.221	1344.67	3.757E-01	-8.202E-02	2.726E-02	2.599E-03	2.986E-02
.8000	10.885	11.942	1038.26	2.433E-01	-2.153E-02	1.481E-02	2.318E-04	1.504E-02
1.0000	13.606	14.663	845.58	1.723E-01	4.563E-03	9.123E-03	1.279E-05	9.135E-03
2.0000	27.212	28.269	438.60	5.740E-02	2.693E-02	1.951E-03	8.588E-04	2.810E-03
3.0000	40.818	41.875	296.09	2.987E-02	2.351E-02	7.825E-04	9.699E-04	1.752E-03
4.0000	54.424	55.481	223.48	1.878E-02	1.945E-02	4.098E-04	8.795E-04	1.289E-03
5.0000	68.030	69.087	179.47	1.310E-02	1.623E-02	2.484E-04	7.624E-04	1.011E-03

SC III 16P EO= 4.1286E-02 (RYD) N*= 14.7646 MU= 1.2354

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.562	22072.20	2.551E+01	-2.178E+01	7.658E+00	1.116E+01	1.882E+01
.0200	.272	.834	14869.16	1.321E+01	-1.088E+01	3.047E+00	3.982E+00	7.029E+00
.0600	.816	1.378	8997.00	5.709E+00	-4.212E+00	9.408E-01	1.024E+00	1.965E+00
.0800	1.088	1.650	7513.39	4.224E+00	-2.989E+00	6.167E-01	6.177E-01	1.234E+00
.2000	2.721	3.283	3776.72	1.335E+00	-7.480E-01	1.225E-01	7.694E-02	1.994E-01
.4000	5.442	6.004	2065.03	4.842E-01	-1.810E-01	2.948E-02	8.240E-03	3.772E-02
.6000	8.164	8.725	1421.00	2.582E-01	-5.756E-02	1.218E-02	1.211E-03	1.339E-02
.8000	10.885	11.446	1083.18	1.635E-01	-1.525E-02	6.410E-03	1.115E-04	6.522E-03
1.0000	13.606	14.168	875.14	1.142E-01	2.507E-03	3.871E-03	3.731E-06	3.875E-03
2.0000	27.212	27.774	446.42	3.692E-02	1.712E-02	7.931E-04	3.411E-04	1.134E-03
3.0000	40.818	41.379	299.63	1.903E-02	1.487E-02	3.140E-04	3.835E-04	6.975E-04
4.0000	54.424	54.985	225.49	1.189E-02	1.227E-02	1.628E-04	3.469E-04	5.097E-04
5.0000	68.030	68.591	180.76	8.278E-03	1.020E-02	9.846E-05	2.991E-04	3.976E-04

SC III 20P EO= 2.5559E-02 (RYD) N*= 18.7652 MU= 1.2348

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.348	35654.12	3.994E+01	-3.451E+01	1.162E+01	1.735E+01	2.897E+01
.0200	.272	.620	20002.12	1.523E+01	-1.240E+01	3.013E+00	3.994E+00	7.007E+00
.0600	.816	1.164	10650.81	5.316E+00	-3.939E+00	6.890E-01	7.566E-01	1.446E+00
.2000	2.721	3.069	4040.05	1.048E+00	-5.891E-01	7.054E-02	4.463E-02	1.152E-01
.4000	5.442	5.790	2141.35	3.603E-01	-1.354E-01	1.575E-02	4.444E-03	2.019E-02
.6000	8.164	8.511	1456.73	1.884E-01	-4.235E-02	6.328E-03	6.395E-04	6.967E-03
.8000	10.885	11.232	1103.82	1.180E-01	-1.115E-02	3.278E-03	5.846E-05	3.337E-03
1.0000	13.606	13.954	888.56	8.192E-02	1.646E-03	1.962E-03	1.584E-06	1.963E-03
2.0000	27.212	27.560	449.88	2.614E-02	1.207E-02	3.945E-04	1.682E-04	5.627E-04
3.0000	40.818	41.165	301.19	1.339E-02	1.046E-02	1.547E-04	1.888E-04	3.435E-04
4.0000	54.424	54.771	226.37	8.379E-03	8.603E-03	8.055E-05	1.698E-04	2.504E-04
5.0000	68.030	68.377	181.33	5.786E-03	7.153E-03	4.795E-05	1.466E-04	1.945E-04

SC III 3D EO= 1.7189E+00 (RYD) N*= 2.2882 MU= .7118

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	23.387	530.15	3.583E-01	2.098E+00	7.545E-02	3.881E+00	3.957E+00
1.0000	13.606	36.993	335.16	1.989E-01	1.226E+00	3.677E-02	2.097E+00	2.134E+00
3.0000	40.818	64.205	193.11	9.576E-02	5.641E-01	1.480E-02	7.704E-01	7.852E-01

SC III 4D EO= 7.8726E-01 (RYD) N*= 3.3811 MU= .6189

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.711	1157.51	6.322E-01	1.607E+00	1.076E-01	1.043E+00	1.150E+00
.0400	.544	11.256	1101.54	5.880E-01	1.588E+00	9.781E-02	1.070E+00	1.167E+00
.0800	1.088	11.800	1050.74	5.488E-01	1.561E+00	8.935E-02	1.085E+00	1.174E+00
.1000	1.361	12.072	1027.05	5.310E-01	1.547E+00	8.554E-02	1.089E+00	1.174E+00
.2000	2.721	13.433	923.02	4.549E-01	1.461E+00	6.987E-02	1.082E+00	1.151E+00
.4000	5.442	16.154	767.54	3.489E-01	1.278E+00	4.944E-02	9.952E-01	1.045E+00
1.0000	13.606	24.317	509.87	1.946E-01	8.546E-01	2.314E-02	6.696E-01	6.928E-01
3.0000	40.818	51.529	240.61	6.576E-02	3.249E-01	5.601E-03	2.051E-01	2.107E-01

SC III 5D EO= 4.6655E-01 (RYD) N*= 4.3921 MU= .6079

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.348	1953.19	1.036E+00	1.333E+00	1.712E-01	4.254E-01	5.967E-01
.1000	1.361	7.708	1608.44	7.726E-01	1.401E+00	1.156E-01	5.702E-01	6.858E-01
.2000	2.721	9.069	1367.13	6.058E-01	1.347E+00	8.366E-02	6.205E-01	7.042E-01
.4000	5.442	11.790	1051.60	4.104E-01	1.159E+00	4.990E-02	5.968E-01	6.467E-01
1.0000	13.606	19.954	621.37	1.887E-01	7.130E-01	1.785E-02	3.825E-01	4.004E-01
2.0000	27.212	33.560	369.45	8.729E-02	3.832E-01	6.427E-03	1.858E-01	1.923E-01
3.5000	47.621	53.969	229.74	4.272E-02	1.985E-01	2.475E-03	8.020E-02	8.268E-02

SC III 6D EO= 3.0907E-01 (RYD) N*= 5.3963 MU= .6037

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.205	2948.43	1.507E+00	9.049E-01	2.400E-01	1.298E-01	3.698E-01
.2000	2.721	6.926	1790.07	7.050E-01	1.221E+00	8.652E-02	3.891E-01	4.756E-01
.4000	5.442	9.648	1285.16	4.285E-01	1.036E+00	4.453E-02	3.902E-01	4.347E-01
.6000	8.164	12.369	1002.42	2.954E-01	8.518E-01	2.712E-02	3.384E-01	3.655E-01
1.0000	13.606	17.811	696.12	1.711E-01	5.959E-01	1.310E-02	2.384E-01	2.515E-01
2.0000	27.212	31.417	394.65	7.280E-02	3.041E-01	4.185E-03	1.095E-01	1.137E-01
3.0000	40.818	45.023	275.38	4.213E-02	1.870E-01	2.008E-03	5.936E-02	6.137E-02

SC III 8D EO= 1.6437E-01 (RYD) N*= 7.3996 MU= .6004

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.236	5543.99	2.606E+00	-4.233E-01	3.817E-01	1.511E-02	3.968E-01
.0200	.272	2.509	4942.59	2.180E+00	8.756E-02	2.996E-01	7.252E-04	3.003E-01
.0400	.544	2.781	4458.90	1.859E+00	4.161E-01	2.416E-01	1.816E-02	2.597E-01
.0800	1.088	3.325	3729.04	1.413E+00	7.710E-01	1.668E-01	7.452E-02	2.414E-01
.1000	1.361	3.597	3446.94	1.253E+00	8.621E-01	1.419E-01	1.008E-01	2.427E-01
.2000	2.721	4.958	2500.94	7.692E-01	9.767E-01	7.373E-02	1.783E-01	2.520E-01
.4000	5.442	7.679	1614.66	3.968E-01	8.125E-01	3.038E-02	1.911E-01	2.215E-01
.6000	8.164	10.400	1192.18	2.508E-01	6.425E-01	1.644E-02	1.619E-01	1.783E-01
1.0000	13.606	15.842	782.63	1.325E-01	4.260E-01	6.987E-03	1.084E-01	1.154E-01
2.0000	27.212	29.448	421.03	5.145E-02	2.049E-01	1.959E-03	4.661E-02	4.857E-02
3.0000	40.818	43.054	287.98	2.867E-02	1.229E-01	8.898E-04	2.453E-02	2.542E-02

SC III 10D EO= 1.0184E-01 (RYD) N*= 9.4009 MU= .5991

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.386	8948.43	3.878E+00	-2.349E+00	5.238E-01	2.884E-01	8.122E-01
.0200	.272	1.658	7479.49	2.932E+00	-1.017E+00	3.583E-01	6.465E-02	4.229E-01
.0400	.544	1.930	6424.82	2.318E+00	-2.800E-01	2.607E-01	5.706E-03	2.664E-01
.0600	.816	2.202	5630.83	1.893E+00	1.506E-01	1.983E-01	1.883E-03	2.002E-01
.0800	1.088	2.474	5011.49	1.583E+00	4.108E-01	1.559E-01	1.574E-02	1.717E-01
.2000	2.721	4.107	3019.09	7.326E-01	7.803E-01	5.540E-02	9.427E-02	1.497E-01
.4000	5.442	6.828	1815.87	3.391E-01	6.409E-01	1.973E-02	1.058E-01	1.255E-01
.6000	8.164	9.549	1298.41	2.038E-01	4.943E-01	9.967E-03	8.795E-02	9.792E-02
1.0000	13.606	14.991	827.05	1.025E-01	3.180E-01	3.958E-03	5.715E-02	6.111E-02
3.0000	40.818	42.203	293.78	2.084E-02	8.799E-02	4.607E-04	1.232E-02	1.278E-02
4.0000	54.424	55.809	222.16	1.347E-02	5.871E-02	2.547E-04	7.254E-03	7.509E-03

SC III 12D EO= 6.9232E-02 (RYD) N*= 11.4016 MU= .5984

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.942	13162.43	5.298E+00	-4.843E+00	6.647E-01	8.330E-01	1.498E+00
.0200	.272	1.214	10212.29	3.566E+00	-2.130E+00	3.881E-01	2.077E-01	5.958E-01
.0400	.544	1.486	8342.46	2.610E+00	-8.675E-01	2.545E-01	4.217E-02	2.967E-01
.0600	.816	1.758	7051.38	2.017E+00	-2.109E-01	1.798E-01	2.949E-03	1.827E-01
.0800	1.088	2.030	6106.36	1.619E+00	1.544E-01	1.338E-01	1.826E-03	1.356E-01
.1000	1.361	2.303	5384.71	1.337E+00	3.659E-01	1.034E-01	1.162E-02	1.151E-01
.2000	2.721	3.663	3384.69	6.609E-01	6.323E-01	4.022E-02	5.522E-02	9.544E-02
.4000	5.442	6.384	1942.04	2.847E-01	5.151E-01	1.301E-02	6.386E-02	7.687E-02
.6000	8.164	9.106	1361.66	1.660E-01	3.908E-01	6.304E-03	5.245E-02	5.875E-02
1.0000	13.606	14.548	852.26	8.114E-02	2.469E-01	2.407E-03	3.345E-02	3.586E-02
2.0000	27.212	28.154	440.39	2.939E-02	1.133E-01	6.111E-04	1.363E-02	1.424E-02
3.0000	40.818	41.760	296.90	1.594E-02	6.676E-02	2.668E-04	7.017E-03	7.284E-03

SC III 16D EO= 3.7938E-02 (RYD) N*= 15.4022 MU= .5978

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.516	24019.90	8.526E+00	-1.145E+01	9.431E-01	2.550E+00	3.493E+00
.0200	.272	.788	15728.32	4.407E+00	-3.998E+00	3.848E-01	4.751E-01	8.599E-01
.0600	.816	1.333	9304.53	1.972E+00	-6.024E-01	1.303E-01	1.823E-02	1.485E-01
.0800	1.088	1.605	7726.67	1.487E+00	-1.149E-01	8.921E-02	7.989E-04	9.001E-02
.1000	1.361	1.877	6606.36	1.173E+00	1.419E-01	6.489E-02	1.424E-03	6.632E-02
.2000	2.721	3.237	3829.85	5.141E-01	4.378E-01	2.150E-02	2.339E-02	4.490E-02
.4000	5.442	5.959	2080.81	2.039E-01	3.531E-01	6.230E-03	2.801E-02	3.424E-02
.6000	8.164	8.680	1428.46	1.150E-01	2.632E-01	2.887E-03	2.266E-02	2.555E-02
1.0000	13.606	14.122	877.96	5.460E-02	1.631E-01	1.058E-03	1.417E-02	1.523E-02
2.0000	27.212	27.728	447.15	1.928E-02	7.356E-02	2.590E-04	5.657E-03	5.916E-03
4.0000	54.424	54.940	225.68	6.635E-03	2.856E-02	6.080E-05	1.689E-03	1.750E-03

SC III 20D EO= 2.3907E-02 (RYD) N*= 19.4025 MU= .5975

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.325	38117.06	1.221E+01	-2.011E+01	1.219E+00	4.957E+00	6.176E+00
.0200	.272	.597	20754.46	4.742E+00	-5.176E+00	3.376E-01	6.035E-01	9.411E-01
.0600	.816	1.142	10860.44	1.766E+00	-7.196E-01	8.954E-02	2.229E-02	1.118E-01
.0800	1.088	1.414	8770.03	1.278E+00	-2.066E-01	5.805E-02	2.274E-03	6.032E-02
.1000	1.361	1.686	7354.44	9.797E-01	4.729E-02	4.067E-02	1.421E-04	4.081E-02
.2000	2.721	3.046	4069.85	4.009E-01	3.224E-01	1.231E-02	1.194E-02	2.425E-02
.4000	5.442	5.768	2149.69	1.523E-01	2.587E-01	3.364E-03	1.456E-02	1.792E-02
.6000	8.164	8.489	1460.58	8.461E-02	1.910E-01	1.528E-03	1.168E-02	1.321E-02
.8000	10.885	11.210	1106.03	5.528E-02	1.470E-01	8.612E-04	9.137E-03	9.998E-03
1.0000	13.606	13.931	889.99	3.954E-02	1.174E-01	5.474E-04	7.238E-03	7.786E-03
3.0000	40.818	41.143	301.35	7.390E-03	3.066E-02	5.648E-05	1.460E-03	1.516E-03
4.0000	54.424	54.749	226.46	4.754E-03	2.028E-02	3.110E-05	8.489E-04	8.800E-04

SC III 4F EO= 5.6862E-01 (RYD) N*= 3.9784 MU= .0216

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.737	1602.60	5.938E-01	2.983E+00	7.346E-02	2.472E+00	2.545E+00
.2000	2.721	10.458	1185.59	3.346E-01	1.481E+00	3.153E-02	8.233E-01	8.548E-01
.6000	8.164	15.900	779.78	1.441E-01	5.468E-01	8.889E-03	1.707E-01	1.796E-01
.8000	10.885	18.621	665.83	1.032E-01	3.739E-01	5.340E-03	9.350E-02	9.884E-02
1.0000	13.606	21.342	580.94	7.676E-02	2.691E-01	3.386E-03	5.550E-02	5.889E-02
2.0000	27.212	34.948	354.77	2.470E-02	8.217E-02	5.741E-04	8.473E-03	9.047E-03
3.0000	40.818	48.554	255.36	1.095E-02	3.766E-02	1.567E-04	2.472E-03	2.629E-03
4.0000	54.424	62.160	199.46	5.771E-03	2.110E-02	5.576E-05	9.938E-04	1.050E-03

SC III 5F EO= 3.6449E-01 (RYD) N*= 4.9691 MU= .0309

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.959	2500.11	1.253E+00	5.365E+00	2.097E-01	5.125E+00	5.335E+00
.2000	2.721	7.680	1614.32	5.630E-01	2.188E+00	6.556E-02	1.321E+00	1.386E+00
.4000	5.442	10.402	1191.99	3.152E-01	1.140E+00	2.783E-02	4.850E-01	5.129E-01
.8000	10.885	15.844	782.55	1.348E-01	4.453E-01	7.756E-03	1.128E-01	1.206E-01
1.0000	13.606	18.565	667.84	9.643E-02	3.102E-01	4.649E-03	6.414E-02	6.879E-02
2.0000	27.212	32.171	385.40	2.801E-02	8.705E-02	6.798E-04	8.754E-03	9.434E-03
3.0000	40.818	45.777	270.85	1.188E-02	3.850E-02	1.740E-04	2.437E-03	2.611E-03
4.0000	54.424	59.383	208.79	6.108E-03	2.116E-02	5.966E-05	9.550E-04	1.015E-03

SC III 6F EO= 2.5301E-01 (RYD) N*= 5.9642 MU= .0358

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.442	3601.65	2.053E+00	7.860E+00	3.907E-01	7.638E+00	8.028E+00
.2000	2.721	6.164	2011.57	7.249E-01	2.595E+00	8.722E-02	1.490E+00	1.577E+00
.4000	5.442	8.885	1395.48	3.650E-01	1.232E+00	3.188E-02	4.845E-01	5.164E-01
.8000	10.885	14.327	865.39	1.414E-01	4.425E-01	7.713E-03	1.007E-01	1.084E-01
1.0000	13.606	17.048	727.26	9.840E-02	3.012E-01	4.445E-03	5.554E-02	5.999E-02
2.0000	27.212	30.654	404.47	2.673E-02	7.998E-02	5.900E-04	7.042E-03	7.632E-03
3.0000	40.818	44.260	280.13	1.103E-02	3.462E-02	1.451E-04	1.904E-03	2.049E-03
3.5000	47.621	51.063	242.81	7.704E-03	2.500E-02	8.161E-05	1.146E-03	1.227E-03

SC III 8F EO= 1.4207E-01 (RYD) N*= 7.9593 MU= .0407

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.933	6414.40	4.028E+00	1.333E+01	8.444E-01	1.234E+01	1.318E+01
.0200	.272	2.205	5622.82	3.218E+00	1.069E+01	6.149E-01	9.047E+00	9.662E+00
.1000	1.361	3.294	3764.54	1.609E+00	5.331E+00	2.297E-01	3.361E+00	3.591E+00
.2000	2.721	4.654	2664.01	8.719E-01	2.840E+00	9.529E-02	1.348E+00	1.443E+00
.4000	5.442	7.375	1681.10	3.739E-01	1.171E+00	2.777E-02	3.631E-01	3.908E-01
.8000	10.885	12.818	967.31	1.271E-01	3.758E-01	5.576E-03	6.501E-02	7.059E-02
1.0000	13.606	15.539	797.91	8.556E-02	2.488E-01	3.064E-03	3.453E-02	3.760E-02
1.5000	20.409	22.342	554.95	3.925E-02	1.122E-01	9.270E-04	1.010E-02	1.103E-02
2.0000	27.212	29.145	425.42	2.153E-02	6.200E-02	3.638E-04	4.023E-03	4.387E-03
3.0000	40.818	42.751	290.02	8.630E-03	2.620E-02	8.575E-05	1.054E-03	1.140E-03

SC III 10F EO= 9.0777E-02 (RYD) N*= 9.9571 MU= .0429

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.235	10038.55	6.451E+00	1.950E+01	1.384E+00	1.687E+01	1.825E+01
.0200	.272	1.507	8226.16	4.617E+00	1.414E+01	8.651E-01	1.083E+01	1.169E+01
.0400	.544	1.779	6968.11	3.487E+00	1.077E+01	5.828E-01	7.414E+00	7.997E+00
.2000	2.721	3.956	3133.91	8.736E-01	2.709E+00	8.132E-02	1.042E+00	1.124E+00
.4000	5.442	6.677	1856.79	3.367E-01	1.015E+00	2.038E-02	2.472E-01	2.676E-01
.6000	8.164	9.399	1319.19	1.755E-01	5.152E-01	7.792E-03	8.960E-02	9.739E-02
1.0000	13.606	14.841	835.43	7.015E-02	1.990E-01	1.967E-03	2.111E-02	2.307E-02
1.5000	20.409	21.644	572.84	3.136E-02	8.785E-02	5.734E-04	5.998E-03	6.571E-03
2.5000	34.015	35.250	351.74	1.025E-02	2.975E-02	9.980E-05	1.121E-03	1.220E-03

SC III 12F EO= 6.2962E-02 (RYD) N*= 11.9559 MU= .0441

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.857	14473.40	9.282E+00	2.638E+01	1.988E+00	2.141E+01	2.340E+01
.0400	.544	1.401	8850.56	4.081E+00	1.204E+01	6.285E-01	7.288E+00	7.917E+00
.2000	2.721	3.578	3465.40	8.141E-01	2.452E+00	6.386E-02	7.727E-01	8.366E-01
.4000	5.442	6.299	1968.34	2.921E-01	8.622E-01	1.447E-02	1.681E-01	1.826E-01
.6000	8.164	9.020	1374.54	1.477E-01	4.262E-01	5.301E-03	5.884E-02	6.415E-02
1.0000	13.606	14.463	857.29	5.749E-02	1.609E-01	1.287E-03	1.344E-02	1.473E-02
1.5000	20.409	21.266	583.04	2.533E-02	7.014E-02	3.673E-04	3.757E-03	4.124E-03

SC III 16F EO= 3.5356E-02 (RYD) N*= 15.9548 MU= .0452

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.481	25774.14	1.606E+01	4.222E+01	3.342E+00	3.079E+01	3.413E+01
.0400	.544	1.025	12092.85	4.592E+00	1.286E+01	5.823E-01	6.089E+00	6.671E+00
.2000	2.721	3.202	3871.87	6.585E-01	1.925E+00	3.740E-02	4.261E-01	4.635E-01
.4000	5.442	5.923	2093.16	2.173E-01	6.275E-01	7.532E-03	8.375E-02	9.129E-02
.6000	8.164	8.645	1434.26	1.064E-01	3.014E-01	2.633E-03	2.820E-02	3.083E-02
1.0000	13.606	14.087	880.15	4.020E-02	1.110E-01	6.132E-04	6.231E-03	6.844E-03

SC III 20F EO= 2.2603E-02 (RYD) N*= 19.9542 MU= .0458

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.308	40315.59	2.421E+01	6.075E+01	4.855E+00	4.075E+01	4.561E+01
.0400	.544	.852	14556.21	4.528E+00	1.235E+01	4.704E-01	4.668E+00	5.138E+00
.1000	1.361	1.668	7432.65	1.468E+00	4.162E+00	9.685E-02	1.038E+00	1.135E+00
.2000	2.721	3.029	4093.68	5.250E-01	1.513E+00	2.248E-02	2.491E-01	2.716E-01
.4000	5.442	5.750	2156.32	1.659E-01	4.741E-01	4.262E-03	4.640E-02	5.066E-02
.8000	10.885	11.192	1107.79	4.635E-02	1.281E-01	6.476E-04	6.600E-03	7.248E-03
1.0000	13.606	13.913	891.13	2.978E-02	8.167E-02	3.324E-04	3.332E-03	3.665E-03

TI IV 4S EO= 2.3895E+00 (RYD) N*= 2.5877 MU= 1.4123

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	32.511	381.37	.000	3.660E-01	.000	2.737E-01	2.737E-01
1.0000	13.606	46.117	268.85	.000	2.523E-01	.000	1.844E-01	1.844E-01
3.0000	40.818	73.329	169.08	.000	1.457E-01	.000	9.777E-02	9.777E-02

TI IV 5S EO= 1.2269E+00 (RYD) N*= 3.6113 MU= 1.3887

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	16.693	742.75	.000	5.941E-01	.000	3.703E-01	3.703E-01
1.0000	13.606	30.299	409.21	.000	2.952E-01	.000	1.659E-01	1.659E-01
2.0000	27.212	43.905	282.40	.000	1.840E-01	.000	9.343E-02	9.343E-02
4.0000	54.424	71.116	174.34	.000	9.786E-02	.000	4.280E-02	4.280E-02

TI IV 6S EO= 7.4977E-01 (RYD) N*= 4.6195 MU= 1.3805

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.201	1215.39	.000	8.607E-01	.000	4.749E-01	4.749E-01
1.0000	13.606	23.807	520.79	.000	3.021E-01	.000	1.365E-01	1.365E-01
2.0000	27.212	37.413	331.40	.000	1.656E-01	.000	6.444E-02	6.444E-02

TI IV 8S EO= 3.6446E-01 (RYD) N*= 6.6258 MU= 1.3742

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.959	2500.33	.000	1.492E+00	.000	6.940E-01	6.940E-01
.6000	8.164	13.122	944.85	.000	4.265E-01	.000	1.500E-01	1.500E-01
1.0000	13.606	18.565	667.86	.000	2.658E-01	.000	8.243E-02	8.243E-02
2.0000	27.212	32.171	385.40	.000	1.242E-01	.000	3.118E-02	3.118E-02

TI IV 10S EO= 2.1493E-01 (RYD) N*= 8.6281 MU= 1.3719

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.924	4239.91	.000	2.245E+00	.000	9.261E-01	9.261E-01
.2000	2.721	5.645	2196.22	.000	9.558E-01	.000	3.241E-01	3.241E-01
.8000	10.885	13.609	897.87	.000	2.798E-01	.000	6.791E-02	6.791E-02
1.0000	13.606	16.530	750.06	.000	2.175E-01	.000	4.913E-02	4.913E-02
3.0000	40.818	43.742	283.45	.000	5.528E-02	.000	8.399E-03	8.399E-03

TI IV 12S EO= 1.4162E-01 (RYD) N*= 10.6292 MU= 1.3708

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.927	6434.73	.000	3.111E+00	.000	1.172E+00	1.172E+00
.2000	2.721	4.648	2667.51	.000	9.591E-01	.000	2.687E-01	2.687E-01
.6000	8.164	10.090	1228.76	.000	3.253E-01	.000	6.709E-02	6.709E-02
1.0000	13.606	15.533	798.23	.000	1.767E-01	.000	3.049E-02	3.049E-02
2.0000	27.212	29.139	425.50	.000	7.234E-02	.000	9.584E-03	9.584E-03
4.0000	54.424	56.350	220.03	.000	2.850E-02	.000	2.875E-03	2.875E-03

TI IV 16S EO= 7.4751E-02 (RYD) N*= 14.6303 MU= 1.3697

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.017	12190.75	.000	5.165E+00	.000	1.705E+00	1.705E+00
.2000	2.721	3.738	3316.71	.000	8.498E-01	.000	1.696E-01	1.696E-01
.4000	5.442	6.459	1919.47	.000	3.903E-01	.000	6.185E-02	6.185E-02
1.0000	13.606	14.623	847.89	.000	1.213E-01	.000	1.352E-02	1.352E-02
2.0000	27.212	28.229	439.22	.000	4.731E-02	.000	3.970E-03	3.970E-03

TI IV 20S EO= 4.6096E-02 (RYD) N*= 18.6307 MU= 1.3693

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.627	19768.99	.000	7.627E+00	.000	2.293E+00	2.293E+00
.2000	2.721	3.348	3702.90	.000	7.098E-01	.000	1.060E-01	1.060E-01
.4000	5.442	6.070	2042.76	.000	3.016E-01	.000	3.469E-02	3.469E-02
1.0000	13.606	14.233	871.11	.000	8.841E-02	.000	6.991E-03	6.991E-03
2.0000	27.212	27.839	445.37	.000	3.370E-02	.000	1.986E-03	1.986E-03

TI IV 4P EO= 1.9809E+00 (RYD) N*= 2.8420 MU= 1.1580

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	26.952	460.03	5.952E-01	4.294E-02	2.000E-01	2.082E-03	2.021E-01
.2000	2.721	29.673	417.84	5.097E-01	9.137E-02	1.614E-01	1.038E-02	1.718E-01
.8000	10.885	37.836	327.69	3.445E-01	1.539E-01	9.406E-02	3.752E-02	1.316E-01
1.0000	13.606	40.558	305.70	3.080E-01	1.609E-01	8.061E-02	4.398E-02	1.246E-01
2.0000	27.212	54.163	228.91	1.933E-01	1.615E-01	4.241E-02	5.915E-02	1.016E-01
3.0000	40.818	67.769	182.95	1.348E-01	1.449E-01	2.581E-02	5.957E-02	8.538E-02
4.0000	54.424	81.375	152.36	1.005E-01	1.273E-01	1.721E-02	5.525E-02	7.246E-02
6.0000	81.635	108.587	114.18	6.324E-02	9.877E-02	9.096E-03	4.438E-02	5.347E-02

TI IV 5P EO= 1.0679E+00 (RYD) N*= 3.8707 MU= 1.1293

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	14.530	853.30	1.103E+00	-1.542E-01	3.703E-01	1.447E-02	3.848E-01
.0400	.544	15.074	822.49	1.038E+00	-1.163E-01	3.404E-01	8.538E-03	3.489E-01
.1000	1.361	15.891	780.24	9.520E-01	-6.851E-02	3.017E-01	3.125E-03	3.048E-01
.2000	2.721	17.251	718.70	8.316E-01	-7.647E-03	2.499E-01	4.226E-05	2.499E-01
.4000	5.442	19.973	620.78	6.533E-01	6.809E-02	1.786E-01	3.879E-03	1.825E-01
.6000	8.164	22.694	546.34	5.293E-01	1.085E-01	1.332E-01	1.118E-02	1.444E-01
1.0000	13.606	28.136	440.67	3.713E-01	1.406E-01	8.127E-02	2.329E-02	1.046E-01
2.0000	27.212	41.742	297.03	1.938E-01	1.380E-01	3.284E-02	3.330E-02	6.613E-02
2.5000	34.015	48.545	255.40	1.511E-01	1.277E-01	2.323E-02	3.315E-02	5.638E-02

TI IV 6P EO= 6.7146E-01 (RYD) N*= 4.8815 MU= 1.1185

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.136	1357.15	1.750E+00	-4.382E-01	5.863E-01	7.349E-02	6.598E-01
.2000	2.721	11.857	1045.68	1.136E+00	-1.136E-01	3.207E-01	6.413E-03	3.271E-01
.4000	5.442	14.578	850.50	8.063E-01	2.019E-02	1.985E-01	2.489E-04	1.988E-01
.6000	8.164	17.299	716.71	6.066E-01	8.080E-02	1.333E-01	4.731E-03	1.381E-01
.8000	10.885	20.021	619.30	4.757E-01	1.090E-01	9.489E-02	9.965E-03	1.049E-01
1.0000	13.606	22.742	545.19	3.847E-01	1.215E-01	7.050E-02	1.406E-02	8.456E-02
2.0000	27.212	36.348	341.11	1.762E-01	1.161E-01	2.362E-02	2.052E-02	4.414E-02
3.0000	40.818	49.954	248.20	1.038E-01	9.485E-02	1.128E-02	1.883E-02	3.011E-02
4.0000	54.424	63.559	195.07	6.964E-02	7.778E-02	6.457E-03	1.611E-02	2.256E-02

TI IV 8P EO= 3.3704E-01 (RYD) N*= 6.8900 MU= 1.1100

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.586	2703.75	3.438E+00	-1.257E+00	1.135E+00	3.036E-01	1.439E+00
.0200	.272	4.858	2552.30	3.124E+00	-1.076E+00	9.930E-01	2.354E-01	1.228E+00
.1000	1.361	5.946	2085.10	2.231E+00	-5.954E-01	6.201E-01	8.831E-02	7.084E-01
.2000	2.721	7.307	1696.84	1.582E+00	-2.900E-01	3.832E-01	2.575E-02	4.090E-01
.4000	5.442	10.028	1236.39	9.322E-01	-4.087E-02	1.825E-01	7.018E-04	1.832E-01
.6000	8.164	12.749	972.50	6.235E-01	4.508E-02	1.038E-01	1.086E-03	1.049E-01
.8000	10.885	15.470	801.44	4.506E-01	7.809E-02	6.581E-02	3.952E-03	6.976E-02
1.0000	13.606	18.192	681.56	3.433E-01	9.039E-02	4.491E-02	6.227E-03	5.113E-02
2.0000	27.212	31.798	389.92	1.343E-01	8.256E-02	1.202E-02	9.080E-03	2.110E-02
3.0000	40.818	45.403	273.08	7.390E-02	6.451E-02	5.194E-03	7.916E-03	1.311E-02

TI IV 10P EO= 2.0230E-01 (RYD) N*= 8.8933 MU= 1.1067

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.752	4504.59	5.624E+00	-2.393E+00	1.824E+00	6.602E-01	2.484E+00
.0600	.816	3.569	3474.17	3.649E+00	-1.286E+00	9.951E-01	2.473E-01	1.242E+00
.2000	2.721	5.474	2265.16	1.786E+00	-3.905E-01	3.656E-01	3.496E-02	4.005E-01
.4000	5.442	8.195	1512.99	9.077E-01	-6.503E-02	1.414E-01	1.452E-03	1.429E-01
.6000	8.164	10.916	1135.82	5.606E-01	2.698E-02	7.185E-02	3.328E-04	7.219E-02
.8000	10.885	13.637	909.18	3.854E-01	5.826E-02	4.242E-02	1.939E-03	4.436E-02
1.0000	13.606	16.358	757.94	2.836E-01	6.879E-02	2.756E-02	3.243E-03	3.080E-02
2.0000	27.212	29.964	413.78	1.022E-01	6.101E-02	6.555E-03	4.672E-03	1.123E-02
3.0000	40.818	43.570	284.57	5.442E-02	4.661E-02	2.703E-03	3.966E-03	6.669E-03
5.0000	68.030	70.782	175.17	2.415E-02	2.981E-02	8.649E-04	2.635E-03	3.500E-03

TI IV 12P EO= 1.3479E-01 (RYD) N*= 10.8950 MU= 1.1050

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.834	6760.48	8.287E+00	-3.830E+00	2.638E+00	1.127E+00	3.765E+00
.0200	.272	2.106	5887.00	6.581E+00	-2.843E+00	1.911E+00	7.131E-01	2.624E+00
.0800	1.088	2.922	4242.53	3.810E+00	-1.354E+00	8.884E-01	2.245E-01	1.113E+00
.2000	2.721	4.555	2721.88	1.812E+00	-4.287E-01	3.135E-01	3.508E-02	3.485E-01
.4000	5.442	7.276	1703.96	8.254E-01	-7.043E-02	1.038E-01	1.512E-03	1.054E-01
.6000	8.164	9.998	1240.17	4.834E-01	1.752E-02	4.894E-02	1.285E-04	4.907E-02
.8000	10.885	12.719	974.83	3.221E-01	4.518E-02	2.764E-02	1.088E-03	2.873E-02
1.0000	13.606	15.440	803.03	2.322E-01	5.393E-02	1.743E-02	1.881E-03	1.932E-02
2.0000	27.212	29.046	426.86	7.983E-02	4.695E-02	3.877E-03	2.683E-03	6.559E-03
3.0000	40.818	42.652	290.69	4.176E-02	3.543E-02	1.558E-03	2.243E-03	3.801E-03
4.0000	54.424	56.258	220.39	2.623E-02	2.768E-02	8.109E-04	1.806E-03	2.617E-03

TI IV 16P EO= 7.2103E-02 (RYD) N*= 14.8965 MU= 1.1035

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.981	12638.41	1.498E+01	-7.565E+00	4.611E+00	2.352E+00	6.963E+00
.0400	.544	1.525	8128.84	7.175E+00	-3.117E+00	1.645E+00	6.209E-01	2.266E+00
.0800	1.088	2.070	5991.12	4.308E+00	-1.634E+00	8.045E-01	2.314E-01	1.036E+00
.2000	2.721	3.702	3348.98	1.625E+00	-4.108E-01	2.047E-01	2.618E-02	2.309E-01
.4000	5.442	6.423	1930.23	6.430E-01	-6.282E-02	5.563E-02	1.062E-03	5.669E-02
.6000	8.164	9.145	1355.85	3.544E-01	9.009E-03	2.405E-02	3.110E-05	2.408E-02
.8000	10.885	11.866	1044.91	2.282E-01	2.974E-02	1.294E-02	4.395E-04	1.338E-02
1.0000	13.606	14.587	849.98	1.609E-01	3.587E-02	7.912E-03	7.861E-04	8.698E-03
2.0000	27.212	28.193	439.78	5.276E-02	3.060E-02	1.644E-03	1.106E-03	2.750E-03
3.0000	40.818	41.799	296.63	2.713E-02	2.281E-02	6.445E-04	9.108E-04	1.555E-03
6.0000	81.635	82.617	150.07	8.659E-03	1.183E-02	1.297E-04	4.841E-04	6.139E-04

TI IV 20P EO= 4.4805E-02 (RYD) N*= 18.8971 MU= 1.1029

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.610	20338.41	2.342E+01	-1.240E+01	7.005E+00	3.926E+00	1.093E+01
.0400	.544	1.154	10745.42	8.076E+00	-3.621E+00	1.576E+00	6.338E-01	2.210E+00
.0600	.816	1.426	8694.87	5.668E+00	-2.365E+00	9.596E-01	3.342E-01	1.294E+00
.1000	1.361	1.970	6293.06	3.298E+00	-1.201E+00	4.489E-01	1.191E-01	5.680E-01
.2000	2.721	3.331	3722.42	1.366E+00	-3.547E-01	1.302E-01	1.756E-02	1.478E-01
.4000	5.442	6.052	2048.69	4.997E-01	-5.142E-02	3.166E-02	6.703E-04	3.233E-02
.6000	8.164	8.773	1413.25	2.670E-01	5.544E-03	1.310E-02	1.130E-05	1.311E-02
.8000	10.885	11.494	1078.67	1.691E-01	2.131E-02	6.883E-03	2.187E-04	7.102E-03
1.0000	13.606	14.216	872.19	1.180E-01	2.582E-02	4.148E-03	3.971E-04	4.545E-03
2.0000	27.212	27.821	445.65	3.784E-02	2.180E-02	8.345E-04	5.539E-04	1.388E-03
3.0000	40.818	41.427	299.29	1.931E-02	1.618E-02	3.235E-04	4.542E-04	7.777E-04
5.0000	68.030	68.639	180.63	8.263E-03	1.006E-02	9.817E-05	2.912E-04	3.893E-04

TI IV 3D EO= 3.0667E+00 (RYD) N*= 2.2842 MU= .7158

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	41.725	297.15	2.432E-01	1.268E+00	6.205E-02	2.530E+00	2.592E+00
1.0000	13.606	55.331	224.08	1.615E-01	8.849E-01	3.628E-02	1.634E+00	1.670E+00
3.0000	40.818	82.543	150.21	8.962E-02	4.884E-01	1.666E-02	7.424E-01	7.591E-01

TI IV 4D EO= 1.3781E+00 (RYD) N*= 3.4074 MU= .5926

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	18.750	661.26	4.885E-01	1.189E+00	1.125E-01	9.999E-01	1.112E+00
.0800	1.088	19.839	624.98	4.468E-01	1.149E+00	9.955E-02	9.868E-01	1.086E+00
.8000	10.885	29.635	418.38	2.374E-01	8.048E-01	4.197E-02	7.237E-01	7.656E-01
1.0000	13.606	32.356	383.19	2.067E-01	7.307E-01	3.474E-02	6.514E-01	6.862E-01
3.0000	40.818	59.568	208.14	7.859E-02	3.308E-01	9.248E-03	2.458E-01	2.550E-01

TI IV 5D EO= 8.1825E-01 (RYD) N*= 4.4220 MU= .5780

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.133	1113.68	8.436E-01	1.236E+00	1.992E-01	6.415E-01	8.407E-01
.0800	1.088	12.221	1014.50	7.256E-01	1.197E+00	1.617E-01	6.603E-01	8.220E-01
.1000	1.361	12.494	992.40	7.003E-01	1.185E+00	1.540E-01	6.619E-01	8.159E-01
.2000	2.721	13.854	894.94	5.927E-01	1.121E+00	1.224E-01	6.568E-01	7.792E-01
.4000	5.442	16.575	748.02	4.441E-01	9.878E-01	8.216E-02	6.097E-01	6.919E-01
1.0000	13.606	24.739	501.18	2.330E-01	6.748E-01	3.376E-02	4.248E-01	4.586E-01
2.5000	34.015	45.148	274.62	8.794E-02	3.222E-01	8.776E-03	1.767E-01	1.855E-01
4.0000	54.424	65.557	189.13	4.775E-02	1.890E-01	3.757E-03	8.827E-02	9.202E-02

TI IV 6D EO= 5.4314E-01 (RYD) N*= 5.4276 MU= .5724

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.390	1677.78	1.275E+00	1.218E+00	3.021E-01	4.134E-01	7.154E-01
.1000	1.361	8.751	1416.90	9.688E-01	1.189E+00	2.064E-01	4.665E-01	6.729E-01
.2000	2.721	10.111	1226.24	7.662E-01	1.119E+00	1.492E-01	4.770E-01	6.262E-01
.4000	5.442	12.832	966.21	5.206E-01	9.577E-01	8.743E-02	4.438E-01	5.312E-01
1.0000	13.606	20.996	590.53	2.340E-01	6.056E-01	2.889E-02	2.903E-01	3.192E-01
2.0000	27.212	34.602	358.32	1.034E-01	3.356E-01	9.302E-03	1.469E-01	1.563E-01
3.0000	40.818	48.208	257.19	5.990E-02	2.150E-01	4.348E-03	8.402E-02	8.837E-02

TI IV 8D EO= 2.8967E-01 (RYD) N*= 7.4320 MU= .5680

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.941	3145.86	2.341E+00	9.861E-01	5.428E-01	1.445E-01	6.873E-01
.1000	1.361	5.302	2338.55	1.443E+00	1.107E+00	2.774E-01	2.452E-01	5.226E-01
.2000	2.721	6.662	1860.98	9.947E-01	1.041E+00	1.657E-01	2.724E-01	4.382E-01
.4000	5.442	9.384	1321.31	5.696E-01	8.450E-01	7.653E-02	2.526E-01	3.292E-01
1.0000	13.606	17.547	706.59	2.048E-01	4.728E-01	1.850E-02	1.479E-01	1.664E-01
2.0000	27.212	31.153	397.99	7.949E-02	2.404E-01	4.948E-03	6.786E-02	7.281E-02

TI IV 10D EO= 1.7978E-01 (RYD) N*= 9.4338 MU= .5662

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.446	5068.72	3.651E+00	5.094E-01	8.195E-01	2.393E-02	8.434E-01
.0400	.544	2.990	4146.22	2.629E+00	8.402E-01	5.196E-01	7.959E-02	5.991E-01
.0600	.816	3.262	3800.39	2.281E+00	9.137E-01	4.266E-01	1.027E-01	5.293E-01
.1000	1.361	3.807	3257.06	1.774E+00	9.733E-01	3.011E-01	1.360E-01	4.371E-01
.2000	2.721	5.167	2399.45	1.079E+00	9.273E-01	1.511E-01	1.675E-01	3.186E-01
.4000	5.442	7.888	1571.74	5.415E-01	7.192E-01	5.815E-02	1.538E-01	2.120E-01
1.0000	13.606	16.052	772.40	1.692E-01	3.703E-01	1.155E-02	8.298E-02	9.453E-02
2.0000	27.212	29.658	418.05	6.128E-02	1.794E-01	2.799E-03	3.601E-02	3.881E-02
4.0000	54.424	56.870	218.02	2.062E-02	7.333E-02	6.076E-04	1.153E-02	1.214E-02

TI IV 12D EO= 1.2237E-01 (RYD) N*= 11.4347 MU= .5653

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.665	7446.87	5.187E+00	-1.982E-01	1.126E+00	2.467E-03	1.128E+00
.0200	.272	1.937	6400.74	4.049E+00	2.907E-01	7.984E-01	6.173E-03	8.045E-01
.0400	.544	2.209	5612.32	3.267E+00	5.598E-01	5.928E-01	2.610E-02	6.189E-01
.1000	1.361	3.026	4097.99	1.958E+00	8.336E-01	2.914E-01	7.928E-02	3.707E-01
.2000	2.721	4.386	2826.78	1.070E+00	8.118E-01	1.262E-01	1.090E-01	2.352E-01
.4000	5.442	7.107	1744.49	4.874E-01	6.076E-01	4.244E-02	9.893E-02	1.414E-01
1.0000	13.606	15.271	811.91	1.391E-01	2.959E-01	7.430E-03	5.040E-02	5.783E-02
2.0000	27.212	28.877	429.36	4.841E-02	1.394E-01	1.701E-03	2.115E-02	2.285E-02
3.0000	40.818	42.483	291.85	2.538E-02	8.332E-02	6.878E-04	1.112E-02	1.181E-02
4.0000	54.424	56.089	221.05	1.591E-02	5.601E-02	3.567E-04	6.633E-03	6.990E-03

TI IV 16D EO= 6.7155E-02 (RYD) N*= 15.4355 MU= .5645

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.914	13569.83	8.891E+00	-2.268E+00	1.815E+00	1.772E-01	1.993E+00
.0200	.272	1.186	10455.72	5.804E+00	-6.568E-01	1.004E+00	1.929E-02	1.024E+00
.0400	.544	1.458	8504.21	4.144E+00	3.380E-02	6.294E-01	6.280E-05	6.294E-01
.0600	.816	1.730	7166.59	3.137E+00	3.610E-01	4.278E-01	8.502E-03	4.363E-01
.0800	1.088	2.002	6192.57	2.473E+00	5.231E-01	3.079E-01	2.066E-02	3.285E-01
.1000	1.361	2.274	5451.64	2.011E+00	6.025E-01	2.311E-01	3.113E-02	2.622E-01
.2000	2.721	3.635	3411.01	9.385E-01	6.189E-01	8.048E-02	5.250E-02	1.330E-01
.4000	5.442	6.356	1950.68	3.778E-01	4.413E-01	2.281E-02	4.667E-02	6.947E-02
.8000	10.885	11.798	1050.87	1.372E-01	2.508E-01	5.582E-03	2.798E-02	3.356E-02
1.0000	13.606	14.520	853.92	9.744E-02	2.014E-01	3.465E-03	2.221E-02	2.567E-02
2.0000	27.212	28.126	440.83	3.254E-02	9.208E-02	7.485E-04	8.992E-03	9.741E-03
4.0000	54.424	55.337	224.06	1.042E-02	3.638E-02	1.511E-04	2.762E-03	2.913E-03

TI IV 20D EO= 4.2356E-02 (RYD) N*= 19.4359 MU= .5641

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.576	21514.66	1.338E+01	-5.171E+00	2.595E+00	5.809E-01	3.176E+00
.0200	.272	.848	14614.03	7.110E+00	-1.524E+00	1.078E+00	7.431E-02	1.152E+00
.0400	.544	1.121	11065.03	4.519E+00	-3.439E-01	5.752E-01	4.995E-03	5.802E-01
.0600	.816	1.393	8902.95	3.174E+00	1.328E-01	3.526E-01	9.257E-04	3.535E-01
.0800	1.088	1.665	7447.70	2.375E+00	3.463E-01	2.360E-01	7.529E-03	2.436E-01
.1000	1.361	1.937	6401.35	1.857E+00	4.449E-01	1.680E-01	1.446E-02	1.824E-01
.2000	2.721	3.297	3760.04	7.830E-01	4.808E-01	5.081E-02	2.874E-02	7.956E-02
.4000	5.442	6.019	2060.03	2.940E-01	3.331E-01	1.308E-02	2.517E-02	3.825E-02
.6000	8.164	8.740	1418.63	1.597E-01	2.407E-01	5.606E-03	1.908E-02	2.469E-02
1.0000	13.606	14.182	874.24	7.204E-02	1.470E-01	1.850E-03	1.155E-02	1.340E-02
2.0000	27.212	27.788	446.18	2.357E-02	6.624E-02	3.879E-04	4.597E-03	4.985E-03
4.0000	54.424	55.000	225.43	7.480E-03	2.596E-02	7.735E-05	1.398E-03	1.475E-03

TI IV 4F EO= 1.0202E+00 (RYD) N*= 3.9602 MU= .0398

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	13.881	893.21	3.643E-01	1.768E+00	4.962E-02	1.558E+00	1.607E+00
.2000	2.721	16.602	746.81	2.582E-01	1.182E+00	2.982E-02	8.323E-01	8.621E-01
.6000	8.164	22.044	562.44	1.469E-01	6.188E-01	1.281E-02	3.031E-01	3.159E-01
.8000	10.885	24.766	500.64	1.156E-01	4.734E-01	8.921E-03	1.993E-01	2.082E-01
1.0000	13.606	27.487	451.08	9.296E-02	3.721E-01	6.398E-03	1.367E-01	1.431E-01
2.0000	27.212	41.093	301.72	3.852E-02	1.464E-01	1.642E-03	3.163E-02	3.327E-02
2.5000	34.015	47.896	258.87	2.708E-02	1.026E-01	9.458E-04	1.809E-02	1.904E-02
3.5000	47.621	61.502	201.60	1.493E-02	5.742E-02	3.690E-04	7.281E-03	7.650E-03

TI IV 5F EO= 6.5421E-01 (RYD) N*= 4.9454 MU= .0546

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.901	1392.93	7.870E-01	3.133E+00	1.485E-01	3.137E+00	3.285E+00
.2000	2.721	11.622	1066.80	4.809E-01	1.850E+00	7.237E-02	1.429E+00	1.501E+00
.4000	5.442	14.343	864.41	3.225E-01	1.205E+00	4.019E-02	7.482E-01	7.884E-01
1.0000	13.606	22.507	550.88	1.318E-01	4.654E-01	1.053E-02	1.750E-01	1.856E-01
2.0000	27.212	36.113	343.33	4.806E-02	1.652E-01	2.247E-03	3.538E-02	3.763E-02
3.0000	40.818	49.719	249.37	2.319E-02	8.093E-02	7.201E-04	1.169E-02	1.241E-02
3.5000	47.621	56.522	219.36	1.712E-02	6.068E-02	4.463E-04	7.474E-03	7.920E-03

TI IV 6F EO= 4.5379E-01 (RYD) N*= 5.9379 MU= .0621

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.174	2008.15	1.310E+00	4.538E+00	2.853E-01	4.565E+00	4.850E+00
.4000	5.442	11.617	1067.33	4.129E-01	1.398E+00	5.333E-02	8.155E-01	8.688E-01
.8000	10.885	17.059	726.81	1.966E-01	6.498E-01	1.776E-02	2.587E-01	2.764E-01
1.0000	13.606	19.780	626.82	1.462E-01	4.793E-01	1.139E-02	1.632E-01	1.746E-01
2.0000	27.212	33.386	371.37	4.865E-02	1.579E-01	2.128E-03	2.990E-02	3.202E-02
3.0000	40.818	46.992	263.85	2.253E-02	7.490E-02	6.425E-04	9.468E-03	1.011E-02
4.0000	54.424	60.598	204.61	1.235E-02	4.269E-02	2.489E-04	3.965E-03	4.214E-03

TI IV 8F EO= 2.5438E-01 (RYD) N*= 7.9309 MU= .0691

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.461	3582.34	2.631E+00	7.577E+00	6.450E-01	7.134E+00	7.780E+00
.2000	2.721	6.182	2005.53	9.491E-01	2.847E+00	1.500E-01	1.799E+00	1.949E+00
.4000	5.442	8.903	1392.57	4.890E-01	1.481E+00	5.734E-02	7.010E-01	7.584E-01
.8000	10.885	14.346	864.27	1.981E-01	6.003E-01	1.516E-02	1.856E-01	2.008E-01
1.0000	13.606	17.067	726.47	1.408E-01	4.262E-01	9.111E-03	1.113E-01	1.205E-01
2.0000	27.212	30.673	404.22	4.180E-02	1.280E-01	1.443E-03	1.804E-02	1.948E-02
2.5000	34.015	37.476	330.84	2.692E-02	8.364E-02	7.315E-04	9.415E-03	1.015E-02
3.5000	47.621	51.082	242.72	1.326E-02	4.289E-02	2.418E-04	3.374E-03	3.616E-03

TI IV 10F EO= 1.6234E-01 (RYD) N*= 9.9277 MU= .0723

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.209	5613.38	4.287E+00	1.097E+01	1.093E+00	9.544E+00	1.064E+01
.0200	.272	2.481	4997.67	3.516E+00	9.134E+00	8.258E-01	7.432E+00	8.258E+00
.2000	2.721	4.930	2514.96	1.066E+00	2.967E+00	1.509E-01	1.559E+00	1.710E+00
.4000	5.442	7.651	1620.50	4.835E-01	1.381E+00	4.817E-02	5.240E-01	5.722E-01
1.0000	13.606	15.815	784.00	1.220E-01	3.553E-01	6.339E-03	7.168E-02	7.802E-02
2.0000	27.212	29.421	421.43	3.402E-02	1.013E-01	9.172E-04	1.084E-02	1.176E-02
2.5000	34.015	36.224	342.28	2.160E-02	6.546E-02	4.552E-04	5.574E-03	6.029E-03
4.0000	54.424	56.632	218.93	7.735E-03	2.510E-02	9.124E-05	1.281E-03	1.372E-03

TI IV 12F EO= 1.1249E-01 (RYD) N*= 11.9260 MU= .0740

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.531	8100.63	6.255E+00	1.473E+01	1.613E+00	1.192E+01	1.354E+01
.0200	.272	1.803	6877.83	4.741E+00	1.143E+01	1.091E+00	8.457E+00	9.549E+00
.0400	.544	2.075	5975.78	3.733E+00	9.173E+00	7.788E-01	6.269E+00	7.048E+00
.2000	2.721	4.252	2916.12	1.080E+00	2.874E+00	1.336E-01	1.261E+00	1.395E+00
.4000	5.442	6.973	1778.11	4.460E-01	1.231E+00	3.735E-02	3.796E-01	4.170E-01
.8000	10.885	12.415	998.66	1.518E-01	4.299E-01	7.705E-03	8.240E-02	9.010E-02
1.0000	13.606	15.136	819.12	1.033E-01	2.943E-01	4.347E-03	4.708E-02	5.142E-02
2.0000	27.212	28.742	431.37	2.775E-02	8.139E-02	5.961E-04	6.836E-03	7.432E-03
3.5000	47.621	49.151	252.25	8.377E-03	2.622E-02	9.290E-05	1.213E-03	1.306E-03

TI IV 16F EO= 6.3095E-02 (RYD) N*= 15.9244 MU= .0756

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.858	14442.83	1.106E+01	2.334E+01	2.828E+00	1.679E+01	1.962E+01
.0200	.272	1.131	10966.60	6.969E+00	1.531E+01	1.479E+00	9.516E+00	1.099E+01
.0400	.544	1.403	8839.12	4.846E+00	1.097E+01	8.871E-01	6.061E+00	6.948E+00
.1000	1.361	2.219	5587.35	2.223E+00	5.339E+00	2.953E-01	2.271E+00	2.566E+00
.2000	2.721	3.580	3463.65	9.725E-01	2.465E+00	9.118E-02	7.812E-01	8.724E-01
.4000	5.442	6.301	1967.78	3.560E-01	9.488E-01	2.151E-02	2.037E-01	2.252E-01
.6000	8.164	9.022	1374.26	1.841E-01	5.020E-01	8.237E-03	8.165E-02	8.989E-02
1.0000	13.606	14.464	857.18	7.476E-02	2.084E-01	2.177E-03	2.256E-02	2.474E-02
2.0000	27.212	28.070	441.70	1.931E-02	5.578E-02	2.820E-04	3.136E-03	3.418E-03

TI IV 20F EO= 4.0307E-02 (RYD) N*= 19.9237 MU= .0763

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.548	22608.10	1.695E+01	3.336E+01	4.242E+00	2.191E+01	2.616E+01
.0200	.272	.821	15110.45	8.652E+00	1.801E+01	1.654E+00	9.562E+00	1.122E+01
.0400	.544	1.093	11347.28	5.353E+00	1.158E+01	8.433E-01	5.265E+00	6.108E+00
.0800	1.088	1.637	7574.51	2.705E+00	6.170E+00	3.226E-01	2.237E+00	2.560E+00
.2000	2.721	3.270	3792.10	8.243E-01	2.040E+00	5.984E-02	4.885E-01	5.484E-01
.6000	8.164	8.712	1423.17	1.419E-01	3.816E-01	4.726E-03	4.557E-02	5.029E-02
1.0000	13.606	14.154	875.96	5.625E-02	1.553E-01	1.206E-03	1.225E-02	1.346E-02
2.0000	27.212	27.760	446.63	1.427E-02	4.091E-02	1.522E-04	1.668E-03	1.820E-03

V V 4S EO= 3.3675E+00 (RYD) N*= 2.7247 MU= 1.2753

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	45.818	270.61	.000	2.954E-01	.000	2.512E-01	2.512E-01
1.0000	13.606	59.424	208.65	.000	2.197E-01	.000	1.803E-01	1.803E-01
4.0000	54.424	100.242	123.69	.000	1.156E-01	.000	8.422E-02	8.422E-02

V V 5S EO= 1.7809E+00 (RYD) N*= 3.7467 MU= 1.2533

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	24.231	511.68	.000	4.745E-01	.000	3.429E-01	3.429E-01
1.0000	13.606	37.837	327.69	.000	2.743E-01	.000	1.790E-01	1.790E-01
3.0000	40.818	65.049	190.61	.000	1.350E-01	.000	7.449E-02	7.449E-02

V V 6S EO= 1.1059E+00 (RYD) N*= 4.7546 MU= 1.2454

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	15.047	824.02	.000	6.860E-01	.000	4.450E-01	4.450E-01
1.0000	13.606	28.653	432.72	.000	3.000E-01	.000	1.620E-01	1.620E-01
2.0000	27.212	42.258	293.40	.000	1.775E-01	.000	8.365E-02	8.365E-02

V V 8S EO= 5.4695E-01 (RYD) N*= 6.7607 MU= 1.2393

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.442	1666.08	.000	1.194E+00	.000	6.662E-01	6.662E-01
.8000	10.885	18.327	676.54	.000	3.556E-01	.000	1.456E-01	1.456E-01
1.0000	13.606	21.048	589.07	.000	2.933E-01	.000	1.137E-01	1.137E-01
2.0000	27.212	34.654	357.79	.000	1.455E-01	.000	4.611E-02	4.611E-02

V V 10S EO= 3.2556E-01 (RYD) N*= 8.7631 MU= 1.2369

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.429	2799.11	.000	1.805E+00	.000	9.073E-01	9.073E-01
.2000	2.721	7.151	1733.91	.000	9.441E-01	.000	4.005E-01	4.005E-01
1.0000	13.606	18.035	687.46	.000	2.569E-01	.000	7.479E-02	7.479E-02
3.0000	40.818	45.247	274.02	.000	6.881E-02	.000	1.346E-02	1.346E-02
4.0000	54.424	58.853	210.67	.000	4.725E-02	.000	8.257E-03	8.257E-03

V V 12S EO= 2.1576E-01 (RYD) N*= 10.7642 MU= 1.2358

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (Å)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.936	4223.50	.000	2.516E+00	.000	1.168E+00	1.168E+00
.0400	.544	3.480	3562.96	.000	1.994E+00	.000	8.698E-01	8.698E-01
.2000	2.721	5.657	2191.80	.000	1.013E+00	.000	3.646E-01	3.646E-01
.8000	10.885	13.820	897.13	.000	2.826E-01	.000	6.936E-02	6.936E-02
1.0000	13.606	16.542	749.54	.000	2.181E-01	.000	4.943E-02	4.943E-02
3.0000	40.818	43.753	283.38	.000	5.350E-02	.000	7.868E-03	7.868E-03

V V 16S EO= 1.1467E-01 (RYD) N*= 14.7653 MU= 1.2347

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.560	7946.74	.000	4.216E+00	.000	1.743E+00	1.743E+00
.0600	.816	2.377	5217.03	.000	2.322E+00	.000	8.052E-01	8.052E-01
.2000	2.721	4.281	2895.93	.000	9.935E-01	.000	2.656E-01	2.656E-01
.6000	8.164	9.724	1275.09	.000	3.007E-01	.000	5.526E-02	5.526E-02
1.0000	13.606	15.166	817.52	.000	1.571E-01	.000	2.352E-02	2.352E-02
2.0000	27.212	28.772	430.93	.000	6.171E-02	.000	6.884E-03	6.884E-03

V V 20S EO= 7.0992E-02 (RYD) N*= 18.7657 MU= 1.2343

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.966	12836.21	.000	6.272E+00	.000	2.388E+00	2.388E+00
.0600	.816	1.782	6956.67	.000	2.580E+00	.000	7.456E-01	7.456E-01
.2000	2.721	3.687	3362.71	.000	8.871E-01	.000	1.823E-01	1.823E-01
.4000	5.442	6.408	1934.78	.000	3.929E-01	.000	6.216E-02	6.216E-02
1.0000	13.606	14.572	850.86	.000	1.173E-01	.000	1.260E-02	1.260E-02
2.0000	27.212	28.178	440.02	.000	4.462E-02	.000	3.526E-03	3.526E-03

V V 4P EO= 2.8666E+00 (RYD) N*= 2.9531 MU= 1.0469

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	39.003	317.89	4.070E-01	1.843E-01	1.354E-01	5.553E-02	1.909E-01
.6000	8.164	47.167	262.87	2.993E-01	1.958E-01	8.851E-02	7.574E-02	1.643E-01
1.0000	13.606	52.609	235.67	2.508E-01	1.926E-01	6.933E-02	8.177E-02	1.511E-01
2.0000	27.212	66.215	187.25	1.728E-01	1.735E-01	4.142E-02	8.352E-02	1.249E-01
3.0000	40.818	79.821	155.33	1.277E-01	1.522E-01	2.725E-02	7.749E-02	1.047E-01

V V 5P EO= 1.5781E+00 (RYD) N*= 3.9801 MU= 1.0199

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	21.472	577.43	7.423E-01	1.522E-01	2.478E-01	2.084E-02	2.687E-01
.8000	10.885	32.357	383.19	3.772E-01	1.957E-01	9.645E-02	5.191E-02	1.484E-01
1.0000	13.606	35.078	353.46	3.301E-01	1.921E-01	8.005E-02	5.421E-02	1.343E-01
2.0000	27.212	48.684	254.68	1.918E-01	1.619E-01	3.752E-02	5.346E-02	9.097E-02
3.0000	40.818	62.290	199.05	1.275E-01	1.336E-01	2.121E-02	4.855E-02	6.776E-02

V V 6P EO= 1.0038E+00 (RYD) N*= 4.9905 MU= 1.0095

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	13.658	907.81	1.168E+00	8.374E-02	3.904E-01	4.013E-03	3.944E-01
.1000	1.361	15.018	825.57	9.980E-01	1.268E-01	3.133E-01	1.011E-02	3.235E-01
.8000	10.885	24.542	505.19	4.408E-01	1.883E-01	9.988E-02	3.645E-02	1.363E-01
1.0000	13.606	27.264	454.77	3.698E-01	1.831E-01	7.811E-02	3.830E-02	1.164E-01
2.0000	27.212	40.870	303.37	1.879E-01	1.450E-01	3.023E-02	3.599E-02	6.623E-02
3.0000	40.818	54.475	227.60	1.162E-01	1.141E-01	1.540E-02	2.971E-02	4.511E-02
4.0000	54.424	68.081	182.11	8.000E-02	9.229E-02	9.126E-03	2.429E-02	3.342E-02

V V 7P EO= 6.9543E-01 (RYD) N*= 5.9958 MU= 1.0042

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.462	1310.37	1.880E+00	-2.126E-02	5.596E-01	1.792E-04	5.598E-01
.0200	.272	9.734	1273.74	1.603E+00	1.067E-03	5.239E-01	4.645E-07	5.239E-01
.0400	.544	10.006	1239.10	1.531E+00	2.094E-02	4.914E-01	1.839E-04	4.916E-01
.0800	1.088	10.550	1175.18	1.402E+00	5.448E-02	4.344E-01	1.312E-03	4.358E-01
.2000	2.721	12.183	1017.69	1.103E+00	1.198E-01	3.107E-01	7.322E-03	3.180E-01
.4000	5.442	14.904	831.88	7.882E-01	1.654E-01	1.940E-01	1.709E-02	2.110E-01
.8000	10.885	20.347	609.37	4.682E-01	1.762E-01	9.341E-02	2.648E-02	1.199E-01
1.0000	13.606	23.068	537.49	3.793E-01	1.698E-01	6.951E-02	2.785E-02	9.736E-02
2.0000	27.212	36.674	338.08	1.740E-01	1.274E-01	2.325E-02	2.494E-02	4.819E-02
3.0000	40.818	50.280	246.59	1.023E-01	9.688E-02	1.102E-02	1.977E-02	3.079E-02
4.0000	54.424	63.886	194.08	6.837E-02	7.665E-02	6.256E-03	1.572E-02	2.198E-02

V V 8P EO= 5.1037E-01 (RYD) N*= 6.9988 MU= 1.0012

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.944	1785.49	2.276E+00	-1.618E-01	7.532E-01	7.612E-03	7.608E-01
.0400	.544	7.488	1655.72	2.007E+00	-8.270E-02	6.319E-01	2.145E-03	6.340E-01
.0600	.816	7.760	1597.66	1.891E+00	-5.090E-02	5.815E-01	8.422E-04	5.823E-01
.0800	1.088	8.033	1543.54	1.786E+00	-2.323E-02	5.366E-01	1.816E-04	5.367E-01
.1000	1.361	8.305	1492.96	1.689E+00	8.889E-04	4.964E-01	2.749E-07	4.964E-01
.2000	2.721	9.665	1282.80	1.312E+00	8.328E-02	3.483E-01	2.808E-03	3.511E-01
.4000	5.442	12.386	1000.98	8.662E-01	1.489E-01	1.947E-01	1.150E-02	2.062E-01
.8000	10.885	17.829	695.43	4.701E-01	1.624E-01	8.253E-02	1.971E-02	1.022E-01
1.0000	13.606	20.550	603.34	3.702E-01	1.550E-01	5.898E-02	2.068E-02	7.967E-02
2.0000	27.212	34.156	363.00	1.571E-01	1.114E-01	1.767E-02	1.775E-02	3.542E-02
3.0000	40.818	47.762	259.59	8.920E-02	8.260E-02	7.961E-03	1.365E-02	2.161E-02

V V 10P EO= 3.0850E-01 (RYD) N*= 9.0021 MU= .9979

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.197	2953.88	3.707E+00	-5.454E-01	1.208E+00	5.230E-02	1.261E+00
.0400	.544	4.742	2614.84	3.026E+00	-3.341E-01	9.094E-01	2.217E-02	9.316E-01
.0800	1.088	5.286	2345.62	2.524E+00	-1.939E-01	7.056E-01	8.324E-03	7.139E-01
.1000	1.361	5.558	2230.78	2.321E+00	-1.415E-01	6.274E-01	4.665E-03	6.321E-01
.2000	2.721	6.919	1792.08	1.610E+00	1.725E-02	3.755E-01	8.629E-05	3.756E-01
.4000	5.442	9.640	1286.20	9.230E-01	1.190E-01	1.720E-01	5.722E-03	1.778E-01
.6000	8.164	12.361	1003.05	6.076E-01	1.378E-01	9.558E-02	9.829E-03	1.054E-01
.8000	10.885	15.082	822.07	4.345E-01	1.354E-01	5.963E-02	1.158E-02	7.121E-02
1.0000	13.606	17.803	696.42	3.283E-01	1.271E-01	4.020E-02	1.205E-02	5.225E-02
2.0000	27.212	31.409	394.74	1.256E-01	8.582E-02	1.038E-02	9.691E-03	2.007E-02
3.0000	40.818	45.015	275.43	6.826E-02	6.163E-02	4.393E-03	7.164E-03	1.156E-02

V V 12P EO= 2.0647E-01 (RYD) N*= 11.0037 MU= .9963

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.809	4413.52	5.450E+00	-1.061E+00	1.748E+00	1.324E-01	1.880E+00
.0200	.272	3.081	4023.76	4.672E+00	-8.050E-01	1.409E+00	8.366E-02	1.492E+00
.0600	.816	3.626	3419.75	3.561E+00	-4.696E-01	9.633E-01	3.349E-02	9.968E-01
.1000	1.361	4.170	2973.41	2.819E+00	-2.696E-01	6.943E-01	1.270E-02	7.070E-01
.2000	2.721	5.530	2241.90	1.757E+00	-3.094E-02	3.577E-01	2.218E-04	3.580E-01
.4000	5.442	8.252	1502.57	8.974E-01	9.587E-02	1.392E-01	3.177E-03	1.424E-01
.6000	8.164	10.973	1129.94	5.552E-01	1.153E-01	7.084E-02	6.113E-03	7.695E-02
.8000	10.885	13.694	905.41	3.819E-01	1.124E-01	4.184E-02	7.250E-03	4.909E-02
1.0000	13.606	16.415	755.32	2.811E-01	1.043E-01	2.716E-02	7.485E-03	3.465E-02
2.0000	27.212	30.021	413.00	1.010E-01	6.768E-02	6.413E-03	5.762E-03	1.217E-02
3.0000	40.818	43.627	284.20	5.353E-02	4.772E-02	2.619E-03	4.162E-03	6.781E-03

V V 16P EO= 1.1103E-01 (RYD) N*= 15.0052 MU= .9948

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.511	8207.12	9.827E+00	-2.469E+00	3.056E+00	3.859E-01	3.442E+00
.0600	.816	2.327	5328.00	4.779E+00	-8.255E-01	1.113E+00	6.643E-02	1.180E+00
.0800	1.088	2.599	4770.19	3.972E+00	-5.999E-01	8.588E-01	3.919E-02	8.980E-01
.1000	1.361	2.871	4318.11	3.362E+00	-4.400E-01	6.798E-01	2.329E-02	7.031E-01
.2000	2.721	4.232	2929.80	1.754E+00	-7.894E-02	2.728E-01	1.105E-03	2.739E-01
.4000	5.442	6.953	1783.19	7.608E-01	6.549E-02	8.430E-02	1.249E-03	8.555E-02
.8000	10.885	12.395	1000.26	2.864E-01	7.973E-02	2.130E-02	3.301E-03	2.460E-02
1.0000	13.606	15.117	820.20	2.046E-01	7.291E-02	1.326E-02	3.367E-03	1.663E-02
2.0000	27.212	28.723	431.67	6.878E-02	4.527E-02	2.846E-03	2.465E-03	5.312E-03
3.0000	40.818	42.328	292.91	3.556E-02	3.131E-02	1.121E-03	1.739E-03	2.860E-03
4.0000	54.424	55.934	221.66	2.214E-02	2.345E-02	5.746E-04	1.289E-03	1.864E-03

V V 20P EO= 6.9209E-02 (RYD) N*= 19.0059 MU= .9941

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.942	13166.85	1.535E+01	-4.361E+00	4.645E+00	7.501E-01	5.395E+00
.0400	.544	1.486	8344.24	7.168E+00	-1.569E+00	1.599E+00	1.532E-01	1.752E+00
.0600	.816	1.758	7052.65	5.411E+00	-1.042E+00	1.078E+00	7.996E-02	1.158E+00
.0800	1.088	2.030	6107.31	4.253E+00	-7.182E-01	7.691E-01	4.387E-02	8.129E-01
.2000	2.721	3.663	3384.98	1.580E+00	-9.023E-02	1.915E-01	1.249E-03	1.928E-01
.4000	5.442	6.384	1942.14	6.198E-01	4.775E-02	5.137E-02	6.097E-04	5.198E-02
.6000	8.164	9.105	1361.71	3.402E-01	6.199E-02	2.207E-02	1.466E-03	2.354E-02
.8000	10.885	11.826	1048.39	2.185E-01	5.929E-02	1.183E-02	1.742E-03	1.357E-02
1.0000	13.606	14.548	852.28	1.538E-01	5.380E-02	7.206E-03	1.764E-03	8.970E-03
2.0000	27.212	28.153	440.39	5.005E-02	3.267E-02	1.477E-03	1.259E-03	2.737E-03
3.0000	40.818	41.759	296.91	2.559E-02	2.238E-02	5.727E-04	8.765E-04	1.449E-03

V V 3D EO= 4.6136E+00 (RYD) N*= 2.3278 MU= .6722

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	62.773	197.52	1.668E-01	8.610E-01	4.390E-02	1.754E+00	1.798E+00
1.0000	13.606	76.379	162.33	1.235E-01	6.524E-01	2.929E-02	1.226E+00	1.255E+00
2.0000	27.212	89.985	137.79	9.591E-02	5.077E-01	2.081E-02	8.746E-01	8.954E-01

V V 5D EO= 1.2551E+00 (RYD) N*= 4.4631 MU= .5369

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	17.077	726.06	6.310E-01	1.088E+00	1.709E-01	7.618E-01	9.327E-01
.4000	5.442	22.519	550.58	3.988E-01	8.635E-01	9.004E-02	6.331E-01	7.231E-01
1.0000	13.606	30.683	404.09	2.384E-01	6.241E-01	4.382E-02	4.506E-01	4.944E-01
3.0000	40.818	57.894	214.16	8.198E-02	2.757E-01	9.780E-03	1.659E-01	1.757E-01

V V 6D EO= 8.3588E-01 (RYD) N*= 5.4689 MU= .5311

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.373	1090.19	9.672E-01	1.214E+00	2.674E-01	6.316E-01	8.991E-01
.6000	8.164	19.536	634.64	3.928E-01	7.757E-01	7.576E-02	4.432E-01	5.189E-01
1.0000	13.606	24.979	496.37	2.603E-01	5.965E-01	4.253E-02	3.351E-01	3.776E-01
3.0000	40.818	52.191	237.56	7.471E-02	2.339E-01	7.321E-03	1.076E-01	1.150E-01
4.0000	54.424	65.797	188.44	5.020E-02	1.675E-01	4.167E-03	6.963E-02	7.380E-02

V V 8D EO= 4.4760E-01 (RYD) N*= 7.4735 MU= .5265

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.090	2035.91	1.812E+00	1.391E+00	5.026E-01	4.441E-01	9.467E-01
.0200	.272	6.362	1948.83	1.685E+00	1.363E+00	4.540E-01	4.459E-01	8.999E-01
.0400	.544	6.634	1868.90	1.572E+00	1.335E+00	4.119E-01	4.457E-01	8.575E-01
.6000	8.164	14.254	869.87	4.391E-01	7.183E-01	6.908E-02	2.773E-01	3.464E-01
1.0000	13.606	19.896	629.50	2.550E-01	5.079E-01	3.219E-02	1.915E-01	2.237E-01
2.0000	27.212	33.302	372.31	1.046E-01	2.686E-01	9.159E-03	9.062E-02	9.978E-02
3.0000	40.818	46.908	264.32	5.813E-02	1.696E-01	3.984E-03	5.088E-02	5.486E-02

V V 10D EO= 2.7845E-01 (RYD) N*= 9.4754 MU= .5246

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.789	3272.66	2.869E+00	1.475E+00	7.840E-01	3.108E-01	1.095E+00
.0400	.544	4.333	2861.59	2.296E+00	1.409E+00	5.741E-01	3.243E-01	8.984E-01
.0600	.816	4.605	2692.49	2.075E+00	1.369E+00	4.984E-01	3.256E-01	8.241E-01
.0800	1.088	4.877	2542.26	1.886E+00	1.328E+00	4.362E-01	3.245E-01	7.608E-01
.4000	5.442	9.231	1343.16	6.523E-01	8.111E-01	9.873E-02	2.290E-01	3.277E-01
.8000	10.885	14.673	844.98	3.000E-01	5.066E-01	3.319E-02	1.420E-01	1.752E-01
1.0000	13.606	17.394	712.79	2.252E-01	4.192E-01	2.217E-02	1.152E-01	1.374E-01
2.0000	27.212	31.000	399.95	8.432E-02	2.076E-01	5.541E-03	5.038E-02	5.592E-02

V V 12D EO= 1.8982E-01 (RYD) N*= 11.4763 MU= .5237

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.583	4800.79	4.126E+00	1.473E+00	1.105E+00	2.113E-01	1.317E+00
.0200	.272	2.855	4343.17	3.494E+00	1.458E+00	8.762E-01	2.287E-01	1.105E+00
.0600	.816	3.399	3647.75	2.616E+00	1.377E+00	5.847E-01	2.429E-01	8.276E-01
.0800	1.088	3.671	3377.37	2.302E+00	1.326E+00	4.891E-01	2.435E-01	7.326E-01
.-1000	1.361	3.943	3144.30	2.045E+00	1.275E+00	4.144E-01	2.416E-01	6.560E-01
.4000	5.442	8.025	1545.00	6.270E-01	7.244E-01	7.931E-02	1.588E-01	2.381E-01
.8000	10.885	13.467	920.64	2.633E-01	4.255E-01	2.347E-02	9.194E-02	1.154E-01
1.0000	13.606	16.189	765.89	1.930E-01	3.461E-01	1.516E-02	7.313E-02	8.829E-02
2.0000	27.212	29.794	416.14	6.837E-02	1.645E-01	3.500E-03	3.041E-02	3.391E-02
4.0000	54.424	57.006	217.50	2.227E-02	6.740E-02	7.108E-04	9.763E-03	1.047E-02

V V 16D EO= 1.0436E-01 (RYD) N*= 15.4772 MU= .5228

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.420	8731.56	7.203E+00	1.224E+00	1.852E+00	8.026E-02	1.932E+00
.0200	.272	1.692	7327.38	5.387E+00	1.336E+00	1.234E+00	1.138E-01	1.348E+00
.0400	.544	1.964	6312.26	4.208E+00	1.337E+00	8.741E-01	1.323E-01	1.006E+00
.0600	.816	2.236	5544.18	3.394E+00	1.293E+00	6.476E-01	1.411E-01	7.886E-01
.0800	1.088	2.508	4942.74	2.806E+00	1.234E+00	4.965E-01	1.439E-01	6.404E-01
.1000	1.361	2.781	4459.03	2.366E+00	1.169E+00	3.913E-01	1.433E-01	5.345E-01
.4000	5.442	6.862	1806.76	5.273E-01	5.637E-01	4.797E-02	8.221E-02	1.302E-01
1.0000	13.606	15.026	825.15	1.414E-01	2.444E-01	7.557E-03	3.383E-02	4.139E-02
2.0000	27.212	28.632	433.04	4.718E-02	1.110E-01	1.602E-03	1.331E-02	1.491E-02
3.0000	40.818	42.238	293.54	2.413E-02	6.592E-02	6.182E-04	6.921E-03	7.539E-03

V V 20D EO= 6.5897E-02 (RYD) N*= 19.4776 MU= .5224

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.897	13828.57	1.099E+01	6.656E-01	2.723E+00	1.498E-02	2.738E+00
.0400	.544	1.441	8605.19	5.011E+00	1.184E+00	9.096E-01	7.618E-02	9.857E-01
.0600	.816	1.713	7238.17	3.764E+00	1.158E+00	6.100E-01	8.660E-02	6.966E-01
.0800	1.088	1.985	6245.95	2.949E+00	1.097E+00	4.340E-01	9.009E-02	5.241E-01
.1000	1.361	2.257	5492.96	2.384E+00	1.028E+00	3.226E-01	8.991E-02	4.125E-01
.4000	5.442	6.339	1955.94	4.292E-01	4.419E-01	2.936E-02	4.668E-02	7.604E-02
.8000	10.885	11.781	1052.40	1.519E-01	2.300E-01	6.833E-03	2.351E-02	3.034E-02
1.0000	13.606	14.503	854.93	1.070E-01	1.816E-01	4.171E-03	1.803E-02	2.220E-02
2.0000	27.212	28.108	441.10	3.464E-02	8.070E-02	8.476E-04	6.902E-03	7.749E-03
3.0000	40.818	41.714	297.23	1.753E-02	4.753E-02	3.221E-04	3.553E-03	3.875E-03

V V 4F EO= 1.6065E+00 (RYD) N*= 3.9448 MU= .0552

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	21.858	567.23	2.485E-01	1.174E+00	3.637E-02	1.081E+00	1.117E+00
.0400	.544	22.402	553.45	2.370E-01	1.112E+00	3.388E-02	9.942E-01	1.028E+00
.6000	8.164	30.022	412.99	1.326E-01	5.798E-01	1.422E-02	3.624E-01	3.767E-01
1.0000	13.606	35.464	349.61	9.417E-02	3.986E-01	8.470E-03	2.023E-01	2.108E-01
2.0000	27.212	49.070	252.67	4.697E-02	1.906E-01	2.916E-03	6.404E-02	6.695E-02
4.0000	54.424	76.282	162.54	1.713E-02	6.931E-02	6.027E-04	1.316E-02	1.376E-02

V V 5F EO= 1.0298E+00 (RYD) N*= 4.9271 MU= .0729

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	14.011	884.91	5.425E-01	2.052E+00	1.111E-01	2.119E+00	2.230E+00
.0600	.816	14.828	836.19	4.883E-01	1.841E+00	9.521E-02	1.805E+00	1.901E+00
.4000	5.442	19.454	637.34	2.921E-01	1.082E+00	4.469E-02	8.177E-01	8.624E-01
1.0000	13.606	27.617	448.95	1.465E-01	5.303E-01	1.596E-02	2.789E-01	2.948E-01
2.0000	27.212	41.223	300.77	6.371E-02	2.275E-01	4.506E-03	7.662E-02	8.112E-02
4.0000	54.424	68.435	181.17	2.054E-02	7.522E-02	7.772E-04	1.390E-02	1.468E-02

V V 6F EO= 7.1368E-01 (RYD) N*= 5.9186 MU= .0814

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.710	1276.85	9.106E-01	2.946E+00	2.169E-01	3.027E+00	3.244E+00
.4000	5.442	15.153	818.25	4.013E-01	1.317E+00	6.571E-02	9.440E-01	1.010E+00
.8000	10.885	20.595	602.02	2.230E-01	7.335E-01	2.758E-02	3.979E-01	4.255E-01
1.0000	13.606	23.316	531.76	1.747E-01	5.751E-01	1.918E-02	2.769E-01	2.961E-01
2.0000	27.212	36.922	335.80	6.830E-02	2.264E-01	4.638E-03	6.797E-02	7.261E-02
4.0000	54.424	64.134	193.32	2.023E-02	7.006E-02	7.066E-04	1.130E-02	1.201E-02

V V 8F EO= 3.9949E-01 (RYD) N*= 7.9107 MU= .0893

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.435	2281.06	1.854E+00	4.866E+00	5.033E-01	4.621E+00	5.124E+00
.4000	5.442	10.878	1139.81	5.346E-01	1.521E+00	8.371E-02	9.038E-01	9.876E-01
.8000	10.885	16.320	759.71	2.500E-01	7.336E-01	2.746E-02	3.154E-01	3.429E-01
1.0000	13.606	19.041	651.14	1.857E-01	5.504E-01	1.768E-02	2.071E-01	2.248E-01
2.0000	27.212	32.647	379.77	6.287E-02	1.928E-01	3.475E-03	4.359E-02	4.706E-02
4.0000	54.424	59.859	207.13	1.683E-02	5.509E-02	4.567E-04	6.524E-03	6.981E-03

V V 10F EO= 2.5470E-01 (RYD) N*= 9.9073 MU= .0927

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.465	3577.78	3.056E+00	6.997E+00	8.716E-01	6.092E+00	6.963E+00
.2000	2.721	6.187	2004.10	1.109E+00	2.785E+00	2.048E-01	1.723E+00	1.928E+00
.4000	5.442	8.908	1391.88	5.759E-01	1.517E+00	7.957E-02	7.359E-01	8.155E-01
.8000	10.885	14.350	864.01	2.378E-01	6.585E-01	2.186E-02	2.234E-01	2.453E-01
1.0000	13.606	17.071	726.28	1.707E-01	4.800E-01	1.340E-02	1.412E-01	1.546E-01
2.0000	27.212	30.677	404.16	5.309E-02	1.568E-01	2.329E-03	2.710E-02	2.943E-02
3.0000	40.818	44.283	279.99	2.440E-02	7.489E-02	7.099E-04	8.919E-03	9.629E-03
4.0000	54.424	57.889	214.18	1.347E-02	4.294E-02	2.829E-04	3.833E-03	4.116E-03

V V 12F EO= 1.7638E-01 (RYD) N*= 11.9055 MU= .0945

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.400	5166.52	4.500E+00	9.350E+00	1.309E+00	7.533E+00	8.842E+00
.0400	.544	2.944	4211.43	3.168E+00	6.834E+00	7.959E-01	4.938E+00	5.734E+00
.2000	2.721	5.121	2421.14	1.209E+00	2.859E+00	2.014E-01	1.503E+00	1.704E+00
.4000	5.442	7.842	1581.02	5.649E-01	1.420E+00	6.739E-02	5.681E-01	6.355E-01
.8000	10.885	13.285	933.31	2.137E-01	5.721E-01	1.634E-02	1.561E-01	1.724E-01
1.0000	13.606	16.006	774.64	1.500E-01	4.091E-01	9.693E-03	9.621E-02	1.059E-01
2.0000	27.212	29.612	418.71	4.425E-02	1.280E-01	1.561E-03	1.743E-02	1.899E-02
3.0000	40.818	43.218	286.89	1.992E-02	6.014E-02	4.619E-04	5.613E-03	6.075E-03

V V 16F EO= 9.8843E-02 (RYD) N*= 15.9037 MU= .0963

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.345	9219.39	8.070E+00	1.472E+01	2.359E+00	1.046E+01	1.282E+01
.0200	.272	1.617	7667.86	5.904E+00	1.114E+01	1.518E+00	7.202E+00	8.720E+00
.0600	.816	2.161	5736.93	3.600E+00	7.152E+00	7.545E-01	3.970E+00	4.724E+00
.2000	2.721	4.066	3049.32	1.207E+00	2.669E+00	1.595E-01	1.040E+00	1.200E+00
.4000	5.442	6.787	1826.76	4.867E-01	1.165E+00	4.331E-02	3.306E-01	3.739E-01
.8000	10.885	12.230	1013.82	1.653E-01	4.274E-01	9.003E-03	8.023E-02	8.923E-02
1.0000	13.606	14.951	829.30	1.130E-01	2.991E-01	5.146E-03	4.803E-02	5.317E-02
2.0000	27.212	28.557	434.18	3.149E-02	8.922E-02	7.626E-04	8.163E-03	8.925E-03
3.0000	40.818	42.163	294.07	1.387E-02	4.120E-02	2.186E-04	2.569E-03	2.788E-03
4.0000	54.424	55.769	222.32	7.494E-03	2.321E-02	8.435E-05	1.079E-03	1.163E-03

V V 20F EO= 6.3111E-02 (RYD) N*= 19.9029 MU= .0971

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.859	14439.05	1.250E+01	2.095E+01	3.614E+00	1.353E+01	1.715E+01
.0200	.272	1.131	10964.42	7.858E+00	1.381E+01	1.881E+00	7.746E+00	9.626E+00
.0600	.816	1.675	7401.98	4.035E+00	7.587E+00	7.346E-01	3.462E+00	4.197E+00
.2000	2.721	3.580	3463.43	1.091E+00	2.331E+00	1.148E-01	6.988E-01	8.136E-01
.4000	5.442	6.301	1967.71	4.019E-01	9.385E-01	2.741E-02	1.993E-01	2.267E-01
.6000	8.164	9.022	1374.23	2.097E-01	5.153E-01	1.069E-02	8.603E-02	9.672E-02
.8000	10.885	11.743	1055.79	1.287E-01	3.273E-01	5.239E-03	4.517E-02	5.041E-02
1.0000	13.606	14.465	857.17	8.685E-02	2.264E-01	2.938E-03	2.663E-02	2.957E-02
2.0000	27.212	28.071	441.70	2.350E-02	6.595E-02	4.176E-04	4.384E-03	4.801E-03

CR VI 4S EO= 4.5003E+00 (RYD) N*= 2.8283 MU= 1.1717

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	61.231	202.49	.000	2.413E-01	.000	2.241E-01	2.241E-01
1.0000	13.606	74.837	165.67	.000	1.902E-01	.000	1.701E-01	1.701E-01
4.0000	54.424	115.655	107.20	.000	1.103E-01	.000	8.849E-02	8.849E-02

CR VI 5S EO= 2.4292E+00 (RYD) N*= 3.8496 MU= 1.1504

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	33.052	375.12	.000	3.841E-01	.000	3.065E-01	3.065E-01
1.0000	13.606	46.658	265.73	.000	2.481E-01	.000	1.805E-01	1.805E-01
3.0000	40.818	73.870	167.84	.000	1.349E-01	.000	8.453E-02	8.453E-02
7.0000	95.241	128.294	96.64	.000	6.375E-02	.000	3.277E-02	3.277E-02

CR VI 6S EO= 1.5258E+00 (RYD) N*= 4.8574 MU= 1.1426

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	20.760	597.24	.000	5.536E-01	.000	3.998E-01	3.998E-01
1.0000	13.606	34.366	360.78	.000	2.850E-01	.000	1.754E-01	1.754E-01
2.0000	27.212	47.972	258.46	.000	1.807E-01	.000	9.842E-02	9.842E-02
4.0000	54.424	75.184	164.91	.000	9.686E-02	.000	4.433E-02	4.433E-02

CR VI 8S EO= 7.6421E-01 (RYD) N*= 6.8635 MU= 1.1365

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.398	1192.43	.000	9.626E-01	.000	6.055E-01	6.055E-01
1.0000	13.606	24.004	516.53	.000	3.039E-01	.000	1.393E-01	1.393E-01
2.0000	27.212	37.610	329.67	.000	1.606E-01	.000	6.094E-02	6.094E-02
7.0000	95.241	105.639	117.37	.000	3.670E-02	.000	8.943E-03	8.943E-03

CR VI 10S EO= 4.5800E-01 (RYD) N*= 8.8658 MU= 1.1342

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.231	1989.88	.000	1.459E+00	.000	8.332E-01	8.332E-01
1.0000	13.606	19.837	625.01	.000	2.834E-01	.000	1.001E-01	1.001E-01
2.0000	27.212	33.443	370.74	.000	1.330E-01	.000	3.719E-02	3.719E-02
5.0000	68.030	74.261	166.96	.000	4.187E-02	.000	8.180E-03	8.180E-03

CR VI 12S EO= 3.0485E-01 (RYD) N*= 10.8670 MU= 1.1330

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.148	2989.25	.000	2.037E+00	.000	1.081E+00	1.081E+00
1.0000	13.606	17.754	698.37	.000	2.511E-01	.000	7.034E-02	7.034E-02
3.0000	40.818	44.965	275.74	.000	6.446E-02	.000	1.174E-02	1.174E-02
4.0000	54.424	58.571	211.68	.000	4.384E-02	.000	7.073E-03	7.073E-03
8.0000	108.847	112.995	109.73	.000	1.696E-02	.000	2.042E-03	2.042E-03

CR VI 16S EO= 1.6285E-01 (RYD) N*= 14.8681 MU= 1.1319

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.216	5595.67	.000	3.427E+00	.000	1.635E+00	1.635E+00
.5000	6.803	9.019	1374.77	.000	4.373E-01	.000	1.084E-01	1.084E-01
1.0000	13.606	15.822	783.65	.000	1.902E-01	.000	3.597E-02	3.597E-02
3.0000	40.818	43.034	288.12	.000	4.338E-02	.000	5.088E-03	5.088E-03

CR VI 20S EO= 1.0112E-01 (RYD) N*= 18.8685 MU= 1.1315

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.376	9011.95	.000	5.115E+00	.000	2.262E+00	2.262E+00
.2000	2.721	4.097	3026.28	.000	1.012E+00	.000	2.635E-01	2.635E-01
.5000	6.803	8.179	1515.96	.000	3.599E-01	.000	6.656E-02	6.656E-02
1.0000	13.606	14.982	827.58	.000	1.458E-01	.000	2.001E-02	2.001E-02
2.0000	27.212	28.588	433.71	.000	5.579E-02	.000	5.591E-03	5.591E-03

CR VI 4P EO= 3.9049E+00 (RYD) N*= 3.0363 MU= .9637

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	53.130	233.37	2.956E-01	2.218E-01	9.722E-02	1.095E-01	2.067E-01
.4000	5.442	58.572	211.68	2.524E-01	2.141E-01	7.814E-02	1.124E-01	1.906E-01
.6000	8.164	61.293	202.28	2.345E-01	2.094E-01	7.058E-02	1.126E-01	1.832E-01
.8000	10.885	64.014	193.68	2.185E-01	2.046E-01	6.402E-02	1.122E-01	1.762E-01
1.0000	13.606	66.736	185.79	2.042E-01	1.995E-01	5.831E-02	1.113E-01	1.696E-01
3.0000	40.818	93.947	131.97	1.172E-01	1.529E-01	2.701E-02	9.197E-02	1.190E-01
7.0000	95.241	146.371	83.57	5.564E-02	9.563E-02	9.622E-03	5.685E-02	6.647E-02

CR VI 5P EO= 2.1813E+00 (RYD) N*= 4.0625 MU= .9375

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	29.679	417.76	5.326E-01	2.547E-01	1.763E-01	8.063E-02	2.570E-01
.4000	5.442	35.121	353.02	4.034E-01	2.430E-01	1.197E-01	8.689E-02	2.066E-01
.6000	8.164	37.842	327.64	3.566E-01	2.346E-01	1.008E-01	8.722E-02	1.880E-01
.8000	10.885	40.564	305.66	3.179E-01	2.255E-01	8.584E-02	8.645E-02	1.723E-01
1.0000	13.606	43.285	286.44	2.855E-01	2.164E-01	7.388E-02	8.494E-02	1.588E-01
3.0000	40.818	70.497	175.88	1.270E-01	1.437E-01	2.383E-02	6.097E-02	8.479E-02
6.0000	81.635	111.314	111.38	5.942E-02	8.863E-02	8.232E-03	3.663E-02	4.486E-02

CR VI 6P EO= 1.3991E+00 (RYD) N*= 5.0726 MU= .9274

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	19.036	651.34	8.331E-01	2.739E-01	2.768E-01	5.983E-02	3.366E-01
.4000	5.442	24.478	506.52	5.486E-01	2.612E-01	1.543E-01	6.994E-02	2.243E-01
.6000	8.164	27.199	455.85	4.603E-01	2.482E-01	1.207E-01	7.019E-02	1.909E-01
.8000	10.885	29.920	414.39	3.926E-01	2.345E-01	9.659E-02	6.892E-02	1.655E-01
1.0000	13.606	32.641	379.84	3.395E-01	2.210E-01	7.879E-02	6.680E-02	1.456E-01
3.0000	40.818	59.853	207.15	1.229E-01	1.290E-01	1.893E-02	4.175E-02	6.068E-02
5.0000	68.030	87.065	142.41	6.548E-02	8.630E-02	7.819E-03	2.717E-02	3.499E-02

CR VI 8P EO= 7.1802E-01 (RYD) N*= 7.0808 MU= .9192

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.769	1269.15	1.613E+00	2.684E-01	5.325E-01	2.948E-02	5.620E-01
.2000	2.721	12.490	992.65	1.071E+00	2.865E-01	3.001E-01	4.295E-02	3.431E-01
.4000	5.442	15.212	815.08	7.703E-01	2.715E-01	1.891E-01	4.696E-02	2.360E-01
.6000	8.164	17.933	691.39	5.846E-01	2.493E-01	1.284E-01	4.668E-02	1.750E-01
.8000	10.885	20.654	600.30	4.611E-01	2.271E-01	9.198E-02	4.462E-02	1.366E-01
1.0000	13.606	23.375	530.42	3.744E-01	2.069E-01	6.863E-02	4.191E-02	1.105E-01
3.0000	40.818	50.587	245.10	1.016E-01	9.936E-02	1.093E-02	2.092E-02	3.185E-02
4.0000	54.424	64.193	193.15	6.783E-02	7.657E-02	6.186E-03	1.577E-02	2.195E-02
6.0000	81.635	91.405	135.65	3.728E-02	5.096E-02	2.660E-03	9.946E-03	1.261E-02

CR VI 10P EO= 4.3625E-01 (RYD) N*= 9.0841 MU= .9159

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.936	2088.84	2.620E+00	2.060E-01	8.537E-01	1.055E-02	8.643E-01
.2000	2.721	8.657	1432.24	1.396E+00	2.794E-01	3.532E-01	2.832E-02	3.815E-01
.4000	5.442	11.378	1089.70	8.827E-01	2.611E-01	1.857E-01	3.249E-02	2.182E-01
.6000	8.164	14.099	879.39	6.155E-01	2.316E-01	1.119E-01	3.169E-02	1.436E-01
.8000	10.885	16.820	737.12	4.572E-01	2.043E-01	7.363E-02	2.941E-02	1.030E-01
1.0000	13.606	19.542	634.48	3.549E-01	1.811E-01	5.156E-02	2.684E-02	7.839E-02
3.0000	40.818	46.753	265.19	8.083E-02	7.667E-02	6.398E-03	1.151E-02	1.791E-02
4.0000	54.424	60.359	205.41	5.235E-02	5.766E-02	3.465E-03	8.406E-03	1.187E-02
8.0000	108.847	114.783	108.02	1.757E-02	2.688E-02	7.422E-04	3.474E-03	4.216E-03

CR VI 12P EO= 2.9294E-01 (RYD) N*= 11.0857 MU= .9143

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.986	3110.79	3.845E+00	8.889E-02	1.235E+00	1.319E-03	1.236E+00
.1000	1.361	5.346	2319.11	2.356E+00	2.346E-01	6.214E-01	1.232E-02	6.338E-01
.2000	2.721	6.707	1848.65	1.612E+00	2.619E-01	3.650E-01	1.928E-02	3.843E-01
.4000	5.442	9.428	1315.08	9.100E-01	2.415E-01	1.635E-01	2.304E-02	1.866E-01
.6000	8.164	12.149	1020.53	5.937E-01	2.078E-01	8.969E-02	2.198E-02	1.117E-01
1.0000	13.606	17.592	704.80	3.176E-01	1.551E-01	3.717E-02	1.772E-02	5.490E-02
2.0000	27.212	31.198	397.42	1.201E-01	8.927E-02	9.429E-03	1.042E-02	1.984E-02
3.0000	40.818	44.803	276.73	6.487E-02	6.053E-02	3.949E-03	6.878E-03	1.083E-02
6.0000	81.635	85.621	144.81	2.152E-02	2.864E-02	8.308E-04	2.942E-03	3.772E-03

CR VI 14P EO= 2.1021E-01 (RYD) N*= 13.0866 MU= .9134

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.860	4335.11	5.281E+00	-8.108E-02	1.671E+00	7.876E-04	1.672E+00
.0200	.272	3.132	3958.48	4.539E+00	1.920E-02	1.352E+00	4.839E-05	1.352E+00
.0400	.544	3.404	3642.06	3.950E+00	8.890E-02	1.112E+00	1.127E-03	1.114E+00
.0600	.816	3.676	3372.49	3.474E+00	1.379E-01	9.293E-01	2.928E-03	9.322E-01
.2000	2.721	5.581	2221.49	1.727E+00	2.408E-01	3.487E-01	1.356E-02	3.623E-01
.4000	5.442	8.302	1493.38	8.861E-01	2.193E-01	1.365E-01	1.672E-02	1.533E-01
.6000	8.164	11.024	1124.74	5.494E-01	1.838E-01	6.969E-02	1.561E-02	8.530E-02
1.0000	13.606	16.466	752.99	2.786E-01	1.325E-01	2.678E-02	1.211E-02	3.889E-02
2.0000	27.212	30.072	412.30	1.001E-01	7.342E-02	6.317E-03	6.790E-03	1.311E-02
5.0000	68.030	70.890	174.90	2.320E-02	2.808E-02	7.996E-04	2.342E-03	3.142E-03
8.0000	108.847	111.707	110.99	1.070E-02	1.618E-02	2.678E-04	1.225E-03	1.493E-03

CR VI 16P EO= 1.5816E-01 (RYD) N*= 15.0872 MU= .9128

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.152	5761.85	6.922E+00	-3.025E-01	2.159E+00	8.251E-03	2.168E+00
.0200	.272	2.424	5115.02	5.675E+00	-1.212E-01	1.635E+00	1.492E-03	1.637E+00
.0400	.544	2.696	4598.75	4.752E+00	-4.319E-03	1.275E+00	2.107E-06	1.275E+00
.0600	.816	2.968	4177.15	4.047E+00	7.295E-02	1.018E+00	6.617E-04	1.019E+00
.0800	1.088	3.240	3826.36	3.495E+00	1.248E-01	8.290E-01	2.116E-03	8.311E-01
.2000	2.721	4.873	2544.34	1.764E+00	2.194E-01	3.176E-01	9.826E-03	3.275E-01
.4000	5.442	7.594	1632.64	8.364E-01	1.974E-01	1.113E-01	1.240E-02	1.237E-01
.6000	8.164	10.315	1201.95	4.988E-01	1.621E-01	5.377E-02	1.135E-02	6.512E-02
.8000	10.885	13.037	951.06	3.357E-01	1.345E-01	3.077E-02	9.882E-03	4.065E-02
1.0000	13.606	15.758	786.83	2.435E-01	1.139E-01	1.956E-02	8.558E-03	2.812E-02
2.0000	27.212	29.364	422.24	8.449E-02	6.141E-02	4.391E-03	4.639E-03	9.030E-03
4.0000	54.424	56.576	219.15	2.759E-02	2.964E-02	9.024E-04	2.082E-03	2.984E-03
6.0000	81.635	83.787	147.98	1.412E-02	1.863E-02	3.500E-04	1.218E-03	1.568E-03

CR VI 20P EO= 9.8807E-02 (RYD) N*= 19.0879 MU= .9121

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.344	9222.72	1.080E+01	-8.957E-01	3.284E+00	4.519E-02	3.329E+00
.0400	.544	1.889	6565.01	6.124E+00	-1.893E-01	1.484E+00	2.836E-03	1.487E+00
.0600	.816	2.161	5738.21	4.890E+00	-4.445E-02	1.082E+00	1.788E-04	1.083E+00
.0800	1.088	2.433	5096.38	4.010E+00	4.353E-02	8.194E-01	1.931E-04	8.196E-01
.1000	1.361	2.705	4583.68	3.358E+00	9.835E-02	6.388E-01	1.096E-03	6.399E-01
.2000	2.721	4.066	3049.69	1.695E+00	1.809E-01	2.446E-01	5.573E-03	2.502E-01
.4000	5.442	6.787	1826.90	7.152E-01	1.594E-01	7.272E-02	7.220E-03	7.994E-02
.6000	8.164	9.508	1304.03	4.046E-01	1.270E-01	3.261E-02	6.420E-03	3.903E-02
1.0000	13.606	14.950	829.32	1.879E-01	8.613E-02	1.106E-02	4.647E-03	1.570E-02
2.0000	27.212	28.556	434.18	6.247E-02	4.495E-02	2.334E-03	2.417E-03	4.751E-03
3.0000	40.818	42.162	294.07	3.212E-02	2.931E-02	9.109E-04	1.517E-03	2.428E-03
5.0000	68.030	69.374	178.72	1.371E-02	1.646E-02	2.731E-04	7.877E-04	1.061E-03

CR VI 3D EO= 6.5130E+00 (RYD) N*= 2.3510 MU= .6490

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	88.616	139.91	1.192E-01	6.112E-01	3.163E-02	1.248E+00	1.280E+00
1.0000	13.606	102.221	121.29	9.501E-02	4.910E-01	2.319E-02	9.293E-01	9.525E-01
4.0000	54.424	143.039	86.68	5.529E-02	2.803E-01	1.099E-02	4.236E-01	4.346E-01
5.0000	68.030	156.645	79.15	4.762E-02	2.386E-01	8.929E-03	3.363E-01	3.452E-01
10.0000	136.059	224.675	55.18	2.591E-02	1.222E-01	3.791E-03	1.265E-01	1.303E-01

CR VI 4D EO= 2.9836E+00 (RYD) N*= 3.4736 MU= .5264

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	40.595	305.42	2.673E-01	7.319E-01	7.290E-02	8.199E-01	8.928E-01
1.0000	13.606	54.201	228.75	1.648E-01	5.230E-01	3.702E-02	5.589E-01	5.959E-01
4.0000	54.424	95.019	130.49	6.368E-02	2.369E-01	9.685E-03	2.010E-01	2.107E-01
7.0000	95.241	135.837	91.28	3.432E-02	1.333E-01	4.022E-03	9.106E-02	9.508E-02

CR VI 5D EO= 1.7856E+00 (RYD) N*= 4.4901 MU= .5099

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	24.295	510.33	4.761E-01	8.993E-01	1.384E-01	7.408E-01	8.792E-01
1.0000	13.606	37.901	327.13	2.245E-01	5.588E-01	4.803E-02	4.462E-01	4.943E-01
4.0000	54.424	78.719	157.51	6.391E-02	2.081E-01	8.082E-03	1.285E-01	1.366E-01
5.0000	68.030	92.325	134.29	4.838E-02	1.634E-01	5.431E-03	9.293E-02	9.836E-02
8.0000	108.847	133.142	93.12	2.534E-02	9.083E-02	2.148E-03	4.142E-02	4.357E-02

CR VI 6D EO= 1.1917E+00 (RYD) N*= 5.4963 MU= .5037

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	16.214	764.70	7.358E-01	1.060E+00	2.207E-01	6.866E-01	9.072E-01
1.0000	13.606	29.820	415.79	2.622E-01	5.636E-01	5.154E-02	3.572E-01	4.087E-01
4.0000	54.424	70.637	175.53	5.906E-02	1.788E-01	6.193E-03	8.519E-02	9.138E-02
7.0000	95.241	111.455	111.24	2.636E-02	8.858E-02	1.947E-03	3.298E-02	3.492E-02
10.0000	136.059	152.273	81.42	1.504E-02	5.287E-02	8.663E-04	1.605E-02	1.691E-02

CR VI 8D EO= 6.3976E-01 (RYD) N*= 7.5014 MU= .4986

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.705	1424.38	1.395E+00	1.357E+00	4.260E-01	6.048E-01	1.031E+00
1.0000	13.606	22.310	555.73	2.839E-01	5.199E-01	4.519E-02	2.274E-01	2.726E-01
3.0000	40.818	49.522	250.36	7.154E-02	1.861E-01	6.371E-03	6.466E-02	7.103E-02
7.0000	95.241	103.946	119.28	1.923E-02	6.152E-02	9.660E-04	1.483E-02	1.580E-02
9.0000	122.453	131.158	94.53	1.264E-02	4.217E-02	5.267E-04	8.794E-03	9.321E-03

CR VI 10D EO= 3.9861E-01 (RYD) N*= 9.5034 MU= .4966

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.423	2286.13	2.229E+00	1.627E+00	6.774E-01	5.415E-01	1.219E+00
1.0000	13.606	19.029	651.55	2.675E-01	4.524E-01	3.423E-02	1.468E-01	1.811E-01
2.0000	27.212	32.635	379.92	1.057E-01	2.304E-01	9.163E-03	6.532E-02	7.448E-02
3.0000	40.818	46.241	268.13	5.755E-02	1.439E-01	3.850E-03	3.609E-02	3.994E-02
6.0000	81.635	87.059	142.42	1.876E-02	5.679E-02	7.701E-04	1.058E-02	1.135E-02
7.0000	95.241	100.665	123.17	1.445E-02	4.523E-02	5.286E-04	7.763E-03	8.292E-03

CR VI 12D EO= 2.7200E-01 (RYD) N*= 11.5044 MU= .4956

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.701	3350.21	3.228E+00	1.872E+00	9.690E-01	4.889E-01	1.458E+00
1.0000	13.606	17.307	716.40	2.393E-01	3.868E-01	2.491E-02	9.764E-02	1.226E-01
2.0000	27.212	30.913	401.09	8.811E-02	1.867E-01	6.032E-03	4.064E-02	4.667E-02
5.0000	68.030	71.730	172.85	2.005E-02	5.721E-02	7.247E-04	8.852E-03	9.576E-03
8.0000	108.847	112.548	110.16	8.925E-03	2.835E-02	2.253E-04	3.410E-03	3.636E-03

CR VI 16D EO= 1.4974E-01 (RYD) N*= 15.5054 MU= .4946

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.037	6085.66	5.692E+00	2.290E+00	1.659E+00	4.030E-01	2.062E+00
1.0000	13.606	15.643	792.59	1.841E-01	2.843E-01	1.333E-02	4.769E-02	6.102E-02
2.0000	27.212	29.249	423.90	6.264E-02	1.291E-01	2.885E-03	1.838E-02	2.126E-02
3.0000	40.818	42.855	289.32	3.214E-02	7.698E-02	1.113E-03	9.575E-03	1.069E-02
4.0000	54.424	56.461	219.60	1.976E-02	5.203E-02	5.540E-04	5.764E-03	6.318E-03
8.0000	108.847	110.885	111.82	5.893E-03	1.853E-02	9.680E-05	1.435E-03	1.532E-03

CR VI 20D EO= 9.4618E-02 (RYD) N*= 19.5058 MU= .4942

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.287	9630.98	8.750E+00	2.620E+00	2.478E+00	3.333E-01	2.811E+00
.2000	2.721	4.009	3093.04	1.313E+00	9.549E-01	1.737E-01	1.378E-01	3.115E-01
.5000	6.803	8.090	1532.53	4.028E-01	4.429E-01	3.300E-02	5.984E-02	9.284E-02
1.0000	13.606	14.893	832.50	1.428E-01	2.158E-01	7.632E-03	2.616E-02	3.379E-02
2.0000	27.212	28.499	435.05	4.667E-02	9.493E-02	1.560E-03	9.684E-03	1.124E-02
3.0000	40.818	42.105	294.47	2.359E-02	5.597E-02	5.891E-04	4.973E-03	5.562E-03
7.0000	95.241	96.529	128.44	5.380E-03	1.636E-02	7.024E-05	9.744E-04	1.045E-03

CR VI 4F EO= 2.3343E+00 (RYD) N*= 3.9271 MU= .0729

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	31.760	390.38	1.761E-01	8.452E-01	2.654E-02	8.146E-01	8.412E-01
1.0000	13.606	45.366	273.30	8.596E-02	3.871E-01	9.028E-03	2.440E-01	2.531E-01
2.0000	27.212	58.972	210.25	4.937E-02	2.158E-01	3.872E-03	9.863E-02	1.025E-01
3.0000	40.818	72.578	170.83	3.128E-02	1.353E-01	1.913E-03	4.768E-02	4.959E-02
4.5000	61.227	92.987	133.34	1.777E-02	7.703E-02	7.910E-04	1.981E-02	2.060E-02
6.0000	81.635	113.396	109.34	1.112E-02	4.885E-02	3.777E-04	9.715E-03	1.009E-02
8.0000	108.847	140.608	88.18	6.591E-03	2.964E-02	1.645E-04	4.436E-03	4.601E-03

CR VI 5F EO= 1.4948E+00 (RYD) N*= 4.9074 MU= .0926

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	20.339	609.61	3.871E-01	1.455E+00	8.210E-02	1.547E+00	1.629E+00
.5000	6.803	27.142	456.81	2.233E-01	8.372E-01	3.646E-02	6.831E-01	7.196E-01
1.0000	13.606	33.945	365.26	1.438E-01	5.374E-01	1.890E-02	3.520E-01	3.709E-01
2.0000	27.212	47.550	260.75	7.213E-02	2.696E-01	6.663E-03	1.241E-01	1.308E-01
3.0000	40.818	61.156	202.74	4.211E-02	1.587E-01	2.920E-03	5.529E-02	5.821E-02
5.0000	68.030	88.368	140.31	1.844E-02	7.160E-02	8.089E-04	1.627E-02	1.708E-02
6.0000	81.635	101.974	121.59	1.320E-02	5.221E-02	4.785E-04	9.980E-03	1.046E-02
8.0000	108.847	129.186	95.98	7.489E-03	3.074E-02	1.951E-04	4.382E-03	4.578E-03

CR VI 6F EO= 1.0348E+00 (RYD) N*= 5.8983 MU= .1017

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	14.079	880.63	6.537E-01	2.070E+00	1.620E-01	2.167E+00	2.329E+00
.5000	6.803	20.882	593.74	3.141E-01	1.028E+00	5.550E-02	7.920E-01	8.475E-01
1.0000	13.606	27.685	447.84	1.825E-01	6.073E-01	2.483E-02	3.667E-01	3.915E-01
2.0000	27.212	41.291	300.27	8.175E-02	2.785E-01	7.431E-03	1.150E-01	1.224E-01
3.0000	40.818	54.897	225.85	4.488E-02	1.562E-01	2.978E-03	4.811E-02	5.109E-02
5.0000	68.030	82.109	151.00	1.840E-02	6.705E-02	7.488E-04	1.326E-02	1.400E-02
6.0000	81.635	95.715	129.54	1.292E-02	4.818E-02	4.301E-04	7.978E-03	8.408E-03

CR VI 8F EO= 5.7827E-01 (RYD) N*= 7.8901 MU= .1099

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.868	1575.84	1.344E+00	3.382E+00	3.829E-01	3.231E+00	3.614E+00
.5000	6.803	14.671	845.12	4.358E-01	1.212E+00	7.503E-02	7.744E-01	8.494E-01
1.0000	13.606	21.474	577.38	2.127E-01	6.211E-01	2.616E-02	2.975E-01	3.236E-01
2.0000	27.212	35.080	353.44	8.085E-02	2.495E-01	6.176E-03	7.840E-02	8.458E-02
4.0000	54.424	62.292	199.04	2.412E-02	7.988E-02	9.757E-04	1.427E-02	1.525E-02
5.0000	68.030	75.898	163.36	1.554E-02	5.308E-02	4.938E-04	7.680E-03	8.173E-03
8.0000	108.847	116.715	106.23	5.712E-03	2.118E-02	1.026E-04	1.879E-03	1.982E-03

CR VI 10F EO= 3.6830E-01 (RYD) N*= 9.8867 MU= .1133

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.011	2474.24	2.232E+00	4.831E+00	6.726E-01	4.200E+00	4.873E+00
.5000	6.803	11.814	1049.48	4.844E-01	1.233E+00	7.464E-02	6.448E-01	7.195E-01
1.0000	13.606	18.617	665.98	2.076E-01	5.668E-01	2.161E-02	2.148E-01	2.364E-01
1.5000	20.409	25.420	487.75	1.139E-01	3.245E-01	8.878E-03	9.610E-02	1.050E-01
3.0000	40.818	45.829	270.54	3.448E-02	1.062E-01	1.467E-03	1.857E-02	2.004E-02
4.0000	54.424	59.435	208.61	1.977E-02	6.328E-02	6.255E-04	8.546E-03	9.172E-03
6.0000	81.635	86.647	143.09	8.504E-03	2.908E-02	1.688E-04	2.631E-03	2.800E-03
7.0000	95.241	100.252	123.67	6.061E-03	2.135E-02	9.919E-05	1.641E-03	1.740E-03

CR VI 12F EO= 2.5487E-01 (RYD) N*= 11.8848 MU= .1152

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.468	3575.44	3.308E+00	6.427E+00	1.022E+00	5.144E+00	6.166E+00
.5000	6.803	10.271	1207.19	4.862E-01	1.173E+00	6.540E-02	5.074E-01	5.728E-01
1.0000	13.606	17.074	726.19	1.897E-01	4.981E-01	1.655E-02	1.521E-01	1.687E-01
1.5000	20.409	23.877	519.28	9.970E-02	2.752E-01	6.392E-03	6.494E-02	7.134E-02
3.0000	40.818	44.285	279.97	2.866E-02	8.638E-02	9.794E-04	1.187E-02	1.285E-02
4.0000	54.424	57.891	214.17	1.619E-02	5.086E-02	4.085E-04	5.378E-03	5.786E-03
7.0000	95.241	98.709	125.61	4.861E-03	1.688E-02	6.282E-05	1.010E-03	1.073E-03

CR VI 16F EO= 1.4270E-01 (RYD) N*= 15.8831 MU= .1169

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.942	6385.77	5.989E+00	1.006E+01	1.875E+00	7.052E+00	8.927E+00
.5000	6.803	8.745	1417.87	4.318E-01	9.827E-01	4.390E-02	3.032E-01	3.471E-01
1.0000	13.606	15.548	797.47	1.497E-01	3.773E-01	9.383E-03	7.949E-02	8.888E-02
1.5000	20.409	22.350	554.74	7.487E-02	2.001E-01	3.374E-03	3.212E-02	3.550E-02
3.0000	40.818	42.759	289.96	2.033E-02	5.996E-02	4.760E-04	5.520E-03	5.996E-03
5.0000	68.030	69.971	177.20	7.031E-03	2.254E-02	9.316E-05	1.276E-03	1.369E-03

CR VI 20F EO= 9.1069E-02 (RYD) N*= 19.8823 MU= .1177

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.239	10006.37	9.341E+00	1.426E+01	2.912E+00	9.043E+00	1.196E+01
.2000	2.721	3.960	3130.76	1.272E+00	2.446E+00	1.725E-01	8.510E-01	1.023E+00
.4000	5.442	6.681	1855.68	5.056E-01	1.079E+00	4.601E-02	2.792E-01	3.252E-01
1.0000	13.606	14.845	835.21	1.178E-01	2.910E-01	5.544E-03	4.515E-02	5.069E-02
2.0000	27.212	28.451	435.79	3.357E-02	9.220E-02	8.635E-04	8.686E-03	9.549E-03
3.0000	40.818	42.057	294.81	1.515E-02	4.423E-02	2.600E-04	2.955E-03	3.215E-03

MN VII 4S EO= 5.7518E+00 (RYD) N*= 2.9187 MU= 1.0813

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	78.258	158.43	.000	2.012E-01	.000	1.991E-01	1.991E-01
1.0000	13.606	91.864	134.97	.000	1.654E-01	.000	1.579E-01	1.579E-01
4.0000	54.424	132.682	93.45	.000	1.036E-01	.000	8.945E-02	8.945E-02

MN VII 5S EO= 3.1586E+00 (RYD) N*= 3.9387 MU= 1.0613

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	42.976	288.50	.000	3.177E-01	.000	2.725E-01	2.725E-01
1.0000	13.606	56.581	219.13	.000	2.224E-01	.000	1.758E-01	1.758E-01
3.0000	40.818	83.793	147.97	.000	1.313E-01	.000	9.084E-02	9.084E-02
7.0000	95.241	138.217	89.70	.000	6.612E-02	.000	3.797E-02	3.797E-02

MN VII 6S EO= 2.0029E+00 (RYD) N*= 4.9461 MU= 1.0539

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	27.252	454.97	.000	4.560E-01	.000	3.561E-01	3.561E-01
1.0000	13.606	40.858	303.46	.000	2.648E-01	.000	1.801E-01	1.801E-01
3.0000	40.818	68.070	182.15	.000	1.305E-01	.000	7.286E-02	7.286E-02
8.0000	108.847	136.099	91.10	.000	4.919E-02	.000	2.070E-02	2.070E-02

MN VII 8S EO= 1.0139E+00 (RYD) N*= 6.9520 MU= 1.0480

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	13.794	898.82	.000	7.911E-01	.000	5.425E-01	5.425E-01
1.0000	13.606	27.400	452.50	.000	3.030E-01	.000	1.581E-01	1.581E-01
2.0000	27.212	41.006	302.36	.000	1.701E-01	.000	7.453E-02	7.453E-02
5.0000	68.030	81.824	151.53	.000	6.272E-02	.000	2.023E-02	2.023E-02
8.0000	108.847	122.642	101.10	.000	3.500E-02	.000	9.443E-03	9.443E-03

MN VII 10S EO= 6.1113E-01 (RYD) N*= 8.9543 MU= 1.0457

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.315	1491.13	.000	1.199E+00	.000	7.506E-01	7.506E-01
1.0000	13.606	21.921	565.61	.000	2.987E-01	.000	1.229E-01	1.229E-01
2.0000	27.212	35.527	348.99	.000	1.476E-01	.000	4.861E-02	4.861E-02
6.0000	81.635	89.950	137.84	.000	3.791E-02	.000	8.126E-03	8.126E-03

MN VII 12S EO= 4.0826E-01 (RYD) N*= 10.9555 MU= 1.0445

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.555	2232.09	.000	1.675E+00	.000	9.788E-01	9.788E-01
1.0000	13.606	19.161	647.09	.000	2.757E-01	.000	9.150E-02	9.150E-02
2.0000	27.212	32.767	378.39	.000	1.248E-01	.000	3.206E-02	3.206E-02
4.0000	54.424	59.978	206.72	.000	5.112E-02	.000	9.850E-03	9.850E-03
6.0000	81.635	87.190	142.20	.000	2.952E-02	.000	4.773E-03	4.773E-03

MN VII 16S EO= 2.1905E-01 (RYD) N*= 14.9565 MU= 1.0435

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.980	4160.16	.000	2.822E+00	.000	1.491E+00	1.491E+00
.4000	5.442	8.423	1472.05	.000	6.050E-01	.000	1.938E-01	1.938E-01
1.0000	13.606	16.586	747.53	.000	2.196E-01	.000	5.027E-02	5.027E-02
3.0000	40.818	43.798	283.09	.000	5.156E-02	.000	7.317E-03	7.317E-03
6.0000	81.635	84.616	146.53	.000	1.945E-02	.000	2.013E-03	2.013E-03

MN VII 20S EO= 1.3635E-01 (RYD) N*= 18.9570 MU= 1.0430

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.855	6683.25	.000	4.217E+00	.000	2.074E+00	2.074E+00
.4000	5.442	7.298	1699.01	.000	5.373E-01	.000	1.324E-01	1.324E-01
1.0000	13.606	15.461	801.92	.000	1.731E-01	.000	2.910E-02	2.910E-02
2.0000	27.212	29.067	426.55	.000	6.702E-02	.000	8.206E-03	8.206E-03
4.0000	54.424	56.279	220.31	.000	2.500E-02	.000	2.210E-03	2.210E-03

MN VII 4P EO= 5.0665E+00 (RYD) N*= 3.1099 MU= .8901

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	68.934	179.86	2.247E-01	2.170E-01	7.290E-02	1.360E-01	2.089E-01
1.0000	13.606	82.540	150.21	1.677E-01	1.906E-01	4.861E-02	1.256E-01	1.742E-01
3.0000	40.818	109.752	112.97	1.054E-01	1.472E-01	2.553E-02	9.962E-02	1.251E-01
8.0000	108.847	177.782	69.74	4.784E-02	8.661E-02	8.522E-03	5.587E-02	6.439E-02

MN VII 5P EO= 2.8663E+00 (RYD) N*= 4.1346 MU= .8654

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	38.999	317.92	4.011E-01	2.721E-01	1.314E-01	1.210E-01	2.524E-01
1.0000	13.606	52.605	235.69	2.445E-01	2.185E-01	6.586E-02	1.052E-01	1.711E-01
2.0000	27.212	66.211	187.26	1.668E-01	1.771E-01	3.860E-02	8.696E-02	1.256E-01
6.0000	81.635	120.635	102.78	6.133E-02	9.250E-02	9.506E-03	4.324E-02	5.274E-02

MN VII 6P EO= 1.8516E+00 (RYD) N*= 5.1443 MU= .8557

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	25.192	492.16	6.243E-01	3.236E-01	2.057E-01	1.105E-01	3.162E-01
1.0000	13.606	38.798	319.57	3.041E-01	2.343E-01	7.515E-02	8.926E-02	1.644E-01
3.0000	40.818	66.010	187.83	1.247E-01	1.376E-01	2.149E-02	5.236E-02	7.385E-02
5.0000	68.030	93.222	133.00	6.969E-02	9.308E-02	9.483E-03	3.384E-02	4.332E-02
8.0000	108.847	134.040	92.50	3.777E-02	6.005E-02	4.005E-03	2.025E-02	2.425E-02

MN VII 8P EO= 9.5788E-01 (RYD) N*= 7.1522 MU= .8476

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	13.033	951.33	1.203E+00	4.121E-01	3.948E-01	9.271E-02	4.875E-01
.8000	10.885	23.918	518.39	4.355E-01	2.627E-01	9.504E-02	6.914E-02	1.642E-01
1.0000	13.606	26.639	465.43	3.633E-01	2.373E-01	7.366E-02	6.285E-02	1.365E-01
3.0000	40.818	53.851	230.24	1.105E-01	1.124E-01	1.377E-02	2.852E-02	4.229E-02
4.0000	54.424	67.457	183.80	7.536E-02	8.661E-02	8.025E-03	2.120E-02	2.922E-02
5.0000	68.030	81.062	152.95	5.514E-02	6.958E-02	5.162E-03	1.644E-02	2.160E-02
.0200	.272	13.305	931.88	1.162E+00	4.079E-01	3.763E-01	9.273E-02	4.690E-01
.0400	.544	13.577	913.20	1.123E+00	4.036E-01	3.589E-01	9.266E-02	4.516E-01

MN VII 10P EO= 5.8458E-01 (RYD) N*= 9.1554 MU= .8446

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.954	1558.85	1.949E+00	4.809E-01	6.325E-01	7.707E-02	7.096E-01
.0400	.544	8.498	1459.02	1.745E+00	4.673E-01	5.420E-01	7.775E-02	6.198E-01
.0600	.816	8.770	1413.74	1.656E+00	4.601E-01	5.036E-01	7.777E-02	5.813E-01
1.0000	13.606	21.560	575.09	3.657E-01	2.198E-01	6.040E-02	4.362E-02	1.040E-01
2.0000	27.212	35.166	352.58	1.597E-01	1.304E-01	1.878E-02	2.504E-02	4.382E-02
3.0000	40.818	48.771	254.22	9.152E-02	8.977E-02	8.557E-03	1.647E-02	2.502E-02
5.0000	68.030	75.983	163.18	4.296E-02	5.287E-02	2.937E-03	8.898E-03	1.183E-02

MN VII 12P EO= 3.9364E-01 (RYD) N*= 11.1570 MU= .8430

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.356	2314.96	2.855E+00	5.307E-01	9.145E-01	6.319E-02	9.777E-01
.0400	.544	5.900	2101.42	2.430E+00	5.130E-01	7.296E-01	6.506E-02	7.947E-01
.0600	.816	6.172	2008.78	2.254E+00	5.028E-01	6.566E-01	6.536E-02	7.220E-01
.0800	1.088	6.444	1923.95	2.097E+00	4.920E-01	5.936E-01	6.536E-02	6.589E-01
1.0000	13.606	18.962	653.87	3.416E-01	1.958E-01	4.635E-02	3.047E-02	7.682E-02
3.0000	40.818	46.174	268.52	7.523E-02	7.237E-02	5.473E-03	1.013E-02	1.560E-02
4.0000	54.424	59.780	207.41	4.839E-02	5.316E-02	2.932E-03	7.077E-03	1.001E-02

MN VII 16P EO= 2.1325E-01 (RYD) N*= 15.1585 MU= .8415

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.901	4273.27	5.131E+00	5.746E-01	1.600E+00	4.014E-02	1.640E+00
.0600	.816	3.718	3334.94	3.393E+00	5.458E-01	8.963E-01	4.641E-02	9.427E-01
.0800	1.088	3.990	3107.50	3.015E+00	5.286E-01	7.596E-01	4.670E-02	8.063E-01
.1000	1.361	4.262	2909.09	2.700E+00	5.104E-01	6.507E-01	4.651E-02	6.972E-01
1.0000	13.606	16.507	751.10	2.759E-01	1.509E-01	2.633E-02	1.574E-02	4.207E-02
2.0000	27.212	30.113	411.73	9.927E-02	7.687E-02	6.216E-03	7.455E-03	1.367E-02

MN VII 20P EO= 1.3349E-01 (RYD) N*= 19.1591 MU= .8409

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.816	6826.54	7.998E+00	5.486E-01	2.434E+00	2.274E-02	2.457E+00
.0600	.816	2.633	4709.66	4.304E+00	5.505E-01	1.022E+00	3.342E-02	1.055E+00
.0800	1.088	2.905	4268.45	3.651E+00	5.279E-01	8.112E-01	3.391E-02	8.451E-01
.1000	1.361	3.177	3902.83	3.143E+00	5.034E-01	6.574E-01	3.373E-02	6.911E-01
1.0000	13.606	15.422	803.95	2.191E-01	1.172E-01	1.551E-02	8.873E-03	2.438E-02
2.0000	27.212	29.028	427.13	7.466E-02	5.714E-02	3.390E-03	3.970E-03	7.359E-03
4.0000	54.424	56.240	220.46	2.408E-02	2.589E-02	6.830E-04	1.579E-03	2.262E-03

MN VII 3D EO= 8.5746E+00 (RYD) N*= 2.3905 MU= .6095

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	116.665	106.28	8.871E-02	4.548E-01	2.308E-02	9.098E-01	9.329E-01
2.0000	27.212	143.877	86.18	6.302E-02	3.218E-01	1.436E-02	5.619E-01	5.762E-01
4.0000	54.424	171.088	72.47	4.731E-02	2.379E-01	9.627E-03	3.650E-01	3.746E-01
10.0000	136.059	252.724	49.06	2.433E-02	1.154E-01	3.759E-03	1.268E-01	1.306E-01
12.0000	163.271	279.936	44.29	2.032E-02	9.462E-02	2.906E-03	9.450E-02	9.741E-02

MN VII 4D EO= 3.9892E+00 (RYD) N*= 3.5047 MU= .4953

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	54.277	228.43	2.041E-01	5.823E-01	5.685E-02	6.939E-01	7.507E-01
2.0000	27.212	81.489	152.15	1.022E-01	3.422E-01	2.140E-02	3.599E-01	3.813E-01
6.0000	81.635	135.912	91.23	4.206E-02	1.564E-01	6.043E-03	1.254E-01	1.315E-01
8.0000	108.847	163.124	76.01	3.045E-02	1.155E-01	3.802E-03	8.203E-02	8.583E-02

MN VII 5D EO= 2.3972E+00 (RYD) N*= 4.5211 MU= .4789

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	32.616	380.14	3.659E-01	7.408E-01	1.098E-01	6.748E-01	7.846E-01
2.0000	27.212	59.828	207.24	1.292E-01	3.529E-01	2.510E-02	2.810E-01	3.061E-01
4.0000	54.424	87.040	142.45	6.710E-02	2.070E-01	9.850E-03	1.406E-01	1.504E-01
6.0000	81.635	114.251	108.52	4.143E-02	1.363E-01	4.930E-03	8.007E-02	8.500E-02
12.0000	163.271	195.887	63.29	1.563E-02	5.569E-02	1.203E-03	2.291E-02	2.411E-02

MN VII 6D EO= 1.6039E+00 (RYD) N*= 5.5273 MU= .4727

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	21.822	568.17	5.682E-01	9.003E-01	1.771E-01	6.669E-01	8.439E-01
2.0000	27.212	49.034	252.86	1.414E-01	3.431E-01	2.465E-02	2.177E-01	2.423E-01
4.0000	54.424	76.246	162.61	6.517E-02	1.847E-01	8.139E-03	9.810E-02	1.062E-01
8.0000	108.847	130.669	94.89	2.483E-02	8.032E-02	2.025E-03	3.179E-02	3.381E-02
12.0000	163.271	185.093	66.99	1.313E-02	4.489E-02	8.027E-04	1.406E-02	1.486E-02

MN VII 8D EO= 8.6365E-01 (RYD) N*= 7.5323 MU= .4677

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.751	1055.14	1.085E+00	1.220E+00	3.476E-01	6.591E-01	1.007E+00
2.0000	27.212	38.963	318.22	1.390E-01	2.975E-01	1.892E-02	1.300E-01	1.489E-01
4.0000	54.424	66.174	187.36	5.469E-02	1.424E-01	4.975E-03	5.058E-02	5.555E-02
10.0000	136.059	147.810	83.88	1.279E-02	4.082E-02	6.082E-04	9.286E-03	9.894E-03

MN VII 10D EO= 5.3903E-01 (RYD) N*= 9.5343 MU= .4657

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.334	1690.56	1.742E+00	1.541E+00	5.593E-01	6.565E-01	1.216E+00
2.0000	27.212	34.546	358.90	1.230E-01	2.477E-01	1.314E-02	7.994E-02	9.308E-02
4.0000	54.424	61.758	200.76	4.417E-02	1.105E-01	3.029E-03	2.845E-02	3.148E-02
8.0000	108.847	116.181	106.72	1.413E-02	4.223E-02	5.833E-04	7.813E-03	8.396E-03

MN VII 12D EO= 3.6824E-01 (RYD) N*= 11.5353 MU= .4647

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.010	2474.63	2.532E+00	1.864E+00	8.073E-01	6.566E-01	1.464E+00
1.0000	13.606	18.616	666.01	2.731E-01	4.171E-01	3.490E-02	1.221E-01	1.570E-01
2.0000	27.212	32.222	384.79	1.056E-01	2.056E-01	9.030E-03	5.138E-02	6.041E-02
4.0000	54.424	59.434	208.61	3.586E-02	8.784E-02	1.922E-03	1.729E-02	1.921E-02
6.0000	81.635	86.646	143.10	1.823E-02	5.011E-02	7.237E-04	8.204E-03	8.928E-03
10.0000	136.059	141.069	87.89	7.485E-03	2.312E-02	1.987E-04	2.843E-03	3.041E-03

MN VII 16D EO= 2.0300E-01 (RYD) N*= 15.5363 MU= .4637

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.762	4488.95	4.491E+00	2.520E+00	1.401E+00	6.613E-01	2.062E+00
1.0000	13.606	16.368	757.49	2.210E-01	3.200E-01	2.010E-02	6.321E-02	8.331E-02
2.0000	27.212	29.974	413.65	7.753E-02	1.460E-01	4.528E-03	2.409E-02	2.862E-02
4.0000	54.424	57.186	216.81	2.480E-02	5.947E-02	8.838E-04	7.625E-03	8.509E-03
6.0000	81.635	84.398	146.91	1.232E-02	3.333E-02	3.219E-04	3.536E-03	3.858E-03
10.0000	136.059	138.821	89.31	4.962E-03	1.515E-02	8.591E-05	1.202E-03	1.287E-03

MN VII 20D EO= 1.2838E-01 (RYD) N*= 19.5367 MU= .4633

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.747	7098.28	6.933E+00	3.187E+00	2.111E+00	6.688E-01	2.779E+00
.5000	6.803	8.550	1450.19	4.787E-01	5.148E-01	4.925E-02	8.545E-02	1.347E-01
1.0000	13.606	15.353	807.59	1.761E-01	2.486E-01	1.197E-02	3.578E-02	4.775E-02
2.0000	27.212	28.959	428.15	5.870E-02	1.088E-01	2.508E-03	1.293E-02	1.544E-02
4.0000	54.424	56.170	220.73	1.823E-02	4.330E-02	4.692E-04	3.971E-03	4.440E-03

MN VII 4F EO= 3.1943E+00 (RYD) N*= 3.9166 MU= .0834

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	43.462	285.28	1.303E-01	6.314E-01	1.988E-02	6.221E-01	6.420E-01
1.0000	13.606	57.067	217.26	7.516E-02	3.492E-01	8.682E-03	2.499E-01	2.586E-01
3.0000	40.818	84.279	147.11	3.275E-02	1.470E-01	2.434E-03	6.536E-02	6.780E-02
5.0000	68.030	111.491	111.21	1.745E-02	7.804E-02	9.144E-04	2.438E-02	2.530E-02
7.0000	95.241	138.703	89.39	1.047E-02	4.727E-02	4.098E-04	1.113E-02	1.154E-02
8.0000	108.847	152.309	81.40	8.375E-03	3.805E-02	2.877E-04	7.918E-03	8.206E-03

MN VII 5F EO= 2.0431E+00 (RYD) N*= 4.8972 MU= .1028

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	27.799	446.01	2.871E-01	1.078E+00	6.170E-02	1.159E+00	1.221E+00
1.0000	13.606	41.405	299.45	1.326E-01	5.012E-01	1.959E-02	3.736E-01	3.932E-01
2.0000	27.212	55.011	225.39	7.448E-02	2.833E-01	8.219E-03	1.585E-01	1.667E-01
3.0000	40.818	68.617	180.69	4.679E-02	1.794E-01	4.045E-03	7.927E-02	8.332E-02
5.0000	68.030	95.828	129.38	2.249E-02	8.816E-02	1.305E-03	2.675E-02	2.805E-02
6.0000	81.635	109.434	113.30	1.663E-02	6.606E-02	8.152E-04	1.715E-02	1.796E-02

MN VII 6F EO= 1.4132E+00 (RYD) N*= 5.8885 MU= .1115

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	19.227	644.84	4.863E-01	1.528E+00	1.225E-01	1.609E+00	1.731E+00
1.0000	13.606	32.833	377.62	1.768E-01	5.867E-01	2.764E-02	4.059E-01	4.335E-01
2.0000	27.212	46.439	266.99	8.876E-02	3.033E-01	9.854E-03	1.534E-01	1.632E-01
3.0000	40.818	60.045	206.49	5.218E-02	1.824E-01	4.404E-03	7.172E-02	7.612E-02

MN VII 8F EO= 7.8896E-01 (RYD) N*= 7.8808 MU= .1192

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.735	1155.02	1.006E+00	2.483E+00	2.928E-01	2.377E+00	2.670E+00
1.0000	13.606	24.340	509.38	2.235E-01	6.378E-01	3.274E-02	3.555E-01	3.883E-01
2.0000	27.212	37.946	326.74	9.418E-02	2.863E-01	9.065E-03	1.117E-01	1.208E-01
3.0000	40.818	51.552	240.51	5.056E-02	1.602E-01	3.549E-03	4.751E-02	5.106E-02
5.0000	68.030	78.764	157.41	2.052E-02	6.908E-02	8.928E-04	1.350E-02	1.439E-02

MN VII 10F EO= 5.0222E-01 (RYD) N*= 9.8776 MU= .1224

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.833	1814.47	1.680E+00	3.540E+00	5.195E-01	3.074E+00	3.594E+00
1.0000	13.606	20.439	606.61	2.311E-01	6.088E-01	2.939E-02	2.720E-01	3.014E-01
2.0000	27.212	34.045	364.18	8.647E-02	2.480E-01	6.856E-03	7.517E-02	8.203E-02
4.0000	54.424	61.257	202.40	2.603E-02	8.179E-02	1.118E-03	1.471E-02	1.583E-02
5.0000	68.030	74.863	165.62	1.692E-02	5.494E-02	5.774E-04	8.114E-03	8.691E-03

MN VII 12F EO= 3.4743E-01 (RYD) N*= 11.8759 MU= .1241

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.727	2622.91	2.500E+00	4.702E+00	7.958E-01	3.753E+00	4.549E+00
1.0000	13.606	18.333	676.30	2.198E-01	5.524E-01	2.385E-02	2.008E-01	2.247E-01
2.0000	27.212	31.939	388.20	7.588E-02	2.105E-01	4.953E-03	5.082E-02	5.577E-02
4.0000	54.424	59.151	209.61	2.166E-02	6.651E-02	7.471E-04	9.397E-03	1.014E-02

MN VII 16F EO= 1.9445E-01 (RYD) N*= 15.8743 MU= .1257

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.646	4686.39	4.557E+00	7.345E+00	1.479E+00	5.125E+00	6.604E+00
1.0000	13.606	16.252	762.92	1.820E-01	4.351E-01	1.450E-02	1.105E-01	1.250E-01
2.0000	27.212	29.857	415.26	5.713E-02	1.532E-01	2.624E-03	2.515E-02	2.778E-02
3.0000	40.818	43.463	285.27	2.702E-02	7.736E-02	8.544E-04	9.339E-03	1.019E-02

MN VII 20F EO= 1.2406E-01 (RYD) N*= 19.8736 MU= .1264

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.688	7345.16	7.143E+00	1.040E+01	2.319E+00	6.554E+00	8.874E+00
.5000	6.803	8.491	1460.22	4.294E-01	8.851E-01	4.215E-02	2.388E-01	2.810E-01
1.0000	13.606	15.294	810.69	1.470E-01	3.428E-01	8.895E-03	6.455E-02	7.344E-02
2.0000	27.212	28.900	429.02	4.385E-02	1.157E-01	1.496E-03	1.389E-02	1.538E-02
3.0000	40.818	42.506	291.69	2.034E-02	5.753E-02	4.738E-04	5.051E-03	5.525E-03

FE VIII 4S EO= 7.1330E+00 (RYD) N*= 2.9954 MU= 1.0046

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	97.051	127.75	.000	1.698E-01	.000	1.759E-01	1.759E-01
1.0000	13.606	110.657	112.05	.000	1.441E-01	.000	1.444E-01	1.444E-01
4.0000	54.424	151.475	81.85	.000	9.611E-02	.000	8.793E-02	8.793E-02

FE VIII 5S EO= 3.9719E+00 (RYD) N*= 4.0141 MU= .9859

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	54.042	229.43	.000	2.662E-01	.000	2.407E-01	2.407E-01
1.0000	13.606	67.648	183.28	.000	1.980E-01	.000	1.667E-01	1.667E-01
3.0000	40.818	94.860	130.71	.000	1.253E-01	.000	9.362E-02	9.362E-02

FE VIII 6S EO= 2.5384E+00 (RYD) N*= 5.0212 MU= .9788

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	34.538	358.99	.000	3.807E-01	.000	3.146E-01	3.146E-01
1.0000	13.606	48.144	257.53	.000	2.424E-01	.000	1.777E-01	1.777E-01
3.0000	40.818	75.356	164.54	.000	1.297E-01	.000	7.962E-02	7.962E-02
7.0000	95.241	129.779	95.54	.000	6.001E-02	.000	2.937E-02	2.937E-02

FE VIII 8S EO= 1.2962E+00 (RYD) N*= 7.0269 MU= .9731

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	17.635	703.06	.000	6.585E-01	.000	4.805E-01	4.805E-01
1.0000	13.606	31.241	396.87	.000	2.935E-01	.000	1.692E-01	1.692E-01
2.0000	27.212	44.847	276.46	.000	1.743E-01	.000	8.567E-02	8.567E-02
4.0000	54.424	72.059	172.06	.000	8.755E-02	.000	3.471E-02	3.471E-02

FE VIII 10S EO= 7.8504E-01 (RYD) N*= 9.0291 MU= .9709

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.681	1160.80	.000	9.967E-01	.000	6.668E-01	6.668E-01
1.0000	13.606	24.287	510.50	.000	3.038E-01	.000	1.409E-01	1.409E-01
2.0000	27.212	37.893	327.20	.000	1.580E-01	.000	5.947E-02	5.947E-02
7.0000	95.241	105.923	117.05	.000	3.477E-02	.000	8.045E-03	8.045E-03

FE VIII 12S EO= 5.2603E-01 (RYD) N*= 11.0302 MU= .9698

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.157	1732.35	.000	1.392E+00	.000	8.719E-01	8.719E-01
1.0000	13.606	20.763	597.15	.000	2.912E-01	.000	1.106E-01	1.106E-01
2.0000	27.212	34.369	360.75	.000	1.376E-01	.000	4.091E-02	4.091E-02
5.0000	68.030	75.187	164.90	.000	4.300E-02	.000	8.737E-03	8.737E-03

FE VIII 16S EO= 2.8326E-01 (RYD) N*= 15.0313 MU= .9687

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.854	3217.04	.000	2.347E+00	.000	1.334E+00	1.334E+00
1.0000	13.606	17.460	710.12	.000	2.438E-01	.000	6.523E-02	6.523E-02
3.0000	40.818	44.672	277.55	.000	5.936E-02	.000	9.891E-03	9.891E-03
5.0000	68.030	71.884	172.48	.000	2.915E-02	.000	3.838E-03	3.838E-03

FE VIII 20S EO= 1.7670E-01 (RYD) N*= 19.0317 MU= .9683

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.404	5157.29	.000	3.510E+00	.000	1.861E+00	1.861E+00
1.0000	13.606	16.010	774.43	.000	1.977E-01	.000	3.932E-02	3.932E-02
3.0000	40.818	43.222	286.86	.000	4.404E-02	.000	5.268E-03	5.268E-03

FE VIII 4P EO= 6.3563E+00 (RYD) N*= 3.1731 MU= .8269

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	86.483	143.36	1.768E-01	2.000E-01	5.664E-02	1.449E-01	2.016E-01
1.0000	13.606	100.089	123.88	1.394E-01	1.760E-01	4.073E-02	1.300E-01	1.707E-01
4.0000	54.424	140.907	87.99	7.968E-02	1.242E-01	1.874E-02	9.110E-02	1.098E-01
8.0000	108.847	195.331	63.48	4.658E-02	8.501E-02	8.878E-03	5.913E-02	6.801E-02

FE VIII 5P EO= 3.6342E+00 (RYD) N*= 4.1965 MU= .8035

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	49.447	250.75	3.132E-01	2.611E-01	1.016E-01	1.412E-01	2.428E-01
1.0000	13.606	63.053	196.64	2.094E-01	2.101E-01	5.792E-02	1.166E-01	1.745E-01
2.0000	27.212	76.659	161.74	1.513E-01	1.726E-01	3.677E-02	9.565E-02	1.324E-01

FE VIII 6P EO= 2.3617E+00 (RYD) N*= 5.2057 MU= .7943

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	32.133	385.86	4.853E-01	3.233E-01	1.585E-01	1.407E-01	2.993E-01
1.0000	13.606	45.738	271.08	2.695E-01	2.338E-01	6.957E-02	1.047E-01	1.743E-01
2.0000	27.212	59.344	208.93	1.742E-01	1.780E-01	3.771E-02	7.876E-02	1.165E-01
6.0000	81.635	113.768	108.98	5.812E-02	8.335E-02	8.051E-03	3.311E-02	4.116E-02

FE VIII 8P EO= 1.2300E+00 (RYD) N*= 7.2133 MU= .7867

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	16.735	740.87	9.306E-01	4.476E-01	3.036E-01	1.405E-01	4.440E-01
1.0000	13.606	30.341	408.64	3.437E-01	2.524E-01	7.507E-02	8.099E-02	1.561E-01
3.0000	40.818	57.553	215.43	1.164E-01	1.221E-01	1.634E-02	3.596E-02	5.230E-02
4.0000	54.424	71.159	174.24	8.116E-02	9.455E-02	9.818E-03	2.665E-02	3.647E-02
6.0000	81.635	98.371	126.04	4.674E-02	6.326E-02	4.501E-03	1.649E-02	2.099E-02

FE VIII 10P EO= 7.5345E-01 (RYD) N*= 9.2164 MU= .7836

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.251	1209.45	1.504E+00	5.706E-01	4.859E-01	1.398E-01	6.257E-01
1.0000	13.606	23.857	519.70	3.648E-01	2.456E-01	6.651E-02	6.030E-02	1.268E-01
3.0000	40.818	51.069	242.78	1.003E-01	1.009E-01	1.076E-02	2.177E-02	3.254E-02
4.0000	54.424	64.675	191.71	6.703E-02	7.545E-02	6.086E-03	1.543E-02	2.151E-02
6.0000	81.635	91.887	134.93	3.676E-02	4.849E-02	2.601E-03	9.053E-03	1.165E-02

FE VIII 12P EO= 5.0857E-01 (RYD) N*= 11.2180 MU= .7820

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.920	1791.82	2.201E+00	6.919E-01	7.023E-01	1.388E-01	8.411E-01
1.0000	13.606	20.526	604.06	3.547E-01	2.271E-01	5.409E-02	4.436E-02	9.846E-02
3.0000	40.818	47.737	259.73	8.449E-02	8.308E-02	7.138E-03	1.380E-02	2.094E-02
4.0000	54.424	61.343	202.12	5.503E-02	6.083E-02	3.891E-03	9.509E-03	1.340E-02
7.0000	95.241	102.161	121.36	2.296E-02	3.175E-02	1.128E-03	4.313E-03	5.441E-03
8.0000	108.847	115.767	107.10	1.852E-02	2.698E-02	8.321E-04	3.531E-03	4.363E-03

FE VIII 16P EO= 2.7630E-01 (RYD) N*= 15.2194 MU= .7806

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.759	3298.08	3.950E+00	9.289E-01	1.229E+00	1.359E-01	1.364E+00
1.0000	13.606	17.365	713.99	3.018E-01	1.835E-01	3.313E-02	2.450E-02	5.763E-02
2.0000	27.212	30.971	400.33	1.129E-01	9.145E-02	8.264E-03	1.085E-02	1.911E-02
3.0000	40.818	44.577	278.14	6.059E-02	5.828E-02	3.428E-03	6.344E-03	9.772E-03
6.0000	81.635	85.395	145.19	1.988E-02	2.552E-02	7.066E-04	2.330E-03	3.037E-03

FE VIII 20P EO= 1.7325E-01 (RYD) N*= 19.2200 MU= .7800

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.357	5259.86	6.153E+00	1.158E+00	1.869E+00	1.324E-01	2.002E+00
1.0000	13.606	15.963	776.70	2.468E-01	1.465E-01	2.036E-02	1.435E-02	3.471E-02
2.0000	27.212	29.569	419.31	8.645E-02	6.908E-02	4.629E-03	5.912E-03	1.054E-02
4.0000	54.424	56.781	218.36	2.830E-02	3.048E-02	9.524E-04	2.210E-03	3.163E-03
6.0000	81.635	83.993	147.62	1.444E-02	1.844E-02	3.670E-04	1.197E-03	1.564E-03
7.0000	95.241	97.599	127.04	1.116E-02	1.517E-02	2.545E-04	9.405E-04	1.195E-03

FE VIII 3D EO= 1.0854E+01 (RYD) N*= 2.4283 MU= .5717

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	147.673	83.96	6.839E-02	3.497E-01	1.736E-02	6.809E-01	6.983E-01
1.0000	13.606	161.279	76.88	5.911E-02	3.012E-01	1.416E-02	5.517E-01	5.659E-01
3.0000	40.818	188.490	65.78	4.555E-02	2.292E-01	9.829E-03	3.734E-01	3.832E-01
8.0000	108.847	256.520	48.33	2.690E-02	1.298E-01	4.665E-03	1.631E-01	1.677E-01

FE VIII 4D EO= 5.1241E+00 (RYD) N*= 3.5341 MU= .4659

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	69.718	177.84	1.599E-01	4.709E-01	4.480E-02	5.828E-01	6.276E-01
1.0000	13.606	83.324	148.80	1.178E-01	3.716E-01	2.906E-02	4.337E-01	4.628E-01
5.0000	68.030	137.747	90.01	4.908E-02	1.753E-01	8.339E-03	1.597E-01	1.680E-01
8.0000	108.847	178.565	69.43	3.093E-02	1.144E-01	4.294E-03	8.816E-02	9.245E-02

FE VIII 5D EO= 3.0911E+00 (RYD) N*= 4.5502 MU= .4498

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	42.057	294.80	2.877E-01	6.139E-01	8.748E-02	5.975E-01	6.850E-01
1.0000	13.606	55.663	222.74	1.775E-01	4.343E-01	4.410E-02	3.959E-01	4.400E-01
5.0000	68.030	110.087	112.63	5.358E-02	1.648E-01	7.945E-03	1.127E-01	1.206E-01
6.0000	81.635	123.693	100.24	4.350E-02	1.375E-01	5.882E-03	8.812E-02	9.400E-02

FE VIII 6D EO= 2.0730E+00 (RYD) N*= 5.5563 MU= .4437

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	28.206	439.58	4.479E-01	7.615E-01	1.423E-01	6.167E-01	7.590E-01
1.0000	13.606	41.812	296.54	2.277E-01	4.744E-01	5.447E-02	3.548E-01	4.092E-01
4.0000	54.424	82.629	150.05	6.890E-02	1.862E-01	9.859E-03	1.080E-01	1.179E-01
5.0000	68.030	96.235	128.84	5.247E-02	1.483E-01	6.661E-03	7.983E-02	8.649E-02

FE VIII 8D EO= 1.1194E+00 (RYD) N*= 7.5612 MU= .4388

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	15.231	814.05	8.590E-01	1.068E+00	2.825E-01	6.555E-01	9.380E-01
1.0000	13.606	28.837	429.96	2.880E-01	4.988E-01	6.013E-02	2.705E-01	3.307E-01
3.0000	40.818	56.049	221.21	9.016E-02	2.052E-01	1.145E-02	8.894E-02	1.004E-01
4.0000	54.424	69.655	178.00	6.127E-02	1.503E-01	6.574E-03	5.933E-02	6.591E-02
8.0000	108.847	124.078	99.93	2.158E-02	6.243E-02	1.453E-03	1.823E-02	1.968E-02

FE VIII 10D EO= 6.9980E-01 (RYD) N*= 9.5632 MU= .4368

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.521	1302.18	1.384E+00	1.391E+00	4.582E-01	6.943E-01	1.153E+00
1.0000	13.606	23.127	536.10	3.043E-01	4.779E-01	5.384E-02	1.992E-01	2.530E-01
2.0000	27.212	36.733	337.53	1.362E-01	2.603E-01	1.713E-02	9.382E-02	1.110E-01
3.0000	40.818	50.339	246.30	7.823E-02	1.686E-01	7.744E-03	5.395E-02	6.169E-02
5.0000	68.030	77.551	159.88	3.617E-02	9.019E-02	2.550E-03	2.379E-02	2.634E-02
8.0000	108.847	118.369	104.75	1.677E-02	4.711E-02	8.372E-04	9.906E-03	1.074E-02

FE VIII 12D EO= 4.7858E-01 (RYD) N*= 11.5642 MU= .4358

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.511	1904.13	2.017E+00	1.728E+00	6.656E-01	7.334E-01	1.399E+00
1.0000	13.606	20.117	616.31	2.954E-01	4.380E-01	4.413E-02	1.455E-01	1.897E-01
2.0000	27.212	33.723	367.66	1.205E-01	2.215E-01	1.230E-02	6.237E-02	7.467E-02
3.0000	40.818	47.329	261.97	6.633E-02	1.387E-01	5.235E-03	3.435E-02	3.958E-02
7.0000	95.241	101.753	121.85	1.676E-02	4.483E-02	7.184E-04	7.710E-03	8.428E-03

FE VIII   16D   EO= 2.6416E-01 (RYD)   N*= 15.5651   MU= .4349

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.594	3449.62	3.591E+00	2.449E+00	1.165E+00	8.126E-01	1.978E+00
1.0000	13.606	17.200	720.85	2.516E-01	3.511E-01	2.737E-02	7.995E-02	1.073E-01
2.0000	27.212	30.806	402.47	9.151E-02	1.618E-01	6.484E-03	3.040E-02	3.689E-02
4.0000	54.424	58.018	213.70	2.988E-02	6.659E-02	1.302E-03	9.700E-03	1.100E-02
5.0000	68.030	71.624	173.11	2.047E-02	4.888E-02	7.541E-04	6.453E-03	7.207E-03
8.0000	108.847	112.442	110.27	9.007E-03	2.452E-02	2.293E-04	2.549E-03	2.778E-03

FE VIII   20D   EO= 1.6718E-01 (RYD)   N*= 19.5655   MU= .4345

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.275	5450.67	5.559E+00	3.227E+00	1.767E+00	8.929E-01	2.660E+00
1.0000	13.606	15.881	780.74	2.063E-01	2.798E-01	1.699E-02	4.681E-02	6.380E-02
2.0000	27.212	29.487	420.48	7.050E-02	1.224E-01	3.684E-03	1.665E-02	2.034E-02
3.0000	40.818	43.092	287.72	3.616E-02	7.237E-02	1.416E-03	8.509E-03	9.925E-03
4.0000	54.424	56.698	218.68	2.218E-02	4.889E-02	7.014E-04	5.110E-03	5.812E-03
7.0000	95.241	97.516	127.14	8.325E-03	2.172E-02	1.699E-04	1.734E-03	1.904E-03

FE VIII   4F   EO= 4.1884E+00 (RYD)   N*= 3.9090   MU= .0910

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	56.987	217.57	9.926E-02	4.879E-01	1.512E-02	4.871E-01	5.022E-01
1.0000	13.606	70.593	175.64	6.425E-02	3.067E-01	7.848E-03	2.385E-01	2.463E-01
3.0000	40.818	97.805	126.77	3.219E-02	1.492E-01	2.729E-03	7.821E-02	8.094E-02
6.0000	81.635	138.622	89.44	1.475E-02	6.784E-02	8.122E-04	2.291E-02	2.372E-02

FE VIII   5F   EO= 2.6757E+00 (RYD)   N*= 4.8907   MU= .1093

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	36.406	340.57	2.189E-01	8.278E-01	4.700E-02	8.958E-01	9.427E-01
1.0000	13.606	50.011	247.92	1.180E-01	4.517E-01	1.876E-02	3.664E-01	3.851E-01
2.0000	27.212	63.617	194.89	7.260E-02	2.803E-01	9.031E-03	1.794E-01	1.885E-01
3.0000	40.818	77.223	160.56	4.850E-02	1.888E-01	4.893E-03	9.885E-02	1.037E-01
5.0000	68.030	104.435	118.72	2.528E-02	1.003E-01	1.798E-03	3.769E-02	3.949E-02
7.0000	95.241	131.647	94.18	1.503E-02	6.083E-02	8.010E-04	1.749E-02	1.829E-02

FE VIII   6F   EO= 1.8495E+00 (RYD)   N*= 5.8826   MU= .1174

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	25.164	492.72	3.719E-01	1.170E+00	9.374E-02	1.237E+00	1.330E+00
1.0000	13.606	38.769	319.80	1.639E-01	5.442E-01	2.806E-02	4.123E-01	4.403E-01
3.0000	40.818	65.981	187.91	5.648E-02	1.981E-01	5.669E-03	9.295E-02	9.862E-02
5.0000	68.030	93.193	133.04	2.714E-02	9.878E-02	1.848E-03	3.265E-02	3.450E-02
7.0000	95.241	120.405	102.97	1.538E-02	5.783E-02	7.675E-04	1.446E-02	1.523E-02

FE VIII   8F   EO= 1.0318E+00 (RYD)   N*= 7.8756   MU= .1244

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	14.039	883.15	7.737E-01	1.900E+00	2.263E-01	1.820E+00	2.046E+00
1.0000	13.606	27.645	448.49	2.223E-01	6.241E-01	3.679E-02	3.866E-01	4.234E-01
3.0000	40.818	54.857	226.02	5.804E-02	1.819E-01	4.978E-03	6.516E-02	7.014E-02
6.0000	81.635	95.675	129.59	1.797E-02	6.129E-02	8.319E-04	1.291E-02	1.374E-02
7.0000	95.241	109.281	113.46	1.340E-02	4.671E-02	5.284E-04	8.561E-03	9.089E-03

FE VIII   10F   EO= 6.5661E-01 (RYD)   N*= 9.8727   MU= .1273

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.934	1387.83	1.297E+00	2.707E+00	4.049E-01	2.350E+00	2.755E+00
1.0000	13.606	22.540	550.08	2.425E-01	6.213E-01	3.570E-02	3.125E-01	3.482E-01
2.0000	27.212	36.146	343.02	9.846E-02	2.759E-01	9.437E-03	9.882E-02	1.083E-01
3.0000	40.818	49.752	249.21	5.226E-02	1.549E-01	3.659E-03	4.284E-02	4.650E-02
5.0000	68.030	76.963	161.10	2.118E-02	6.757E-02	9.298E-04	1.262E-02	1.355E-02
6.0000	81.635	90.569	136.90	1.493E-02	4.898E-02	5.435E-04	7.802E-03	8.346E-03

FE VIII   12F   EO= 4.5414E-01 (RYD)   N*= 11.8712   MU= .1288

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.179	2006.56	1.937E+00	3.595E+00	6.244E-01	2.867E+00	3.491E+00
1.0000	13.606	19.785	626.67	2.399E-01	5.819E-01	3.067E-02	2.405E-01	2.712E-01
2.0000	27.212	33.391	371.32	8.889E-02	2.395E-01	7.105E-03	6.880E-02	7.590E-02
4.0000	54.424	60.603	204.59	2.698E-02	8.110E-02	1.188E-03	1.431E-02	1.550E-02
5.0000	68.030	74.209	167.08	1.767E-02	5.504E-02	6.237E-04	8.073E-03	8.697E-03
8.0000	108.847	115.026	107.79	6.797E-03	2.296E-02	1.431E-04	2.178E-03	2.321E-03

FE VIII   16F   EO= 2.5412E-01 (RYD)   N*= 15.8697   MU= .1303

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.458	3585.96	3.549E+00	5.612E+00	1.173E+00	3.911E+00	5.084E+00
1.0000	13.606	17.063	726.62	2.088E-01	4.774E-01	2.004E-02	1.396E-01	1.597E-01
2.0000	27.212	30.669	404.27	6.912E-02	1.789E-01	3.946E-03	3.524E-02	3.918E-02
4.0000	54.424	57.881	214.21	1.953E-02	5.712E-02	5.945E-04	6.781E-03	7.376E-03
7.0000	95.241	98.699	125.62	6.282E-03	2.032E-02	1.049E-04	1.463E-03	1.568E-03
8.0000	108.847	112.305	110.40	4.718E-03	1.565E-02	6.732E-05	9.878E-04	1.055E-03

FE VIII   20F   EO= 1.6212E-01 (RYD)   N*= 19.8691   MU= .1309

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.206	5621.10	5.584E+00	7.944E+00	1.852E+00	4.999E+00	6.851E+00
1.0000	13.606	15.812	784.15	1.734E-01	3.849E-01	1.280E-02	8.412E-02	9.692E-02
2.0000	27.212	29.418	421.47	5.394E-02	1.369E-01	2.305E-03	1.980E-02	2.211E-02
3.0000	40.818	43.023	288.18	2.562E-02	7.019E-02	7.607E-04	7.610E-03	8.371E-03
5.0000	68.030	70.235	176.53	9.392E-03	2.826E-02	1.669E-04	2.014E-03	2.181E-03
6.0000	81.635	83.841	147.88	6.441E-03	2.005E-02	9.366E-05	1.210E-03	1.304E-03

ZN XII 4S EO= 1.3971E+01 (RYD) N*= 3.2105 MU= .7895

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	190.083	65.23	.000	9.692E-02	.000	1.122E-01	1.122E-01
1.0000	13.606	203.689	60.87	.000	8.844E-02	.000	1.001E-01	1.001E-01
2.0000	27.212	217.295	57.06	.000	8.114E-02	.000	8.990E-02	8.990E-02

ZN XII 5S EO= 8.0642E+00 (RYD) N*= 4.2257 MU= .7743

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	109.720	113.00	.000	1.491E-01	.000	1.533E-01	1.533E-01
2.0000	27.212	136.932	90.55	.000	1.098E-01	.000	1.038E-01	1.038E-01
4.0000	54.424	164.144	75.54	.000	8.526E-02	.000	7.499E-02	7.499E-02

ZN XII 6S EO= 5.2610E+00 (RYD) N*= 5.2317 MU= .7683

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	71.581	173.21	.000	2.109E-01	.000	2.002E-01	2.002E-01
2.0000	27.212	98.793	125.50	.000	1.338E-01	.000	1.112E-01	1.112E-01
4.0000	54.424	126.005	98.40	.000	9.443E-02	.000	7.061E-02	7.061E-02

ZN XII 8S EO= 2.7497E+00 (RYD) N*= 7.2367 MU= .7633

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	37.412	331.41	.000	3.611E-01	.000	3.066E-01	3.066E-01
2.0000	27.212	64.624	191.86	.000	1.629E-01	.000	1.078E-01	1.078E-01
4.0000	54.424	91.836	135.01	.000	9.703E-02	.000	5.433E-02	5.433E-02

ZN XII 10S EO= 1.6871E+00 (RYD) N*= 9.2387 MU= .7613

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	22.955	540.14	.000	5.445E-01	.000	4.276E-01	4.276E-01
2.0000	27.212	50.166	247.15	.000	1.707E-01	.000	9.183E-02	9.183E-02
4.0000	54.424	77.378	160.23	.000	8.914E-02	.000	3.864E-02	3.864E-02
10.0000	136.059	159.014	77.97	.000	3.025E-02	.000	9.146E-03	9.146E-03

ZN XII 12S EO= 1.1399E+00 (RYD) N*= 11.2397 MU= .7603

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	15.509	799.45	.000	7.593E-01	.000	5.618E-01	5.618E-01
2.0000	27.212	42.721	290.23	.000	1.656E-01	.000	7.361E-02	7.361E-02
6.0000	81.635	97.144	127.63	.000	4.776E-02	.000	1.393E-02	1.393E-02
8.0000	108.847	124.356	99.70	.000	3.289E-02	.000	8.455E-03	8.455E-03

ZN XII 16S EO= 6.1995E-01 (RYD) N*= 15.2406 MU= .7594

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.435	1469.91	.000	1.279E+00	.000	8.668E-01	8.668E-01
2.0000	27.212	35.647	347.82	.000	1.414E-01	.000	4.481E-02	4.481E-02
6.0000	81.635	90.070	137.65	.000	3.431E-02	.000	6.662E-03	6.662E-03

ZN XII 20S EO= 3.8896E-01 (RYD) N*= 19.2411 MU= .7589

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.292	2342.83	.000	1.913E+00	.000	1.217E+00	1.217E+00
.5000	6.803	12.095	1025.09	.000	5.351E-01	.000	2.176E-01	2.176E-01
1.0000	13.606	18.898	656.08	.000	2.684E-01	.000	8.557E-02	8.557E-02
2.0000	27.212	32.504	381.45	.000	1.162E-01	.000	2.759E-02	2.759E-02
4.0000	54.424	59.716	207.63	.000	4.561E-02	.000	7.806E-03	7.806E-03
8.0000	108.847	114.139	108.63	.000	1.694E-02	.000	2.059E-03	2.059E-03

ZN XII 4P EO= 1.2835E+01 (RYD) N*= 3.3496 MU= .6504

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	174.626	71.00	8.360E-02	1.300E-01	2.556E-02	1.236E-01	1.492E-01
2.0000	27.212	201.837	61.43	6.594E-02	1.097E-01	1.838E-02	1.018E-01	1.201E-01
4.0000	54.424	229.049	54.13	5.355E-02	9.403E-02	1.376E-02	8.485E-02	9.861E-02

ZN XII 5P EO= 7.5443E+00 (RYD) N*= 4.3689 MU= .6311

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	102.647	120.79	1.451E-01	1.796E-01	4.525E-02	1.388E-01	1.840E-01
2.0000	27.212	129.859	95.48	9.816E-02	1.358E-01	2.621E-02	1.004E-01	1.266E-01
4.0000	54.424	157.071	78.94	7.143E-02	1.072E-01	1.679E-02	7.566E-02	9.245E-02

ZN XII 6P EO= 4.9810E+00 (RYD) N*= 5.3768 MU= .6232

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	67.771	182.95	2.222E-01	2.344E-01	7.011E-02	1.560E-01	2.261E-01
2.0000	27.212	94.983	130.53	1.264E-01	1.556E-01	3.181E-02	9.640E-02	1.282E-01
8.0000	108.847	176.619	70.20	4.434E-02	6.968E-02	7.274E-03	3.592E-02	4.320E-02

ZN XII 8P EO= 2.6415E+00 (RYD) N*= 7.3834 MU= .6166

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	35.940	344.98	4.210E-01	3.568E-01	1.335E-01	1.916E-01	3.251E-01
2.0000	27.212	63.152	196.33	1.636E-01	1.758E-01	3.539E-02	8.180E-02	1.172E-01
6.0000	81.635	117.576	105.45	5.893E-02	7.737E-02	7.981E-03	2.949E-02	3.747E-02

ZN XII 10P EO= 1.6345E+00 (RYD) N*= 9.3861 MU= .6139

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	22.239	557.51	6.765E-01	4.949E-01	2.132E-01	2.282E-01	4.414E-01
2.0000	27.212	49.451	250.73	1.767E-01	1.768E-01	3.233E-02	6.474E-02	9.707E-02
6.0000	81.635	103.875	119.36	4.989E-02	6.516E-02	5.416E-03	1.848E-02	2.390E-02
10.0000	136.059	158.298	78.32	2.419E-02	3.647E-02	1.940E-03	8.822E-03	1.076E-02

ZN XII 12P EO= 1.1105E+00 (RYD) N*= 11.3875 MU= .6125

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	15.109	820.61	9.864E-01	6.479E-01	3.079E-01	2.657E-01	5.736E-01
2.0000	27.212	42.321	292.97	1.745E-01	1.674E-01	2.699E-02	4.969E-02	7.668E-02
4.0000	54.424	69.533	178.31	7.493E-02	8.548E-02	8.177E-03	2.129E-02	2.946E-02
8.0000	108.847	123.956	100.02	2.779E-02	3.861E-02	2.005E-03	7.742E-03	9.746E-03

ZN XII 16P EO= 6.0807E-01 (RYD) N*= 15.3888 MU= .6112

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.273	1498.62	1.763E+00	9.958E-01	5.387E-01	3.437E-01	8.824E-01
2.0000	27.212	35.485	349.40	1.520E-01	1.395E-01	1.716E-02	2.893E-02	4.609E-02
4.0000	54.424	62.697	197.75	5.754E-02	6.381E-02	4.349E-03	1.069E-02	1.504E-02
6.0000	81.635	89.909	137.90	3.099E-02	3.875E-02	1.809E-03	5.656E-03	7.465E-03
8.0000	108.847	117.121	105.86	1.965E-02	2.682E-02	9.476E-04	3.531E-03	4.478E-03

ZN XII 20P EO= 3.8303E-01 (RYD) N*= 19.3894 MU= .6106

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.212	2379.09	2.741E+00	1.397E+00	8.201E-01	4.260E-01	1.246E+00
.5000	6.803	12.014	1031.98	6.766E-01	4.465E-01	1.152E-01	1.003E-01	2.156E-01
1.0000	13.606	18.817	658.89	3.174E-01	2.405E-01	3.972E-02	4.559E-02	8.530E-02
4.0000	54.424	59.635	207.91	4.455E-02	4.875E-02	2.479E-03	5.938E-03	8.417E-03
6.0000	81.635	86.847	142.76	2.336E-02	2.892E-02	9.929E-04	3.042E-03	4.035E-03
10.0000	136.059	141.271	87.77	1.008E-02	1.463E-02	3.009E-04	1.267E-03	1.568E-03

ZN XII 3D EO= 2.2409E+01 (RYD) N*= 2.5349 MU= .4651

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	304.898	40.66	2.988E-02	1.526E-01	6.844E-03	2.678E-01	2.746E-01
2.0000	27.212	332.110	37.33	2.576E-02	1.301E-01	5.539E-03	2.121E-01	2.176E-01
10.0000	136.059	440.957	28.12	1.558E-02	7.544E-02	2.692E-03	9.462E-02	9.731E-02

ZN XII 4D EO= 1.1001E+01 (RYD) N*= 3.6179 MU= .3821

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	149.681	82.83	7.217E-02	2.297E-01	1.959E-02	2.978E-01	3.174E-01
2.0000	27.212	176.893	70.09	5.376E-02	1.784E-01	1.285E-02	2.122E-01	2.251E-01
4.0000	54.424	204.104	60.75	4.167E-02	1.424E-01	8.907E-03	1.560E-01	1.649E-01
8.0000	108.847	258.528	47.96	2.720E-02	9.652E-02	4.808E-03	9.081E-02	9.561E-02

ZN XII 5D EO= 6.7092E+00 (RYD) N*= 4.6328 MU= .3672

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	91.285	135.82	1.309E-01	3.147E-01	3.932E-02	3.408E-01	3.801E-01
2.0000	27.212	118.497	104.63	8.273E-02	2.176E-01	2.038E-02	2.116E-01	2.320E-01
6.0000	81.635	172.920	71.70	4.203E-02	1.229E-01	7.679E-03	9.846E-02	1.061E-01
12.0000	163.271	254.556	48.71	2.068E-02	6.562E-02	2.736E-03	4.133E-02	4.406E-02

ZN XII 6D EO= 4.5295E+00 (RYD) N*= 5.6384 MU= .3616

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	61.628	201.19	2.052E-01	4.057E-01	6.520E-02	3.825E-01	4.477E-01
2.0000	27.212	88.839	139.56	1.082E-01	2.454E-01	2.612E-02	2.017E-01	2.278E-01
6.0000	81.635	143.263	86.54	4.600E-02	1.211E-01	7.620E-03	7.919E-02	8.681E-02
12.0000	163.271	224.899	55.13	2.009E-02	5.910E-02	2.282E-03	2.961E-02	3.190E-02

ZN XII 8D EO= 2.4651E+00 (RYD) N*= 7.6430 MU= .3570

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	33.540	369.67	3.974E-01	6.050E-01	1.332E-01	4.629E-01	5.960E-01
2.0000	27.212	60.752	204.09	1.416E-01	2.703E-01	3.061E-02	1.674E-01	1.980E-01
4.0000	54.424	87.964	140.95	7.347E-02	1.590E-01	1.193E-02	8.382E-02	9.576E-02
6.0000	81.635	115.176	107.65	4.524E-02	1.064E-01	5.924E-03	4.918E-02	5.511E-02

ZN XII 10D EO= 1.5480E+00 (RYD) N*= 9.6448 MU= .3552

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	21.062	588.67	6.452E-01	8.263E-01	2.204E-01	5.422E-01	7.626E-01
2.0000	27.212	48.274	256.84	1.537E-01	2.674E-01	2.868E-02	1.302E-01	1.589E-01
4.0000	54.424	75.486	164.25	6.972E-02	1.409E-01	9.223E-03	5.654E-02	6.577E-02
6.0000	81.635	102.698	120.73	4.009E-02	8.927E-02	4.149E-03	3.085E-02	3.500E-02
12.0000	163.271	184.333	67.26	1.369E-02	3.590E-02	8.685E-04	8.958E-03	9.827E-03

ZN XII 12D EO= 1.0618E+00 (RYD) N*= 11.6457 MU= .3543

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	14.446	858.26	9.460E-01	1.069E+00	3.250E-01	6.223E-01	9.472E-01
2.0000	27.212	41.658	297.63	1.524E-01	2.508E-01	2.432E-02	9.883E-02	1.232E-01
4.0000	54.424	68.870	180.03	6.269E-02	1.219E-01	6.804E-03	3.861E-02	4.541E-02
8.0000	108.847	123.294	100.56	2.189E-02	5.091E-02	1.486E-03	1.205E-02	1.353E-02
10.0000	136.059	150.505	82.38	1.517E-02	3.730E-02	8.706E-04	7.896E-03	8.767E-03

ZN XII 16D EO= 5.8819E-01 (RYD) N*= 15.8466 MU= .3534

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.003	1549.26	1.700E+00	1.615E+00	5.814E-01	7.873E-01	1.369E+00
.5000	6.803	14.806	837.41	5.970E-01	6.957E-01	1.326E-01	2.702E-01	4.029E-01
1.0000	13.606	21.609	573.78	3.118E-01	4.116E-01	5.279E-02	1.380E-01	1.908E-01
2.0000	27.212	35.215	352.09	1.335E-01	2.071E-01	1.577E-02	5.693E-02	7.270E-02
4.0000	54.424	62.427	198.61	4.859E-02	9.081E-02	3.704E-03	1.941E-02	2.311E-02
6.0000	81.635	89.638	138.32	2.537E-02	5.311E-02	1.451E-03	9.535E-03	1.099E-02
8.0000	108.847	116.850	106.11	1.567E-02	3.549E-02	7.208E-04	5.549E-03	6.270E-03

ZN XII 20D EO= 3.7305E-01 (RYD) N*= 19.6470 MU= .3530

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.076	2442.74	2.649E+00	2.240E+00	8.953E-01	9.600E-01	1.855E+00
.5000	6.803	11.879	1043.77	6.257E-01	6.865E-01	1.169E-01	2.111E-01	3.280E-01
1.0000	13.606	18.682	663.68	2.876E-01	3.637E-01	3.884E-02	9.320E-02	1.320E-01
2.0000	27.212	32.288	384.01	1.113E-01	1.677E-01	1.005E-02	3.423E-02	4.428E-02
4.0000	54.424	59.499	208.38	3.785E-02	6.941E-02	2.143E-03	1.081E-02	1.295E-02
6.0000	81.635	86.711	142.99	1.925E-02	3.971E-02	8.076E-04	5.155E-03	5.963E-03
10.0000	136.059	141.135	87.85	7.900E-03	1.880E-02	2.214E-04	1.881E-03	2.102E-03

ZN XII 4F EO= 9.4976E+00 (RYD) N*= 3.8938 MU= .1062

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	129.223	95.95	4.123E-02	2.180E-01	5.915E-03	2.205E-01	2.264E-01
2.0000	27.212	156.435	79.26	2.774E-02	1.436E-01	3.241E-03	1.159E-01	1.191E-01
4.0000	54.424	183.647	67.51	1.970E-02	1.006E-01	1.920E-03	6.674E-02	6.866E-02
8.0000	108.847	238.071	52.08	1.112E-02	5.592E-02	7.927E-04	2.673E-02	2.753E-02

ZN XII 5F EO= 6.0432E+00 (RYD) N*= 4.8814 MU= .1186

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	82.223	150.79	9.150E-02	3.665E-01	1.854E-02	3.966E-01	4.152E-01
2.0000	27.212	109.435	113.30	5.188E-02	2.120E-01	7.934E-03	1.765E-01	1.845E-01
4.0000	54.424	136.647	90.74	3.288E-02	1.362E-01	3.979E-03	9.103E-02	9.500E-02
8.0000	108.847	191.070	64.89	1.607E-02	6.802E-02	1.328E-03	3.174E-02	3.307E-02
10.0000	136.059	218.282	56.80	1.197E-02	5.118E-02	8.425E-04	2.053E-02	2.137E-02

ZN XII 6F EO= 4.1705E+00 (RYD) N*= 5.8761 MU= .1239

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	56.744	218.50	1.568E-01	5.176E-01	3.757E-02	5.460E-01	5.835E-01
2.0000	27.212	83.956	147.68	7.364E-02	2.582E-01	1.226E-02	2.009E-01	2.132E-01
4.0000	54.424	111.167	111.53	4.193E-02	1.526E-01	5.263E-03	9.296E-02	9.822E-02
8.0000	108.847	165.591	74.88	1.819E-02	6.957E-02	1.475E-03	2.878E-02	3.025E-02
10.0000	136.059	192.803	64.31	1.307E-02	5.092E-02	8.864E-04	1.795E-02	1.884E-02

ZN XII 8F EO= 2.3240E+00 (RYD) N*= 7.8715 MU= .1285

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	31.621	392.10	3.311E-01	8.428E-01	9.334E-02	8.065E-01	8.998E-01
2.0000	27.212	58.833	210.74	1.038E-01	3.032E-01	1.706E-02	1.943E-01	2.113E-01
4.0000	54.424	86.044	144.10	4.930E-02	1.552E-01	5.632E-03	7.440E-02	8.003E-02
8.0000	108.847	140.468	88.27	1.802E-02	6.186E-02	1.229E-03	1.930E-02	2.053E-02
10.0000	136.059	167.680	73.94	1.234E-02	4.364E-02	6.877E-04	1.147E-02	1.216E-02
12.0000	163.271	194.892	63.62	8.886E-03	3.223E-02	4.145E-04	7.269E-03	7.683E-03

ZN XII 10F EO= 1.4783E+00 (RYD) N*= 9.8697 MU= .1303

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	20.113	616.44	5.614E-01	1.204E+00	1.707E-01	1.047E+00	1.218E+00
2.0000	27.212	47.325	261.99	1.165E-01	3.081E-01	1.731E-02	1.613E-01	1.786E-01
4.0000	54.424	74.537	166.34	4.841E-02	1.413E-01	4.705E-03	5.347E-02	5.818E-02
8.0000	108.847	128.961	96.14	1.588E-02	5.169E-02	8.757E-04	1.237E-02	1.325E-02
10.0000	136.059	156.172	79.39	1.058E-02	3.570E-02	4.707E-04	7.147E-03	7.618E-03

ZN XII 12F EO= 1.0222E+00 (RYD) N*= 11.8687 MU= .1313

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	13.909	891.44	8.458E-01	1.603E+00	2.680E-01	1.283E+00	1.551E+00
.5000	6.803	20.712	598.63	4.160E-01	8.731E-01	9.653E-02	5.670E-01	6.635E-01
1.0000	13.606	27.514	450.62	2.484E-01	5.600E-01	4.571E-02	3.098E-01	3.555E-01
4.0000	54.424	68.332	181.45	4.440E-02	1.241E-01	3.629E-03	3.780E-02	4.143E-02
8.0000	108.847	122.756	101.00	1.358E-02	4.291E-02	6.095E-04	8.116E-03	8.726E-03

ZN XII 16F EO= 5.7191E-01 (RYD) N*= 15.8678 MU= .1322

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.781	1593.38	1.570E+00	2.511E+00	5.166E-01	1.761E+00	2.278E+00
.5000	6.803	14.584	850.13	5.199E-01	9.716E-01	1.062E-01	4.944E-01	6.005E-01
1.0000	13.606	21.387	579.72	2.611E-01	5.374E-01	3.928E-02	2.218E-01	2.611E-01
2.0000	27.212	34.993	354.32	1.055E-01	2.455E-01	1.048E-02	7.572E-02	8.621E-02
4.0000	54.424	62.205	199.32	3.518E-02	9.396E-02	2.073E-03	1.972E-02	2.179E-02
6.0000	81.635	89.417	138.66	1.712E-02	4.959E-02	7.056E-04	7.896E-03	8.602E-03
10.0000	136.059	143.841	86.20	6.391E-03	2.047E-02	1.582E-04	2.164E-03	2.322E-03

ZN XII 20F EO= 3.6482E-01 (RYD) N*= 19.8674 MU= .1326

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.964	2497.85	2.494E+00	3.562E+00	8.312E-01	2.262E+00	3.093E+00
.5000	6.803	11.767	1053.71	5.520E-01	9.669E-01	9.655E-02	3.950E-01	4.916E-01
1.0000	13.606	18.570	667.68	2.439E-01	4.785E-01	2.975E-02	1.526E-01	1.824E-01
2.0000	27.212	32.176	385.34	8.898E-02	2.003E-01	6.861E-03	4.638E-02	5.324E-02
4.0000	54.424	59.387	208.78	2.772E-02	7.244E-02	1.229E-03	1.119E-02	1.242E-02
6.0000	81.635	86.599	143.17	1.314E-02	3.741E-02	4.027E-04	4.353E-03	4.755E-03
10.0000	136.059	141.023	87.92	4.784E-03	1.516E-02	6.691E-05	1.164E-03	1.251E-03

KR XVIII 4S EO= 2.8026E+01 (RYD) N*= 3.4001 MU= .5999

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	381.318	32.52	.000	5.197E-02	.000	6.473E-02	6.473E-02
2.0000	27.212	408.530	30.35	.000	4.726E-02	.000	5.735E-02	5.735E-02
14.0000	190.483	571.801	21.68	.000	2.954E-02	.000	3.135E-02	3.135E-02

KR XVIII 5S EO= 1.6646E+01 (RYD) N*= 4.4118 MU= .5882

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	226.484	54.74	.000	7.877E-02	.000	8.831E-02	8.831E-02
2.0000	27.212	253.695	48.87	.000	6.707E-02	.000	7.171E-02	7.171E-02
14.0000	190.483	416.966	29.74	.000	3.283E-02	.000	2.823E-02	2.823E-02

KR XVIII 6S EO= 1.1043E+01 (RYD) N*= 5.4166 MU= .5834

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	150.250	82.52	.000	1.104E-01	.000	1.151E-01	1.151E-01
2.0000	27.212	177.461	69.87	.000	8.681E-02	.000	8.403E-02	8.403E-02
10.0000	136.059	286.309	43.31	.000	4.313E-02	.000	3.347E-02	3.347E-02

KR XVIII 8S EO= 5.8838E+00 (RYD) N*= 7.4207 MU= .5793

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	80.054	154.88	.000	1.871E-01	.000	1.761E-01	1.761E-01
2.0000	27.212	107.266	115.59	.000	1.213E-01	.000	9.920E-02	9.920E-02
6.0000	81.635	161.690	76.68	.000	6.571E-02	.000	4.387E-02	4.387E-02

KR XVIII 10S EO= 3.6494E+00 (RYD) N*= 9.4224 MU= .5776

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	49.654	249.70	.000	2.807E-01	.000	2.458E-01	2.458E-01
2.0000	27.212	76.866	161.30	.000	1.454E-01	.000	1.022E-01	1.022E-01
4.0000	54.424	104.078	119.13	.000	9.190E-02	.000	5.523E-02	5.523E-02

KR XVIII 12S EO= 2.4830E+00 (RYD) N*= 11.4232 MU= .5768

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	33.783	367.01	.000	3.904E-01	.000	3.235E-01	3.235E-01
2.0000	27.212	60.995	203.27	.000	1.588E-01	.000	9.670E-02	9.670E-02
4.0000	54.424	88.207	140.56	.000	9.031E-02	.000	4.521E-02	4.521E-02
12.0000	163.271	197.054	62.92	.000	2.636E-02	.000	8.601E-03	8.601E-03

KR XVIII 16S EO= 1.3619E+00 (RYD) N*= 15.4240 MU= .5760

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	18.530	669.11	.000	6.558E-01	.000	5.007E-01	5.007E-01
2.0000	27.212	45.742	271.06	.000	1.623E-01	.000	7.573E-02	7.573E-02
6.0000	81.635	100.166	123.78	.000	4.820E-02	.000	1.462E-02	1.462E-02
8.0000	108.847	127.377	97.34	.000	3.324E-02	.000	8.845E-03	8.845E-03
14.0000	190.483	209.013	59.32	.000	1.549E-02	.000	3.153E-03	3.153E-03

KR XVIII 20S EO= 8.5872E-01 (RYD) N*= 19.4244 MU= .5756

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.684	1061.20	.000	9.799E-01	.000	7.050E-01	7.050E-01
2.0000	27.212	38.895	318.77	.000	1.501E-01	.000	5.505E-02	5.505E-02
6.0000	81.635	93.319	132.86	.000	3.837E-02	.000	8.632E-03	8.632E-03
10.0000	136.059	147.743	83.92	.000	1.881E-02	.000	3.286E-03	3.286E-03

KR XVIII 4P EO= 2.6355E+01 (RYD) N*= 3.5063 MU= .4937

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	358.580	34.58	3.865E-02	7.171E-02	1.122E-02	7.725E-02	8.846E-02
2.0000	27.212	385.792	32.14	3.426E-02	6.511E-02	9.487E-03	6.852E-02	7.801E-02
14.0000	190.483	549.063	22.58	1.907E-02	4.014E-02	4.184E-03	3.706E-02	4.124E-02

KR XVIII 5P EO= 1.5849E+01 (RYD) N*= 4.5213 MU= .4787

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	215.644	57.50	6.597E-02	1.012E-01	1.966E-02	9.256E-02	1.122E-01
2.0000	27.212	242.856	51.05	5.414E-02	8.650E-02	1.491E-02	7.613E-02	9.104E-02
6.0000	81.635	297.279	41.71	3.860E-02	6.583E-02	9.278E-03	5.397E-02	6.325E-02

KR XVIII 6P EO= 1.0604E+01 (RYD) N*= 5.5277 MU= .4723

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	144.274	85.94	1.001E-01	1.344E-01	3.027E-02	1.092E-01	1.395E-01
2.0000	27.212	171.486	72.30	7.499E-02	1.067E-01	2.020E-02	8.181E-02	1.020E-01
8.0000	108.847	253.121	48.98	3.892E-02	6.255E-02	8.030E-03	4.149E-02	4.952E-02

KR XVIII 8P EO= 5.7095E+00 (RYD) N*= 7.5331 MU= .4669

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L-1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	77.683	159.60	1.876E-01	2.107E-01	5.730E-02	1.445E-01	2.018E-01
2.0000	27.212	104.895	118.20	1.135E-01	1.399E-01	2.830E-02	8.596E-02	1.143E-01
8.0000	108.847	186.531	66.47	4.280E-02	6.252E-02	7.159E-03	3.054E-02	3.770E-02

KR XVIII 10P EO= 3.5635E+00 (RYD) N*= 9.5353 MU= .4647

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	48.484	255.72	2.999E-01	2.994E-01	9.135E-02	1.821E-01	2.734E-01
2.0000	27.212	75.696	163.79	1.421E-01	1.612E-01	3.202E-02	8.238E-02	1.144E-01
6.0000	81.635	130.120	95.29	5.674E-02	7.488E-02	8.774E-03	3.057E-02	3.934E-02
10.0000	136.059	184.543	67.19	3.121E-02	4.537E-02	3.765E-03	1.592E-02	1.968E-02
14.0000	190.483	238.967	51.88	2.001E-02	3.122E-02	2.003E-03	9.758E-03	1.176E-02

KR XVIII 12P EO= 2.4344E+00 (RYD) N*= 11.5365 MU= .4635

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	33.123	374.32	4.359E-01	3.998E-01	1.318E-01	2.218E-01	3.536E-01
2.0000	27.212	60.335	205.50	1.594E-01	1.715E-01	3.211E-02	7.438E-02	1.065E-01
6.0000	81.635	114.758	108.04	5.351E-02	6.837E-02	6.882E-03	2.247E-02	2.935E-02
12.0000	163.271	196.394	63.13	2.128E-02	3.143E-02	1.863E-03	8.128E-03	9.991E-03

KR XVIII 16P EO= 1.3421E+00 (RYD) N*= 15.5376 MU= .4624

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	18.260	679.00	7.765E-01	6.340E-01	2.306E-01	3.075E-01	5.381E-01
2.0000	27.212	45.472	272.66	1.678E-01	1.702E-01	2.681E-02	5.517E-02	8.198E-02
4.0000	54.424	72.684	170.58	7.568E-02	8.621E-02	8.720E-03	2.263E-02	3.135E-02
8.0000	108.847	127.108	97.54	2.909E-02	3.826E-02	2.254E-03	7.794E-03	1.005E-02
12.0000	163.271	181.531	68.30	1.574E-02	2.274E-02	9.426E-04	3.934E-03	4.876E-03

KR XVIII 20P EO= 8.4875E-01 (RYD) N*= 19.5381 MU= .4619

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.548	1073.65	1.205E+00	9.105E-01	3.512E-01	4.011E-01	7.523E-01
2.0000	27.212	38.760	319.88	1.575E-01	1.550E-01	2.014E-02	3.899E-02	5.913E-02
4.0000	54.424	65.972	187.94	6.379E-02	7.118E-02	5.624E-03	1.400E-02	1.963E-02
6.0000	81.635	93.184	133.06	3.535E-02	4.297E-02	2.439E-03	7.208E-03	9.648E-03
10.0000	136.059	147.607	84.00	1.603E-02	2.193E-02	7.948E-04	2.973E-03	3.768E-03

KR XVIII 3D EO= 4.6474E+01 (RYD) N*= 2.6404 MU= .3596

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	632.325	19.61	1.270E-02	6.552E-02	2.564E-03	1.023E-01	1.049E-01
2.0000	27.212	659.537	18.80	1.177E-02	6.031E-02	2.298E-03	9.045E-02	9.275E-02
18.0000	244.906	877.231	14.13	6.977E-03	3.400E-02	1.073E-03	3.825E-02	3.932E-02
20.0000	272.118	904.443	13.71	6.588E-03	3.194E-02	9.868E-04	3.479E-02	3.578E-02

KR XVIII 4D EO= 2.3652E+01 (RYD) N*= 3.7012 MU= .2988

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	321.801	38.53	3.107E-02	1.058E-01	7.809E-03	1.359E-01	1.437E-01
2.0000	27.212	349.013	35.52	2.686E-02	9.278E-02	6.329E-03	1.133E-01	1.196E-01
4.0000	54.424	376.225	32.96	2.345E-02	8.199E-02	5.202E-03	9.536E-02	1.006E-01
14.0000	190.483	512.284	24.20	1.331E-02	4.836E-02	2.280E-03	4.517E-02	4.745E-02

KR XVIII 5D EO= 1.4582E+01 (RYD) N*= 4.7137 MU= .2863

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	198.402	62.49	5.659E-02	1.495E-01	1.597E-02	1.672E-01	1.832E-01
2.0000	27.212	225.614	54.96	4.502E-02	1.232E-01	1.149E-02	1.290E-01	1.405E-01
4.0000	54.424	252.826	49.04	3.670E-02	1.033E-01	8.558E-03	1.018E-01	1.103E-01
6.0000	81.635	280.038	44.27	3.050E-02	8.801E-02	6.549E-03	8.178E-02	8.833E-02
18.0000	244.906	443.309	27.97	1.306E-02	4.133E-02	1.901E-03	2.855E-02	3.046E-02

KR XVIII 6D EO= 9.9080E+00 (RYD) N*= 5.7185 MU= .2815

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	134.808	91.97	8.901E-02	1.971E-01	2.685E-02	1.974E-01	2.243E-01
2.0000	27.212	162.020	76.53	6.434E-02	1.506E-01	1.686E-02	1.386E-01	1.555E-01
6.0000	81.635	216.444	57.28	3.830E-02	9.722E-02	7.979E-03	7.714E-02	8.512E-02
14.0000	190.483	325.291	38.12	1.816E-02	5.092E-02	2.696E-03	3.180E-02	3.450E-02

KR XVIII 8D EO= 5.4331E+00 (RYD) N*= 7.7223 MU= .2777

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	73.923	167.72	1.735E-01	3.034E-01	5.593E-02	2.566E-01	3.125E-01
2.0000	27.212	101.134	122.60	1.004E-01	1.937E-01	2.561E-02	1.430E-01	1.686E-01
4.0000	54.424	128.346	96.60	6.585E-02	1.365E-01	1.399E-02	9.012E-02	1.041E-01
6.0000	81.635	155.558	79.70	4.669E-02	1.023E-01	8.523E-03	6.136E-02	6.988E-02
12.0000	163.271	237.194	52.27	2.168E-02	5.325E-02	2.802E-03	2.536E-02	2.816E-02

KR XVIII 10D EO= 3.4266E+00 (RYD) N*= 9.7239 MU= .2761

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	46.622	265.94	2.830E-01	4.241E-01	9.389E-02	3.162E-01	4.101E-01
2.0000	27.212	73.834	167.93	1.275E-01	2.198E-01	3.017E-02	1.344E-01	1.646E-01
4.0000	54.424	101.046	122.70	7.337E-02	1.388E-01	1.367E-02	7.335E-02	8.702E-02
6.0000	81.635	128.258	96.67	4.796E-02	9.718E-02	7.416E-03	4.567E-02	5.308E-02
12.0000	163.271	209.893	59.07	1.962E-02	4.556E-02	2.031E-03	1.643E-02	1.846E-02
16.0000	217.695	264.317	46.91	1.281E-02	3.158E-02	1.090E-03	9.938E-03	1.103E-02
18.0000	244.906	291.529	42.53	1.067E-02	2.695E-02	8.338E-04	7.985E-03	8.819E-03

KR XVIII 12D EO= 2.3569E+00 (RYD) N*= 11.7247 MU= .2753

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	32.068	386.64	4.167E-01	5.587E-01	1.400E-01	3.775E-01	5.174E-01
2.0000	27.212	59.280	209.15	1.442E-01	2.313E-01	3.097E-02	1.195E-01	1.505E-01
4.0000	54.424	86.492	143.35	7.422E-02	1.328E-01	1.198E-02	5.753E-02	6.951E-02
6.0000	81.635	113.703	109.04	4.562E-02	8.828E-02	5.947E-03	3.341E-02	3.936E-02
14.0000	190.483	222.551	55.71	1.345E-02	3.133E-02	1.012E-03	8.236E-03	9.249E-03
16.0000	217.695	249.763	49.64	1.086E-02	2.607E-02	7.407E-04	6.399E-03	7.139E-03

KR XVIII 16D EO= 1.3102E+00 (RYD) N*= 15.7254 MU= .2746

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	17.827	695.52	7.534E-01	8.678E-01	2.543E-01	5.062E-01	7.606E-01
2.0000	27.212	45.038	275.29	1.531E-01	2.262E-01	2.853E-02	8.687E-02	1.134E-01
4.0000	54.424	72.250	171.61	6.684E-02	1.126E-01	8.114E-03	3.457E-02	4.268E-02
8.0000	108.847	126.674	97.88	2.453E-02	4.840E-02	1.917E-03	1.119E-02	1.311E-02
10.0000	136.059	153.886	80.57	1.724E-02	3.590E-02	1.150E-03	7.479E-03	8.628E-03
12.0000	163.271	181.098	68.46	1.280E-02	2.788E-02	7.462E-04	5.306E-03	6.052E-03
20.0000	272.118	289.945	42.76	5.342E-03	1.316E-02	2.080E-04	1.893E-03	2.101E-03

KR XVIII 20D EO= 8.3268E-01 (RYD) N*= 19.7258 MU= .2742

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.329	1094.38	1.179E+00	1.228E+00	3.959E-01	6.439E-01	1.040E+00
1.0000	13.606	24.935	497.23	3.067E-01	3.877E-01	5.898E-02	1.413E-01	2.003E-01
2.0000	27.212	38.541	321.70	1.444E-01	2.044E-01	2.021E-02	6.073E-02	8.095E-02
4.0000	54.424	65.753	188.56	5.667E-02	9.270E-02	5.308E-03	2.130E-02	2.661E-02
8.0000	108.847	120.177	103.17	1.933E-02	3.738E-02	1.128E-03	6.332E-03	7.461E-03
10.0000	136.059	147.388	84.12	1.335E-02	2.733E-02	6.606E-04	4.151E-03	4.811E-03
18.0000	244.906	256.236	48.39	4.816E-03	1.143E-02	1.494E-04	1.263E-03	1.412E-03

KR XVIII 4F EO= 2.1332E+01 (RYD) N*= 3.8973 MU= .1027

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	290.235	42.72	1.649E-02	9.417E-02	2.125E-03	9.242E-02	9.455E-02
2.0000	27.212	317.447	39.06	1.367E-02	7.720E-02	1.597E-03	6.794E-02	6.954E-02
6.0000	81.635	371.870	33.34	9.748E-03	5.411E-02	9.516E-04	3.910E-02	4.005E-02
14.0000	190.483	480.718	25.79	5.531E-03	3.002E-02	3.960E-04	1.556E-02	1.595E-02
20.0000	272.118	562.353	22.05	3.869E-03	2.078E-02	2.267E-04	8.723E-03	8.950E-03

KR XVIII 5F EO= 1.3543E+01 (RYD) N*= 4.8912 MU= .1088

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	184.265	67.29	3.692E-02	1.595E-01	6.766E-03	1.683E-01	1.751E-01
2.0000	27.212	211.477	58.63	2.804E-02	1.223E-01	4.480E-03	1.136E-01	1.181E-01
4.0000	54.424	238.689	51.94	2.193E-02	9.638E-02	3.091E-03	7.961E-02	8.270E-02
12.0000	163.271	347.536	35.68	9.941E-03	4.466E-02	9.249E-04	2.490E-02	2.582E-02
20.0000	272.118	456.384	27.17	5.451E-03	2.488E-02	3.652E-04	1.015E-02	1.051E-02

KR XVIII 6F EO= 9.3448E+00 (RYD) N*= 5.8883 MU= .1117

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	127.145	97.52	6.383E-02	2.270E-01	1.395E-02	2.352E-01	2.492E-01
2.0000	27.212	154.357	80.32	4.384E-02	1.608E-01	7.990E-03	1.433E-01	1.513E-01
4.0000	54.424	181.569	68.29	3.180E-02	1.194E-01	4.945E-03	9.300E-02	9.795E-02
10.0000	136.059	263.204	47.11	1.489E-02	5.874E-02	1.571E-03	3.261E-02	3.418E-02
14.0000	190.483	317.628	39.04	9.995E-03	4.035E-02	8.546E-04	1.857E-02	1.943E-02
20.0000	272.118	399.263	31.05	6.071E-03	2.518E-02	3.963E-04	9.089E-03	9.485E-03

KR XVIII 8F EO= 5.2103E+00 (RYD) N*= 7.8857 MU= .1143

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	70.890	174.90	1.366E-01	3.737E-01	3.561E-02	3.554E-01	3.910E-01
2.0000	27.212	98.102	126.38	7.440E-02	2.193E-01	1.462E-02	1.694E-01	1.840E-01
4.0000	54.424	125.314	98.94	4.652E-02	1.445E-01	7.302E-03	9.400E-02	1.013E-01
8.0000	108.847	179.738	68.98	2.280E-02	7.613E-02	2.516E-03	3.741E-02	3.992E-02
14.0000	190.483	261.373	47.44	1.055E-02	3.771E-02	7.828E-04	1.334E-02	1.413E-02
18.0000	244.906	315.797	39.26	7.049E-03	2.604E-02	4.226E-04	7.687E-03	8.110E-03

KR XVIII 10F EO= 3.3160E+00 (RYD) N*= 9.8847 MU= .1153

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	45.118	274.81	2.338E-01	5.378E-01	6.643E-02	4.687E-01	5.351E-01
2.0000	27.212	72.329	171.42	9.836E-02	2.546E-01	1.885E-02	1.683E-01	1.872E-01
4.0000	54.424	99.541	124.56	5.380E-02	1.503E-01	7.759E-03	8.074E-02	8.850E-02
8.0000	108.847	153.965	80.53	2.296E-02	7.076E-02	2.186E-03	2.768E-02	2.987E-02
12.0000	163.271	208.389	59.50	1.244E-02	4.085E-02	8.690E-04	1.249E-02	1.336E-02
14.0000	190.483	235.600	52.63	9.651E-03	3.247E-02	5.910E-04	8.921E-03	9.512E-03
20.0000	272.118	317.236	39.08	5.134E-03	1.829E-02	2.252E-04	3.810E-03	4.035E-03

KR XVIII 12F EO= 2.2941E+00 (RYD) N*= 11.8842 MU= .1158

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	31.213	397.23	3.548E-01	7.198E-01	1.058E-01	5.808E-01	6.866E-01
2.0000	27.212	58.425	212.22	1.138E-01	2.709E-01	2.038E-02	1.539E-01	1.743E-01
4.0000	54.424	85.637	144.78	5.560E-02	1.455E-01	7.130E-03	6.511E-02	7.224E-02
8.0000	108.847	140.060	88.52	2.143E-02	6.300E-02	1.732E-03	1.996E-02	2.169E-02
12.0000	163.271	194.484	63.75	1.107E-02	3.500E-02	6.417E-04	8.553E-03	9.195E-03
18.0000	244.906	276.119	44.90	5.331E-03	1.812E-02	2.113E-04	3.257E-03	3.468E-03

KR XVIII 16F EO= 1.2842E+00 (RYD) N*= 15.8837 MU= .1163

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	17.473	709.58	6.654E-01	1.136E+00	2.083E-01	8.101E-01	1.018E+00
2.0000	27.212	44.685	277.47	1.240E-01	2.675E-01	1.850E-02	1.148E-01	1.333E-01
4.0000	54.424	71.897	172.45	5.126E-02	1.248E-01	5.088E-03	4.022E-02	4.530E-02
10.0000	136.059	153.532	80.76	1.176E-02	3.446E-02	5.719E-04	6.546E-03	7.118E-03
20.0000	272.118	289.591	42.81	3.167E-03	1.066E-02	7.821E-05	1.182E-03	1.260E-03

KR XVIII 20F EO= 8.1952E-01 (RYD) N*= 19.8834 MU= .1166

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.150	1111.95	1.064E+00	1.620E+00	3.401E-01	1.051E+00	1.391E+00
1.0000	13.606	24.756	500.83	2.614E-01	4.799E-01	4.556E-02	2.047E-01	2.503E-01
2.0000	27.212	38.362	323.20	1.186E-01	2.429E-01	1.453E-02	8.125E-02	9.578E-02
4.0000	54.424	65.574	189.08	4.400E-02	1.033E-01	3.418E-03	2.513E-02	2.854E-02
8.0000	108.847	119.998	103.32	1.380E-02	3.770E-02	6.157E-04	6.126E-03	6.741E-03
16.0000	217.695	228.845	54.18	3.746E-03	1.188E-02	8.647E-05	1.160E-03	1.247E-03

MO XXIV 4S EO= 4.6626E+01 (RYD) N*= 3.5148 MU= .4852

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	634.387	19.54	.000	3.237E-02	.000	4.177E-02	4.177E-02
1.0000	13.606	647.993	19.13	.000	3.142E-02	.000	4.020E-02	4.020E-02
12.0000	163.271	797.658	15.54	.000	2.341E-02	.000	2.747E-02	2.747E-02

MO XXIV 5S EO= 2.8139E+01 (RYD) N*= 4.5244 MU= .4756

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	382.851	32.39	.000	4.865E-02	.000	5.694E-02	5.694E-02
1.0000	13.606	396.457	31.27	.000	4.627E-02	.000	5.333E-02	5.333E-02
8.0000	108.847	491.698	25.22	.000	3.389E-02	.000	3.548E-02	3.548E-02

MO XXIV 6S EO= 1.8846E+01 (RYD) N*= 5.5284 MU= .4716

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	256.417	48.35	.000	6.781E-02	.000	7.409E-02	7.409E-02
1.0000	13.606	270.023	45.92	.000	6.288E-02	.000	6.708E-02	6.708E-02
8.0000	108.847	365.264	33.94	.000	4.032E-02	.000	3.731E-02	3.731E-02

MO XXIV 8S EO= 1.0154E+01 (RYD) N*= 7.5319 MU= .4681

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	138.148	89.75	.000	1.142E-01	.000	1.132E-01	1.132E-01
1.0000	13.606	151.754	81.70	.000	9.926E-02	.000	9.396E-02	9.396E-02
7.0000	95.241	233.389	53.12	.000	5.198E-02	.000	3.963E-02	3.963E-02

MO XXIV 10S EO= 6.3378E+00 (RYD) N*= 9.5333 MU= .4667

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	86.231	143.78	.000	1.708E-01	.000	1.580E-01	1.580E-01
1.0000	13.606	99.837	124.19	.000	1.368E-01	.000	1.174E-01	1.174E-01
2.0000	27.212	113.443	109.29	.000	1.127E-01	.000	9.051E-02	9.051E-02
7.0000	95.241	181.472	68.32	.000	5.503E-02	.000	3.453E-02	3.453E-02

MO XXIV 12S EO= 4.3297E+00 (RYD) N*= 11.5340 MU= .4660

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	58.910	210.47	.000	2.370E-01	.000	2.080E-01	2.080E-01
1.0000	13.606	72.516	170.98	.000	1.725E-01	.000	1.356E-01	1.356E-01
2.0000	27.212	86.122	143.97	.000	1.325E-01	.000	9.500E-02	9.500E-02
5.0000	68.030	126.939	97.67	.000	7.292E-02	.000	4.241E-02	4.241E-02

MO XXIV 16S EO= 2.3868E+00 (RYD) N*= 15.5347 MU= .4653

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	32.474	381.80	.000	3.974E-01	.000	3.223E-01	3.223E-01
1.0000	13.606	46.080	269.07	.000	2.309E-01	.000	1.543E-01	1.543E-01
2.0000	27.212	59.686	207.73	.000	1.543E-01	.000	8.935E-02	8.935E-02
5.0000	68.030	100.504	123.36	.000	6.851E-02	.000	2.964E-02	2.964E-02

MO XXIV 20S EO= 1.5094E+00 (RYD) N*= 19.5351 MU= .4649

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	20.536	603.74	.000	5.933E-01	.000	4.542E-01	4.542E-01
1.0000	13.606	34.142	363.15	.000	2.675E-01	.000	1.535E-01	1.535E-01
2.0000	27.212	47.748	259.67	.000	1.580E-01	.000	7.487E-02	7.487E-02
5.0000	68.030	88.566	139.99	.000	5.989E-02	.000	1.996E-02	1.996E-02
8.0000	108.847	129.384	95.83	.000	3.307E-02	.000	8.889E-03	8.889E-03

MO XXIV 4P EO= 4.4414E+01 (RYD) N*= 3.6012 MU= .3988

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	604.299	20.52	2.212E-02	4.447E-02	6.192E-03	5.006E-02	5.625E-02
1.0000	13.606	617.905	20.07	2.132E-02	4.311E-02	5.883E-03	4.812E-02	5.400E-02
12.0000	163.271	767.570	16.15	1.488E-02	3.172E-02	3.559E-03	3.236E-02	3.592E-02

MO XXIV 5P EO= 2.7060E+01 (RYD) N*= 4.6137 MU= .3863

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	368.174	33.68	3.739E-02	6.326E-02	1.078E-02	6.172E-02	7.250E-02
1.0000	13.606	381.780	32.48	3.520E-02	6.016E-02	9.907E-03	5.789E-02	6.780E-02
8.0000	108.847	477.022	25.99	2.426E-02	4.402E-02	5.878E-03	3.873E-02	4.461E-02

MO XXIV 6P EO= 1.8243E+01 (RYD) N*= 5.6190 MU= .3810

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	248.218	49.95	5.639E-02	8.451E-02	1.653E-02	7.427E-02	9.080E-02
1.0000	13.606	261.823	47.35	5.159E-02	7.847E-02	1.459E-02	6.754E-02	8.214E-02
5.0000	68.030	316.247	39.21	3.760E-02	6.020E-02	9.363E-03	4.802E-02	5.738E-02

MO XXIV 8P EO= 9.9107E+00 (RYD) N*= 7.6236 MU= .3764

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	134.845	91.95	1.051E-01	1.338E-01	3.118E-02	1.012E-01	1.323E-01
1.0000	13.606	148.450	83.52	8.948E-02	1.169E-01	2.490E-02	8.492E-02	1.098E-01
7.0000	95.241	230.086	53.89	4.278E-02	6.248E-02	8.822E-03	3.763E-02	4.645E-02

MO XXIV 10P EO= 6.2169E+00 (RYD) N*= 9.6255 MU= .3745

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	84.587	146.58	1.674E-01	1.917E-01	4.965E-02	1.302E-01	1.798E-01
1.0000	13.606	98.193	126.27	1.305E-01	1.548E-01	3.501E-02	9.862E-02	1.336E-01
5.0000	68.030	152.617	81.24	6.209E-02	8.190E-02	1.232E-02	4.288E-02	5.521E-02
7.0000	95.241	179.829	68.95	4.701E-02	6.449E-02	8.324E-03	3.133E-02	3.965E-02

MO XXIV 12P EO= 4.2611E+00 (RYD) N*= 11.6265 MU= .3735

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	57.977	213.86	2.429E-01	2.576E-01	7.163E-02	1.612E-01	2.328E-01
1.0000	13.606	71.583	173.21	1.707E-01	1.898E-01	4.370E-02	1.081E-01	1.518E-01
2.0000	27.212	85.189	145.54	1.275E-01	1.474E-01	2.900E-02	7.751E-02	1.065E-01
6.0000	81.635	139.612	88.81	5.530E-02	7.151E-02	8.943E-03	2.991E-02	3.885E-02

MO XXIV 16P EO= 2.3586E+00 (RYD) N*= 15.6274 MU= .3726

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	32.090	386.37	4.317E-01	4.126E-01	1.253E-01	2.288E-01	3.541E-01
1.0000	13.606	45.696	271.33	2.390E-01	2.449E-01	5.469E-02	1.148E-01	1.695E-01
2.0000	27.212	59.302	209.08	1.542E-01	1.665E-01	2.954E-02	6.887E-02	9.841E-02
5.0000	68.030	100.120	123.84	6.356E-02	7.654E-02	8.473E-03	2.457E-02	3.305E-02

MO XXIV 20P EO= 1.4951E+00 (RYD) N*= 19.6279 MU= .3721

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	20.343	609.49	6.693E-01	5.969E-01	1.909E-01	3.037E-01	4.945E-01
1.0000	13.606	33.948	365.22	2.840E-01	2.775E-01	5.738E-02	1.095E-01	1.669E-01
2.0000	27.212	47.554	260.73	1.611E-01	1.675E-01	2.584E-02	5.590E-02	8.173E-02
4.0000	54.424	74.766	165.83	7.488E-02	8.507E-02	8.781E-03	2.267E-02	3.145E-02
7.0000	95.241	115.584	107.27	3.566E-02	4.433E-02	3.078E-03	9.517E-03	1.260E-02

MO XXIV 3D EO= 7.8677E+01 (RYD) N*= 2.7057 MU= .2943

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1070.476	11.58	6.855E-03	3.578E-02	1.264E-03	5.167E-02	5.293E-02
1.0000	13.606	1084.082	11.44	6.698E-03	3.488E-02	1.223E-03	4.972E-02	5.094E-02
8.0000	108.847	1179.324	10.51	5.737E-03	2.939E-02	9.755E-04	3.841E-02	3.939E-02

MO XXIV 4D EO= 4.0869E+01 (RYD) N*= 3.7542 MU= .2458

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	556.060	22.30	1.683E-02	5.994E-02	3.958E-03	7.531E-02	7.927E-02
1.0000	13.606	569.666	21.76	1.611E-02	5.756E-02	3.716E-03	7.115E-02	7.487E-02
8.0000	108.847	664.907	18.65	1.215E-02	4.422E-02	2.467E-03	4.903E-02	5.149E-02

MO XXIV 5D EO= 2.5368E+01 (RYD) N*= 4.7650 MU= .2350

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	345.161	35.92	3.070E-02	8.607E-02	8.177E-03	9.641E-02	1.046E-01
1.0000	13.606	358.767	34.56	2.865E-02	8.104E-02	7.401E-03	8.885E-02	9.625E-02
8.0000	108.847	454.008	27.31	1.872E-02	5.572E-02	3.998E-03	5.314E-02	5.714E-02

MO XXIV 6D EO= 1.7306E+01 (RYD) N*= 5.7691 MU= .2309

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	235.465	52.66	4.837E-02	1.147E-01	1.385E-02	1.168E-01	1.306E-01
1.0000	13.606	249.071	49.78	4.379E-02	1.054E-01	1.200E-02	1.043E-01	1.164E-01
2.0000	27.212	262.677	47.20	3.984E-02	9.725E-02	1.048E-02	9.367E-02	1.042E-01
3.0000	40.818	276.283	44.88	3.641E-02	9.005E-02	9.205E-03	8.446E-02	9.367E-02

MO XXIV 8D EO= 9.5345E+00 (RYD) N*= 7.7725 MU= .2275

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	129.726	95.58	9.458E-02	1.793E-01	2.917E-02	1.572E-01	1.864E-01
1.0000	13.606	143.332	86.50	7.946E-02	1.549E-01	2.275E-02	1.296E-01	1.524E-01
3.0000	40.818	170.544	72.70	5.853E-02	1.197E-01	1.468E-02	9.210E-02	1.068E-01
6.0000	81.635	211.361	58.66	3.997E-02	8.659E-02	8.489E-03	5.976E-02	6.825E-02

MO XXIV 10D EO= 6.0296E+00 (RYD) N*= 9.7739 MU= .2261

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	82.038	151.13	1.547E-01	2.533E-01	4.936E-02	1.984E-01	2.478E-01
1.0000	13.606	95.644	129.63	1.186E-01	2.024E-01	3.382E-02	1.478E-01	1.816E-01
3.0000	40.818	122.856	100.92	7.658E-02	1.399E-01	1.811E-02	9.061E-02	1.087E-01
6.0000	81.635	163.674	75.75	4.612E-02	9.095E-02	8.750E-03	5.104E-02	5.979E-02

MO XXIV 12D EO= 4.1546E+00 (RYD) N*= 11.7746 MU= .2254

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	56.527	219.34	2.283E-01	3.364E-01	7.404E-02	2.411E-01	3.152E-01
1.0000	13.606	70.133	176.79	1.574E-01	2.453E-01	4.368E-02	1.591E-01	2.028E-01
3.0000	40.818	97.345	127.37	8.897E-02	1.510E-01	1.937E-02	8.374E-02	1.031E-01
6.0000	81.635	138.163	89.74	4.799E-02	8.932E-02	7.997E-03	4.156E-02	4.956E-02

MO XXIV 16D EO= 2.3146E+00 (RYD) N*= 15.7753 MU= .2247

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	31.492	393.71	4.141E-01	5.285E-01	1.358E-01	3.317E-01	4.675E-01
1.0000	13.606	45.098	274.93	2.239E-01	3.110E-01	5.680E-02	1.644E-01	2.212E-01
2.0000	27.212	58.704	211.21	1.419E-01	2.102E-01	2.973E-02	9.778E-02	1.275E-01
4.0000	54.424	85.915	144.31	7.304E-02	1.189E-01	1.152E-02	4.580E-02	5.732E-02
5.0000	68.030	99.521	124.58	5.639E-02	9.530E-02	7.955E-03	3.408E-02	4.203E-02

MO XXIV 20D EO= 1.4729E+00 (RYD) N*= 19.7755 MU= .2245

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	20.040	618.70	6.498E-01	7.539E-01	2.127E-01	4.295E-01	6.422E-01
1.0000	13.606	33.646	368.51	2.682E-01	3.483E-01	6.084E-02	1.539E-01	2.147E-01
2.0000	27.212	47.252	262.40	1.493E-01	2.095E-01	2.648E-02	7.822E-02	1.047E-01
4.0000	54.424	74.463	166.51	6.761E-02	1.058E-01	8.557E-03	3.142E-02	3.997E-02
7.0000	95.241	115.281	107.55	3.126E-02	5.457E-02	2.832E-03	1.294E-02	1.578E-02

MO XXIV 4F EO= 3.7772E+01 (RYD) N*= 3.9051 MU= .0949

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	513.921	24.13	8.518E-03	5.156E-02	1.004E-03	4.907E-02	5.007E-02
1.0000	13.606	527.527	23.50	8.063E-03	4.863E-02	9.235E-04	4.480E-02	4.572E-02
8.0000	108.847	622.768	19.91	5.655E-03	3.339E-02	5.364E-04	2.493E-02	2.547E-02

MO XXIV 5F EO= 2.3966E+01 (RYD) N*= 4.9024 MU= .0976

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	326.085	38.02	1.923E-02	8.813E-02	3.246E-03	9.094E-02	9.419E-02
1.0000	13.606	339.691	36.50	1.772E-02	8.141E-02	2.871E-03	8.085E-02	8.372E-02
8.0000	108.847	434.932	28.51	1.069E-02	4.984E-02	1.338E-03	3.880E-02	4.014E-02

MO XXIV 6F EO= 1.6543E+01 (RYD) N*= 5.9008 MU= .0992

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	225.078	55.09	3.344E-02	1.262E-01	6.780E-03	1.287E-01	1.355E-01
1.0000	13.606	238.684	51.95	2.985E-02	1.137E-01	5.726E-03	1.108E-01	1.165E-01
2.0000	27.212	252.290	49.14	2.679E-02	1.029E-01	4.875E-03	9.591E-02	1.008E-01
8.0000	108.847	333.925	37.13	1.532E-02	6.128E-02	2.112E-03	4.503E-02	4.714E-02

MO XXIV 8F EO= 9.2309E+00 (RYD) N*= 7.8993 MU= .1007

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	125.595	98.72	7.220E-02	2.095E-01	1.763E-02	1.980E-01	2.156E-01
1.0000	13.606	139.201	89.07	5.959E-02	1.771E-01	1.331E-02	1.567E-01	1.700E-01
3.0000	40.818	166.413	74.51	4.253E-02	1.315E-01	8.105E-03	1.034E-01	1.115E-01
4.0000	54.424	180.019	68.87	3.659E-02	1.151E-01	6.492E-03	8.567E-02	9.216E-02

MO XXIV 10F EO= 5.8785E+00 (RYD) N*= 9.8987 MU= .1013

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	79.983	155.02	1.244E-01	3.033E-01	3.332E-02	2.641E-01	2.975E-01
1.0000	13.606	93.589	132.48	9.334E-02	2.367E-01	2.196E-02	1.882E-01	2.102E-01
4.0000	54.424	134.406	92.25	4.757E-02	1.318E-01	8.192E-03	8.381E-02	9.200E-02
8.0000	108.847	188.830	65.66	2.480E-02	7.444E-02	3.129E-03	3.758E-02	4.070E-02

MO XXIV 12F EO= 4.0686E+00 (RYD) N*= 11.8983 MU= .1017

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	55.358	223.97	1.896E-01	4.075E-01	5.357E-02	3.300E-01	3.836E-01
1.0000	13.606	68.963	179.79	1.276E-01	2.897E-01	3.022E-02	2.079E-01	2.381E-01
4.0000	54.424	109.781	112.94	5.417E-02	1.383E-01	8.677E-03	7.538E-02	8.406E-02
7.0000	95.241	150.599	82.33	2.978E-02	8.219E-02	3.597E-03	3.653E-02	4.013E-02

MO XXIV 16F EO= 2.2790E+00 (RYD) N*= 15.8980 MU= .1020

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	31.007	399.86	3.578E-01	6.466E-01	1.069E-01	4.655E-01	5.724E-01
1.0000	13.606	44.613	277.91	1.876E-01	3.701E-01	4.227E-02	2.194E-01	2.617E-01
3.0000	40.818	71.825	172.62	7.915E-02	1.759E-01	1.212E-02	7.978E-02	9.190E-02
4.0000	54.424	85.431	145.13	5.748E-02	1.335E-01	7.603E-03	5.465E-02	6.226E-02
7.0000	95.241	126.249	98.21	2.763E-02	7.084E-02	2.595E-03	2.275E-02	2.535E-02

MO XXIV 20F EO= 1.4548E+00 (RYD) N*= 19.8979 MU= .1021

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	19.794	626.38	5.747E-01	9.254E-01	1.761E-01	6.087E-01	7.847E-01
1.0000	13.606	33.400	371.22	2.289E-01	4.152E-01	4.712E-02	2.068E-01	2.539E-01
3.0000	40.818	60.612	204.56	7.826E-02	1.642E-01	9.999E-03	5.869E-02	6.869E-02
5.0000	68.030	87.824	141.18	3.950E-02	9.107E-02	3.691E-03	2.615E-02	2.985E-02

Appendice 2 : Séquence de Rb

RB I 5S EO= 3.0704E-01 (RYD) N*= 1.8047 MU= 3.1953

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.178	2967.88	.000	-5.593E-01	.000	8.211E-02	8.211E-02
.0200	.272	4.450	2786.38	.000	-3.129E-01	.000	2.737E-02	2.737E-02
.0400	.544	4.722	2625.81	.000	-1.232E-01	.000	4.500E-03	4.500E-03
.0600	.816	4.994	2482.73	.000	2.389E-02	.000	1.791E-04	1.791E-04
.0800	1.088	5.266	2354.43	.000	1.384E-01	.000	6.343E-03	6.343E-03
.1000	1.361	5.538	2238.75	.000	2.280E-01	.000	1.809E-02	1.809E-02
.2000	2.721	6.899	1797.22	.000	4.533E-01	.000	8.908E-02	8.908E-02
.3000	4.082	8.259	1501.16	.000	5.057E-01	.000	1.328E-01	1.328E-01
.4000	5.442	9.620	1288.84	.000	4.975E-01	.000	1.496E-01	1.496E-01
.5000	6.803	10.981	1129.14	.000	4.673E-01	.000	1.507E-01	1.507E-01
.6000	8.164	12.341	1004.66	.000	4.303E-01	.000	1.436E-01	1.436E-01
1.0000	13.606	17.784	697.20	.000	2.945E-01	.000	9.692E-02	9.692E-02
2.0000	27.212	31.389	394.99	.000	1.281E-01	.000	3.237E-02	3.237E-02

RB I 6S EO= 1.2306E-01 (RYD) N*= 2.8506 MU= 3.1494

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.674	7404.87	.000	-2.704E+00	.000	7.691E-01	7.691E-01
.0400	.544	2.219	5588.43	.000	-8.752E-01	.000	1.068E-01	1.068E-01
.0600	.816	2.491	4977.88	.000	-4.445E-01	.000	3.092E-02	3.092E-02
.0800	1.088	2.763	4487.60	.000	-1.637E-01	.000	4.852E-03	4.852E-03
.1000	1.361	3.035	4085.24	.000	2.423E-02	.000	1.120E-04	1.120E-04
.2000	2.721	4.396	2820.71	.000	3.716E-01	.000	3.813E-02	3.813E-02
.3000	4.082	5.756	2153.97	.000	4.104E-01	.000	6.092E-02	6.092E-02
.4000	5.442	7.117	1742.17	.000	3.859E-01	.000	6.861E-02	6.861E-02
.5000	6.803	8.477	1462.56	.000	3.485E-01	.000	6.470E-02	6.470E-02
1.0000	13.606	15.280	811.41	.000	1.971E-01	.000	3.732E-02	3.732E-02
3.0000	40.818	42.492	291.79	.000	4.064E-02	.000	4.410E-03	4.410E-03

RB I 8S EO= 4.2204E-02 (RYD) N*= 4.8677 MU= 3.1323

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.574	21591.80	.000	-9.692E+00	.000	3.389E+00	3.389E+00
.0200	.272	.846	14649.59	.000	-3.596E+00	.000	6.876E-01	6.876E-01
.0400	.544	1.118	11085.40	.000	-1.573E+00	.000	1.740E-01	1.740E-01
.0600	.816	1.391	8916.14	.000	-7.074E-01	.000	4.373E-02	4.373E-02
.0800	1.088	1.663	7456.92	.000	-2.798E-01	.000	8.178E-03	8.178E-03
.1000	1.361	1.935	6408.16	.000	-4.914E-02	.000	2.937E-04	2.937E-04
.2000	2.721	3.295	3762.39	.000	2.481E-01	.000	1.275E-02	1.275E-02
.3000	4.082	4.656	2662.93	.000	2.517E-01	.000	1.853E-02	1.853E-02
.4000	5.442	6.017	2060.74	.000	2.234E-01	.000	1.887E-02	1.887E-02
.5000	6.803	7.377	1680.67	.000	1.942E-01	.000	1.749E-02	1.749E-02
1.0000	13.606	14.180	874.37	.000	1.016E-01	.000	9.207E-03	9.207E-03
2.0000	27.212	27.786	446.22	.000	3.807E-02	.000	2.530E-03	2.530E-03
3.0000	40.818	41.392	299.54	.000	1.927E-02	.000	9.657E-04	9.657E-04

RB I 10S EO= 2.1177E-02 (RYD) N*= 6.8718 MU= 3.1282

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.288	43031.23	.000	-2.031E+01	.000	7.467E+00	7.467E+00
.0100	.136	.424	29228.95	.000	-8.627E+00	.000	1.984E+00	1.984E+00
.0200	.272	.560	22130.56	.000	-4.480E+00	.000	7.067E-01	7.067E-01
.0400	.544	.832	14895.62	.000	-1.580E+00	.000	1.307E-01	1.307E-01
.0600	.816	1.104	11225.70	.000	-6.321E-01	.000	2.774E-02	2.774E-02
.0800	1.088	1.377	9006.68	.000	-2.331E-01	.000	4.700E-03	4.700E-03
.1000	1.361	1.649	7520.14	.000	-4.042E-02	.000	1.693E-04	1.693E-04
.2000	2.721	3.009	4120.09	.000	1.709E-01	.000	5.522E-03	5.522E-03
.3000	4.082	4.370	2837.28	.000	1.658E-01	.000	7.551E-03	7.551E-03
.4000	5.442	5.730	2163.62	.000	1.438E-01	.000	7.451E-03	7.451E-03
1.0000	13.606	13.894	892.37	.000	6.297E-02	.000	3.462E-03	3.462E-03
2.0000	27.212	27.500	450.86	.000	2.329E-02	.000	9.373E-04	9.373E-04
3.0000	40.818	41.106	301.63	.000	1.168E-02	.000	3.522E-04	3.522E-04

RB I 12S EO= 1.2701E-02 (RYD) N*= 8.8734 MU= 3.1266

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.173	71750.45	.000	-3.444E+01	.000	1.288E+01	1.288E+01
.0100	.136	.309	40143.04	.000	-1.025E+01	.000	2.037E+00	2.037E+00
.0200	.272	.445	27867.08	.000	-4.546E+00	.000	5.778E-01	5.778E-01
.0400	.544	.717	17291.44	.000	-1.385E+00	.000	8.639E-02	8.639E-02
.0600	.816	.989	12534.54	.000	-5.159E-01	.000	1.654E-02	1.654E-02
.0800	1.088	1.261	9830.23	.000	-1.818E-01	.000	2.620E-03	2.620E-03
.1000	1.361	1.533	8085.75	.000	-2.977E-02	.000	8.538E-05	8.538E-05
.2000	2.721	2.894	4284.28	.000	1.242E-01	.000	2.807E-03	2.807E-03
.3000	4.082	4.255	2914.19	.000	1.180E-01	.000	3.722E-03	3.722E-03
.4000	5.442	5.615	2208.06	.000	1.013E-01	.000	3.620E-03	3.620E-03
1.0000	13.606	13.779	899.84	.000	4.360E-02	.000	1.646E-03	1.646E-03
2.0000	27.212	27.385	452.76	.000	1.604E-02	.000	4.430E-04	4.430E-04

RB I 16S EO= 6.0329E-03 (RYD) N*= 12.8746 MU= 3.1254

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.082	151048.47	.000	-7.280E+01	.000	2.734E+01	2.734E+01
.0050	.068	.150	82595.12	.000	-2.254E+01	.000	4.794E+00	4.794E+00
.0150	.204	.286	43325.73	.000	-6.057E+00	.000	6.598E-01	6.598E-01
.0400	.544	.626	19795.99	.000	-9.901E-01	.000	3.859E-02	3.859E-02
.0600	.816	.898	13800.20	.000	-3.443E-01	.000	6.692E-03	6.692E-03
.0800	1.088	1.171	10592.08	.000	-1.158E-01	.000	9.866E-04	9.866E-04
.1000	1.361	1.443	8594.19	.000	-1.713E-02	.000	2.661E-05	2.661E-05
.2000	2.721	2.803	4422.92	.000	7.504E-02	.000	9.921E-04	9.921E-04
.3000	4.082	4.164	2977.68	.000	6.985E-02	.000	1.277E-03	1.277E-03
.4000	5.442	5.524	2244.32	.000	5.941E-02	.000	1.225E-03	1.225E-03
.6000	8.164	8.246	1503.66	.000	4.328E-02	.000	9.704E-04	9.704E-04
1.0000	13.606	13.688	905.80	.000	2.522E-02	.000	5.471E-04	5.471E-04

RB I 20S EO= 3.5116E-03 (RYD) N*= 16.8751 MU= 3.1249

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.048	259501.38	.000	-1.240E+02	.000	4.615E+01	4.615E+01
.0050	.068	.116	107061.74	.000	-2.341E+01	.000	3.988E+00	3.988E+00
.0200	.272	.320	38758.20	.000	-3.007E+00	.000	1.818E-01	1.818E-01
.0400	.544	.592	20943.09	.000	-7.242E-01	.000	1.951E-02	1.951E-02
.0600	.816	.864	14348.05	.000	-2.417E-01	.000	3.171E-03	3.171E-03
.0800	1.088	1.136	10911.87	.000	-8.138E-02	.000	4.729E-04	4.729E-04
.1000	1.361	1.408	8803.53	.000	-1.090E-02	.000	1.052E-05	1.052E-05
.2000	2.721	2.769	4477.72	.000	5.050E-02	.000	4.438E-04	4.438E-04
.3000	4.082	4.130	3002.41	.000	4.684E-02	.000	5.695E-04	5.695E-04
.4000	5.442	5.490	2258.34	.000	4.018E-02	.000	5.569E-04	5.569E-04
1.0000	13.606	13.654	908.08	.000	1.696E-02	.000	2.467E-04	2.467E-04

RB I 5P EO= 1.9109E-01 (RYD) N*= 2.2876 MU= 2.7124

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.600	4768.76	5.610E+00	-1.019E+01	1.714E+00	1.132E+01	1.303E+01
.2000	2.721	5.321	2330.07	1.845E+00	-4.266E+00	3.794E-01	4.057E+00	4.436E+00
.6000	8.164	10.764	1151.91	5.946E-01	-1.116E+00	7.971E-02	5.614E-01	6.411E-01
1.0000	13.606	16.206	765.07	2.946E-01	-4.072E-01	2.946E-02	1.126E-01	1.420E-01
2.0000	27.212	29.812	415.90	1.031E-01	-6.717E-02	6.642E-03	5.635E-03	1.228E-02
3.0000	40.818	43.418	285.57	5.902E-02	-1.726E-02	3.168E-03	5.417E-04	3.709E-03
4.0000	54.424	57.024	217.43	4.113E-02	-8.086E-04	2.021E-03	1.562E-06	2.023E-03
5.0000	68.030	70.630	175.54	3.094E-02	6.795E-03	1.417E-03	1.366E-04	1.553E-03
8.0000	108.847	111.447	111.25	1.600E-02	1.202E-02	5.979E-04	6.742E-04	1.272E-03

RB I 6P EO= 9.0509E-02 (RYD) N*= 3.3239 MU= 2.6761

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.231	10068.22	1.092E+01	-1.463E+01	3.076E+00	1.105E+01	1.412E+01
.2000	2.721	3.953	3136.79	1.737E+00	-3.792E+00	2.498E-01	2.381E+00	2.631E+00
.4000	5.442	6.674	1857.80	7.588E-01	-1.575E+00	8.049E-02	6.931E-01	7.736E-01
.8000	10.885	12.116	1023.31	2.825E-01	-4.463E-01	2.025E-02	1.011E-01	1.213E-01
1.0000	13.606	14.837	835.64	1.985E-01	-2.677E-01	1.225E-02	4.454E-02	5.679E-02
2.0000	27.212	28.443	435.91	6.287E-02	-3.822E-02	2.355E-03	1.741E-03	4.096E-03
3.0000	40.818	42.049	294.86	3.430E-02	-9.107E-03	1.036E-03	1.461E-04	1.182E-03
4.0000	54.424	55.655	222.78	2.357E-02	-3.427E-04	6.475E-04	2.738E-07	6.478E-04
5.0000	68.030	69.261	179.01	1.769E-02	3.782E-03	4.542E-04	4.150E-05	4.957E-04
6.0000	81.635	82.867	149.62	1.383E-02	5.770E-03	3.320E-04	1.156E-04	4.476E-04

RB I 8P EO= 3.5049E-02 (RYD) N*= 5.3415 MU= 2.6585

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.477	26000.12	2.577E+01	-2.376E+01	6.632E+00	1.128E+01	1.791E+01
.1000	1.361	1.837	6747.70	2.936E+00	-5.576E+00	3.318E-01	2.393E+00	2.725E+00
.2000	2.721	3.198	3876.93	1.224E+00	-2.577E+00	1.004E-01	8.901E-01	9.905E-01
.4000	5.442	5.919	2094.63	4.615E-01	-9.398E-01	2.640E-02	2.190E-01	2.454E-01
.6000	8.164	8.640	1434.96	2.494E-01	-4.510E-01	1.125E-02	7.362E-02	8.487E-02
.8000	10.885	11.362	1091.28	1.572E-01	-2.456E-01	5.884E-03	2.870E-02	3.459E-02
1.0000	13.606	14.083	880.41	1.083E-01	-1.442E-01	3.457E-03	1.227E-02	1.573E-02
2.0000	27.212	27.689	447.79	3.237E-02	-1.893E-02	6.078E-04	4.157E-04	1.024E-03
3.0000	40.818	41.295	300.25	1.716E-02	-4.266E-03	2.547E-04	3.148E-05	2.862E-04
4.0000	54.424	54.901	225.84	1.167E-02	-1.160E-04	1.567E-04	3.097E-08	1.567E-04
5.0000	68.030	68.506	180.98	8.751E-03	1.850E-03	1.099E-04	9.821E-06	1.197E-04
6.0000	81.635	82.112	151.00	6.842E-03	2.819E-03	8.052E-05	2.734E-05	1.079E-04
10.0000	136.059	136.536	90.81	3.209E-03	3.152E-03	2.945E-05	5.684E-05	8.629E-05

RB I 10P EO= 1.8529E-02 (RYD) N*= 7.3464 MU= 2.6536

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.252	49181.02	4.585E+01	-3.322E+01	1.110E+01	1.165E+01	2.276E+01
.1000	1.361	1.613	7688.15	2.267E+00	-4.212E+00	1.736E-01	1.199E+00	1.372E+00
.2000	2.721	2.973	4170.01	8.603E-01	-1.790E+00	4.609E-02	3.992E-01	4.453E-01
.4000	5.442	5.694	2177.31	3.067E-01	-6.210E-01	1.122E-02	9.200E-02	1.032E-01
.6000	8.164	8.416	1473.28	1.625E-01	-2.928E-01	4.656E-03	3.022E-02	3.487E-02
1.0000	13.606	13.858	894.69	6.937E-02	-9.212E-02	1.397E-03	4.927E-03	6.324E-03
2.0000	27.212	27.464	451.45	2.039E-02	-1.178E-02	2.392E-04	1.598E-04	3.990E-04
3.0000	40.818	41.070	301.89	1.071E-02	-2.606E-03	9.872E-05	1.169E-05	1.104E-04
4.0000	54.424	54.676	226.77	7.263E-03	-5.943E-05	6.042E-05	8.091E-09	6.043E-05
5.0000	68.030	68.282	181.58	5.443E-03	1.145E-03	4.237E-05	3.747E-06	4.612E-05
6.0000	81.635	81.888	151.41	4.250E-03	1.749E-03	3.099E-05	1.049E-05	4.148E-05

RB I 12P EO= 1.1442E-02 (RYD) N*= 9.3485 MU= 2.6515

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.156	79639.34	7.084E+01	-4.295E+01	1.637E+01	1.203E+01	2.840E+01
.0200	.272	.428	28982.10	1.346E+01	-1.517E+01	1.624E+00	4.124E+00	5.749E+00
.0400	.544	.700	17714.32	6.058E+00	-8.537E+00	5.380E-01	2.137E+00	2.675E+00
.0800	1.088	1.244	9965.48	2.403E+00	-4.175E+00	1.505E-01	9.086E-01	1.059E+00
.1000	1.361	1.516	8177.03	1.752E+00	-3.224E+00	9.751E-02	6.602E-01	7.577E-01
.2000	2.721	2.877	4309.77	6.343E-01	-1.313E+00	2.424E-02	2.078E-01	2.321E-01
.4000	5.442	5.598	2214.81	2.203E-01	-4.450E-01	5.693E-03	4.644E-02	5.213E-02
.8000	10.885	11.040	1123.02	7.190E-02	-1.118E-01	1.195E-03	5.776E-03	6.972E-03
1.0000	13.606	13.762	900.96	4.902E-02	-6.502E-02	6.928E-04	2.437E-03	3.130E-03
2.0000	27.212	27.368	453.04	1.431E-02	-8.226E-03	1.173E-04	7.758E-05	1.949E-04
3.0000	40.818	40.973	302.60	7.481E-03	-1.804E-03	4.803E-05	5.588E-06	5.362E-05
4.0000	54.424	54.579	227.17	5.069E-03	-3.940E-05	2.937E-05	3.549E-09	2.938E-05
5.0000	68.030	68.185	181.84	3.798E-03	8.026E-04	2.060E-05	1.840E-06	2.244E-05
8.0000	108.847	109.003	113.75	1.955E-03	1.439E-03	8.724E-06	9.461E-06	1.819E-05
10.0000	136.059	136.215	91.02	1.389E-03	1.383E-03	5.505E-06	1.060E-05	1.610E-05

RB I 16P EO= 5.6108E-03 (RYD) N*= 13.3501 MU= 2.6499

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.076	162412.01	1.346E+02	-6.312E+01	2.898E+01	1.274E+01	4.172E+01
.0100	.136	.212	58374.04	2.487E+01	-2.140E+01	2.751E+00	4.074E+00	6.826E+00
.0200	.272	.348	35581.33	1.107E+01	-1.203E+01	8.943E-01	2.113E+00	3.007E+00
.0400	.544	.621	19979.19	4.335E+00	-5.995E+00	2.443E-01	9.343E-01	1.179E+00
.0800	1.088	1.165	10644.30	1.573E+00	-2.706E+00	6.034E-02	3.573E-01	4.176E-01
.2000	2.721	2.798	4432.00	3.900E-01	-8.040E-01	8.913E-03	7.576E-02	8.468E-02
.4000	5.442	5.519	2246.66	1.325E-01	-2.670E-01	2.030E-03	1.648E-02	1.851E-02
.6000	8.164	8.240	1504.71	6.907E-02	-1.240E-01	8.235E-04	5.307E-03	6.131E-03
1.0000	13.606	13.682	906.18	2.907E-02	-3.850E-02	2.422E-04	8.497E-04	1.092E-03
2.0000	27.212	27.288	454.36	8.443E-03	-4.832E-03	4.075E-05	2.669E-05	6.744E-05
3.0000	40.818	40.894	303.19	4.408E-03	-1.057E-03	1.665E-05	1.912E-06	1.856E-05
4.0000	54.424	54.500	227.50	2.972E-03	-2.596E-05	1.008E-05	1.539E-09	1.008E-05
5.0000	68.030	68.106	182.05	2.219E-03	4.711E-04	7.024E-06	6.332E-07	7.657E-06
6.0000	81.635	81.712	151.74	1.742E-03	7.104E-04	5.197E-06	1.728E-06	6.924E-06

RB I 20P EO= 3.3217E-03 (RYD) N*= 17.3508 MU= 2.6492

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.045	274337.35	2.158E+02	-8.411E+01	4.408E+01	1.339E+01	5.748E+01
.0050	.068	.113	109504.94	4.720E+01	-3.148E+01	5.284E+00	4.701E+00	9.985E+00
.0150	.204	.249	49737.06	1.293E+01	-1.248E+01	8.728E-01	1.627E+00	2.500E+00
.0400	.544	.589	21034.90	3.187E+00	-4.375E+00	1.254E-01	4.727E-01	5.981E-01
.0600	.816	.862	14391.08	1.727E+00	-2.713E+00	5.380E-02	2.657E-01	3.195E-01
.2000	2.721	2.766	4481.90	2.683E-01	-5.522E-01	4.172E-03	3.535E-02	3.952E-02
.4000	5.442	5.488	2259.41	9.034E-02	-1.819E-01	9.382E-04	7.610E-03	8.548E-03
.6000	8.164	8.209	1510.42	4.696E-02	-8.428E-02	3.793E-04	2.443E-03	2.822E-03
.8000	10.885	10.930	1134.37	2.897E-02	-4.500E-02	1.921E-04	9.271E-04	1.119E-03
1.0000	13.606	13.651	908.25	1.982E-02	-2.619E-02	1.123E-04	3.923E-04	5.046E-04
2.0000	27.212	27.257	454.88	5.676E-03	-3.215E-03	1.839E-05	1.180E-05	3.019E-05
3.0000	40.818	40.863	303.42	2.990E-03	-6.794E-04	7.652E-06	7.903E-07	8.442E-06
4.0000	54.424	54.469	227.63	2.020E-03	-3.266E-05	4.654E-06	2.434E-09	4.657E-06
5.0000	68.030	68.075	182.13	1.549E-03	3.076E-04	3.424E-06	2.698E-07	3.693E-06
6.0000	81.635	81.681	151.79	1.162E-03	5.033E-04	2.308E-06	8.668E-07	3.175E-06
8.0000	108.847	108.893	113.86	8.009E-04	5.829E-04	1.463E-06	1.550E-06	3.013E-06
10.0000	136.059	136.104	91.10	5.414E-04	5.591E-04	8.357E-07	1.782E-06	2.618E-06

RB I 4D EO= 1.3101E-01 (RYD) N*= 2.7628 MU= 1.2372

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.783	6955.64	-4.582E+00	-2.223E+01	9.407E-01	3.321E+01	3.415E+01
.2000	2.721	4.504	2752.98	-8.909E-01	-4.084E+00	8.985E-02	2.832E+00	2.922E+00
.4000	5.442	7.225	1716.10	-3.502E-01	-1.625E+00	2.227E-02	7.193E-01	7.416E-01
.6000	8.164	9.946	1246.58	-1.703E-01	-8.477E-01	7.250E-03	2.695E-01	2.768E-01
1.0000	13.606	15.388	805.71	-4.664E-02	-3.486E-01	8.414E-04	7.051E-02	7.135E-02
1.5000	20.409	22.191	558.71	-2.516E-03	-1.770E-01	3.531E-06	2.622E-02	2.622E-02
2.0000	27.212	28.994	427.62	1.017E-02	-1.127E-01	7.533E-05	1.388E-02	1.395E-02
2.5000	34.015	35.797	346.36	1.307E-02	-7.774E-02	1.536E-04	8.158E-03	8.311E-03
3.0000	40.818	42.600	291.05	1.267E-02	-5.473E-02	1.720E-04	4.811E-03	4.983E-03
3.5000	47.621	49.403	250.97	1.130E-02	-3.845E-02	1.586E-04	2.753E-03	2.912E-03
5.0000	68.030	69.812	177.60	7.384E-03	-1.202E-02	9.568E-05	3.802E-04	4.759E-04
6.0000	81.635	83.418	148.63	5.774E-03	-4.181E-03	6.991E-05	5.497E-05	1.249E-04
7.0000	95.241	97.024	127.79	4.698E-03	1.512E-04	5.382E-05	8.361E-08	5.391E-05
8.0000	108.847	110.630	112.07	3.932E-03	2.635E-03	4.300E-05	2.897E-05	7.197E-05
10.0000	136.059	137.842	89.95	2.909E-03	4.916E-03	2.932E-05	1.256E-04	1.549E-04

RB I 5D EO= 7.2281E-02 (RYD) N*= 3.7195 MU= 1.2805

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.983	12607.32	-1.091E+01	-3.365E+01	2.942E+00	4.200E+01	4.494E+01
.1000	1.361	2.344	5289.43	-2.355E+00	-8.749E+00	3.268E-01	6.765E+00	7.092E+00
.2000	2.721	3.705	3346.79	-1.006E+00	-3.997E+00	9.426E-02	2.231E+00	2.326E+00
.4000	5.442	6.426	1929.50	-3.380E-01	-1.453E+00	1.845E-02	5.115E-01	5.299E-01
.6000	8.164	9.147	1355.49	-1.558E-01	-7.256E-01	5.579E-03	1.816E-01	1.871E-01
.8000	10.885	11.868	1044.70	-8.101E-02	-4.272E-01	1.958E-03	8.167E-02	8.363E-02
1.0000	13.606	14.589	849.84	-4.357E-02	-2.808E-01	6.963E-04	4.336E-02	4.406E-02
1.5000	20.409	21.392	579.58	-5.717E-03	-1.346E-01	1.757E-05	1.461E-02	1.462E-02
2.0000	27.212	28.195	439.74	5.573E-03	-8.306E-02	2.201E-05	7.335E-03	7.357E-03
2.5000	34.015	34.998	354.26	8.718E-03	-5.681E-02	6.687E-05	4.259E-03	4.326E-03
3.0000	40.818	41.801	296.61	8.967E-03	-4.010E-02	8.448E-05	2.534E-03	2.619E-03
3.5000	47.621	48.604	255.09	8.230E-03	-2.836E-02	8.275E-05	1.474E-03	1.557E-03
4.0000	54.424	55.407	223.77	7.255E-03	-1.985E-02	7.331E-05	8.229E-04	8.962E-04
5.0000	68.030	69.013	179.66	5.510E-03	-9.038E-03	5.267E-05	2.126E-04	2.652E-04
6.0000	81.635	82.619	150.07	4.293E-03	-3.189E-03	3.827E-05	3.169E-05	6.996E-05
7.0000	95.241	96.225	128.85	3.473E-03	4.713E-05	2.918E-05	8.060E-09	2.919E-05
8.0000	108.847	109.831	112.89	2.896E-03	1.893E-03	2.316E-05	1.483E-05	3.799E-05
10.0000	136.059	137.043	90.47	2.136E-03	3.575E-03	1.572E-05	6.603E-05	8.175E-05
12.0000	163.271	164.254	75.48	1.657E-03	4.052E-03	1.133E-05	1.017E-04	1.130E-04
14.0000	190.483	191.466	64.76	1.329E-03	4.041E-03	8.501E-06	1.179E-04	1.264E-04

RB I 8D EO= 2.2322E-02 (RYD) N*= 6.6931 MU= 1.3069

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.304	40823.00	-4.242E+01	-6.409E+01	1.374E+01	4.704E+01	6.077E+01
.0500	.680	.984	12600.07	-5.479E+00	-1.352E+01	7.425E-01	6.780E+00	7.523E+00
.1000	1.361	1.664	7449.72	-2.114E+00	-6.175E+00	1.870E-01	2.392E+00	2.579E+00
.2000	2.721	3.025	4098.86	-6.880E-01	-2.370E+00	3.599E-02	6.407E-01	6.767E-01
.4000	5.442	5.746	2157.75	-1.920E-01	-7.714E-01	5.327E-03	1.289E-01	1.342E-01
.6000	8.164	8.467	1464.30	-8.306E-02	-3.687E-01	1.468E-03	4.339E-02	4.486E-02
.8000	10.885	11.188	1108.16	-4.238E-02	-2.110E-01	5.052E-04	1.879E-02	1.929E-02
1.0000	13.606	13.910	891.37	-2.300E-02	-1.355E-01	1.849E-04	9.625E-03	9.810E-03
1.5000	20.409	20.713	598.60	-3.984E-03	-6.183E-02	8.265E-06	2.985E-03	2.994E-03
2.0000	27.212	27.516	450.60	1.753E-03	-3.710E-02	2.125E-06	1.428E-03	1.430E-03
2.5000	34.015	34.319	361.28	3.514E-03	-2.512E-02	1.065E-05	8.163E-04	8.269E-04
3.0000	40.818	41,121	301.51	3.824E-03	-1.773E-02	1.512E-05	4.871E-04	5.022E-04
3.5000	47.621	47.924	258.71	3.606E-03	-1.261E-02	1.567E-05	2.872E-04	3.028E-04
4.0000	54.424	54.727	226.55	3.223E-03	-8.865E-03	1.429E-05	1.622E-04	1.765E-04
5.0000	68.030	68.333	181.44	2.471E-03	-4.083E-03	1.049E-05	4.295E-05	5.344E-05
6.0000	81.635	81.939	151.32	1.924E-03	-1.460E-03	7.625E-06	6.589E-06	1.421E-05
7.0000	95.241	95.545	129.77	1.549E-03	-6.770E-06	5.766E-06	1.651E-10	5.766E-06
8.0000	108.847	109.151	113.59	1.285E-03	8.227E-04	4.530E-06	2.786E-06	7.315E-06
10.0000	136.059	136.363	90.92	9.498E-04	1.568E-03	3.092E-06	1.264E-05	1.573E-05

RB I 10D EO= 1.3245E-02 (RYD) N*= 8.6891 MU= 1.3109

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.180	68800.58	-7.312E+01	-8.530E+01	2.422E+01	4.944E+01	7.366E+01
.0200	.272	.452	27410.62	-1.507E+01	-2.883E+01	2.583E+00	1.228E+01	1.486E+01
.0400	.544	.724	17114.60	-6.592E+00	-1.411E+01	7.913E-01	5.440E+00	6.231E+00
.1000	1.361	1.541	8046.87	-1.687E+00	-4.685E+00	1.103E-01	1.275E+00	1.385E+00
.2000	2.721	2.901	4273.34	-5.128E-01	-1.717E+00	1.918E-02	3.224E-01	3.416E-01
.4000	5.442	5.623	2205.15	-1.374E-01	-5.449E-01	2.669E-03	6.294E-02	6.561E-02
.6000	8.164	8.344	1485.98	-5.863E-02	-2.581E-01	7.209E-04	2.096E-02	2.168E-02
.8000	10.885	11.065	1120.53	-2.980E-02	-1.470E-01	2.469E-04	9.012E-03	9.259E-03
1.0000	13.606	13.786	899.36	-1.617E-02	-9.395E-02	9.066E-05	4.588E-03	4.679E-03
1.5000	20.409	20.589	602.19	-2.890E-03	-4.253E-02	4.322E-06	1.404E-03	1.408E-03
2.0000	27.212	27.392	452.64	1.108E-03	-2.536E-02	8.453E-07	6.643E-04	6.651E-04
2.5000	34.015	34.195	362.59	2.366E-03	-1.714E-02	4.810E-06	3.787E-04	3.835E-04
3.0000	40.818	40.998	302.42	2.592E-03	-1.211E-02	6.924E-06	2.265E-04	2.335E-04
3.5000	47.621	47.801	259.38	2.453E-03	-8.602E-03	7.230E-06	1.334E-04	1.406E-04
4.0000	54.424	54.604	227.07	2.196E-03	-6.061E-03	6.620E-06	7.564E-05	8.226E-05
5.0000	68.030	68.210	181.77	1.692E-03	-2.794E-03	4.910E-06	2.007E-05	2.498E-05
6.0000	81.635	81.816	151.54	1.308E-03	-9.937E-04	3.517E-06	3.046E-06	6.563E-06
7.0000	95.241	95.422	129.94	1.056E-03	-3.001E-07	2.674E-06	3.240E-13	2.674E-06
8.0000	108.847	109.028	113.72	8.829E-04	5.552E-04	2.136E-06	1.267E-06	3.403E-06
12.0000	163.271	163.451	75.86	5.041E-04	1.214E-03	1.044E-06	9.085E-06	1.013E-05
14.0000	190.483	190.663	65.03	3.989E-04	1.215E-03	7.625E-07	1.062E-05	1.138E-05

RB I 12D EO= 8.7554E-03 (RYD) N*= 10.6871 MU= 1.3129

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.119	104080.08	-1.111E+02	-1.077E+02	3.693E+01	5.206E+01	8.899E+01
.0200	.272	.391	31890.27	-1.451E+01	-2.407E+01	2.069E+00	8.545E+00	1.061E+01
.0400	.544	.663	18690.58	-5.742E+00	-1.172E+01	5.498E-01	3.437E+00	3.986E+00
.1000	1.361	1.480	8379.05	-1.348E+00	-3.648E+00	6.761E-02	7.424E-01	8.100E-01
.2000	2.721	2.840	4365.24	-3.949E-01	-1.303E+00	1.113E-02	1.819E-01	1.930E-01
.4000	5.442	5.561	2229.37	-1.036E-01	-4.082E-01	1.500E-03	3.494E-02	3.644E-02
.6000	8.164	8.283	1496.94	-4.391E-02	-1.925E-01	4.014E-04	1.158E-02	1.198E-02
.8000	10.885	11.004	1126.75	-2.225E-02	-1.093E-01	1.369E-04	4.959E-03	5.096E-03
1.0000	13.606	13.725	903.36	-1.209E-02	-6.974E-02	5.042E-05	2.517E-03	2.567E-03
1.5000	20.409	20.528	603.99	-2.216E-03	-3.142E-02	2.534E-08	7.640E-04	7.665E-04
2.0000	27.212	27.331	453.65	7.939E-04	-1.869E-02	4.330E-07	3.601E-04	3.606E-04
2.5000	34.015	34.134	363.24	1.712E-03	-1.262E-02	2.516E-06	2.049E-04	2.074E-04
3.0000	40.818	40.937	302.87	1.898E-03	-8.893E-03	3.706E-06	1.221E-04	1.258E-04
3.5000	47.621	47.740	259.71	1.807E-03	-6.338E-03	3.919E-06	7.231E-05	7.623E-05
4.0000	54.424	54.543	227.32	1.617E-03	-4.464E-03	3.583E-06	4.098E-05	4.456E-05
6.0000	81.635	81.755	151.66	9.659E-04	-7.401E-04	1.917E-06	1.688E-06	3.606E-06
7.0000	95.241	95.361	130.02	7.776E-04	-1.345E-05	1.449E-06	6.506E-10	1.450E-06
8.0000	108.847	108.966	113.78	6.494E-04	4.109E-04	1.155E-06	6.937E-07	1.849E-06
10.0000	136.059	136.178	91.05	4.755E-04	7.877E-04	7.738E-07	3.186E-06	3.960E-06

RB I 16D EO= 4.6369E-03 (RYD) N*= 14.6854 MU= 1.3146

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.063	196524.65	-2.075E+02	-1.559E+02	6.826E+01	5.784E+01	1.261E+02
.0050	.068	.131	94560.13	-6.021E+01	-6.301E+01	1.195E+01	1.963E+01	3.158E+01
.0100	.136	.199	62258.19	-2.950E+01	-3.687E+01	4.357E+00	1.020E+01	1.456E+01
.0150	.204	.267	46405.86	-1.779E+01	-2.510E+01	2.126E+00	6.347E+00	8.473E+00
.0400	.544	.607	20415.12	-4.232E+00	-8.253E+00	2.734E-01	1.560E+00	1.833E+00
.0800	1.088	1.152	10766.79	-1.340E+00	-3.294E+00	5.199E-02	4.712E-01	5.232E-01
.2000	2.721	2.784	4453.10	-2.567E-01	-8.357E-01	4.613E-03	7.332E-02	7.793E-02
.4000	5.442	5.505	2252.06	-6.618E-02	-2.586E-01	6.060E-04	1.389E-02	1.449E-02
.6000	8.164	8.227	1507.13	-2.769E-02	-1.213E-01	1.586E-04	4.564E-03	4.723E-03
.8000	10.885	10.948	1132.52	-1.399E-02	-6.875E-02	5.385E-05	1.951E-03	2.005E-03
1.0000	13.606	13.669	907.06	-7.598E-03	-4.382E-02	1.984E-05	9.897E-04	1.009E-03
1.5000	20.409	20.472	605.64	-1.411E-03	-1.966E-02	1.025E-06	2.983E-04	2.993E-04
2.0000	27.212	27.275	454.58	4.738E-04	-1.168E-02	1.539E-07	1.404E-04	1.406E-04
2.5000	34.015	34.078	363.83	1.036E-03	-7.852E-03	9.196E-07	7.923E-05	8.015E-05
3.0000	40.818	40.881	303.29	1.193E-03	-5.548E-03	1.461E-06	4.744E-05	4.890E-05
3.5000	47.621	47.684	260.02	1.126E-03	-3.969E-03	1.519E-06	2.832E-05	2.984E-05
4.0000	54.424	54.487	227.55	1.023E-03	-2.801E-03	1.433E-06	1.611E-05	1.755E-05
5.0000	68.030	68.093	182.08	7.921E-04	-1.296E-03	1.074E-06	4.314E-06	5.388E-06
6.0000	81.635	81.699	151.76	6.052E-04	-4.642E-04	7.522E-07	6.638E-07	1.416E-06
7.0000	95.241	95.304	130.09	4.959E-04	-8.153E-06	5.891E-07	2.388E-10	5.894E-07
8.0000	108.847	108.910	113.84	4.101E-04	2.550E-04	4.605E-07	2.670E-07	7.274E-07
10.0000	136.059	136.122	91.08	2.972E-04	4.967E-04	3.021E-07	1.266E-06	1.569E-06

RB I 20D EO= 2.8644E-03 (RYD) N*= 18.6846 MU= 1.3154

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.039	318137.96	-3.300E+02	-2.086E+02	1.067E+02	6.395E+01	1.706E+02
.0025	.034	.073	169873.86	-1.147E+02	-9.527E+01	2.414E+01	2.498E+01	4.912E+01
.0050	.068	.107	115872.82	-5.999E+01	-5.839E+01	9.680E+00	1.376E+01	2.344E+01
.0075	.102	.141	87923.05	-3.749E+01	-4.085E+01	4.983E+00	8.874E+00	1.386E+01
.0200	.272	.311	39855.35	-9.606E+00	-1.438E+01	7.216E-01	2.427E+00	3.148E+00
.0400	.544	.583	21259.33	-3.190E+00	-6.093E+00	1.492E-01	8.163E-01	9.655E-01
.0600	.816	.855	14495.77	-1.610E+00	-3.542E+00	5.570E-02	4.045E-01	4.602E-01
.2000	2.721	2.760	4492.01	-1.824E-01	-5.905E-01	2.309E-03	3.629E-02	3.859E-02
.6000	8.164	8.203	1511.56	-1.946E-02	-8.514E-02	7.805E-05	2.242E-03	2.320E-03
1.0000	13.606	13.645	908.67	-5.353E-03	-3.069E-02	9.827E-06	4.845E-04	4.944E-04
1.5000	20.409	20.448	606.35	-1.079E-03	-1.377E-02	5.985E-07	1.462E-04	1.468E-04
2.0000	27.212	27.251	454.98	2.826E-04	-8.103E-03	5.470E-08	6.746E-05	6.751E-05
2.5000	34.015	34.054	364.09	7.647E-04	-5.492E-03	5.005E-07	3.873E-05	3.923E-05
3.0000	40.818	40.857	303.47	7.878E-04	-3.837E-03	6.374E-07	2.268E-05	2.332E-05
3.5000	47.621	47.660	260.15	7.855E-04	-2.703E-03	7.391E-07	1.313E-05	1.387E-05
4.0000	54.424	54.463	227.65	6.961E-04	-1.948E-03	6.634E-07	7.796E-06	8.460E-06
5.0000	68.030	68.069	182.15	5.118E-04	-8.813E-04	4.483E-07	1.993E-06	2.442E-06
6.0000	81.635	81.674	151.81	4.200E-04	-3.194E-04	3.621E-07	3.142E-07	6.762E-07
7.0000	95.241	95.280	130.13	3.210E-04	7.095E-06	2.467E-07	1.809E-10	2.469E-07
8.0000	108.847	108.886	113.87	2.744E-04	1.924E-04	2.060E-07	1.520E-07	3.580E-07
10.0000	136.059	136.098	91.10	1.803E-04	3.388E-04	1.112E-07	5.889E-07	7.001E-07
12.0000	163.271	163.310	75.92	1.824E-04	3.843E-04	1.365E-07	9.093E-07	1.046E-06
14.0000	190.483	190.522	65.08	1.336E-04	3.885E-04	8.543E-08	1.084E-06	1.170E-06

RB I 4F EO= 6.2955E-02 (RYD) N*= 3.9855 MU= .0145

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.857	14474.81	-7.006E+00	2.554E+01	1.132E+00	2.006E+01	2.119E+01
.0200	.272	1.129	10985.03	-4.050E+00	1.313E+01	4.986E-01	6.988E+00	7.487E+00
.0600	.816	1.673	7411.37	-1.799E+00	4.884E+00	1.457E-01	1.433E+00	1.579E+00
.0800	1.088	1.945	6374.49	-1.306E+00	3.299E+00	8.931E-02	7.601E-01	8.494E-01
.2000	2.721	3.578	3465.48	-3.414E-01	6.132E-01	1.123E-02	4.831E-02	5.955E-02
.4000	5.442	6.299	1968.37	-9.418E-02	1.015E-01	1.505E-03	2.329E-03	3.833E-03
.6000	8.164	9.020	1374.55	-4.120E-02	2.356E-02	4.123E-04	1.797E-04	5.921E-04
.8000	10.885	11.741	1055.98	-2.203E-02	4.529E-03	1.535E-04	8.649E-06	1.622E-04
1.0000	13.606	14.462	857.30	-1.296E-02	-6.399E-04	6.545E-05	2.128E-07	6.566E-05
2.0000	27.212	28.068	441.73	-1.030E-03	3.294E-04	8.026E-07	1.093E-07	9.119E-07
3.0000	40.818	41.674	297.51	1.306E-04	1.182E-03	1.915E-08	2.091E-06	2.111E-06

RB I 5F EO= 4.0280E-02 (RYD) N*= 4.9826 MU= .0174

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.548	22623.53	-1.494E+01	4.649E+01	3.295E+00	4.254E+01	4.583E+01
.0400	.544	1.092	11351.17	-3.889E+00	1.048E+01	4.449E-01	4.309E+00	4.754E+00
.0800	1.088	1.637	7576.24	-1.690E+00	4.037E+00	1.258E-01	9.577E-01	1.083E+00
.1000	1.361	1.909	6496.08	-1.219E+00	2.761E+00	7.644E-02	5.225E-01	5.990E-01
.2000	2.721	3.269	3792.53	-3.761E-01	6.716E-01	1.246E-02	5.295E-02	6.541E-02
.4000	5.442	5.990	2069.75	-9.567E-02	1.075E-01	1.477E-03	2.487E-03	3.964E-03
.6000	8.164	8.712	1423.23	-4.060E-02	2.559E-02	3.867E-04	2.049E-04	5.916E-04
.8000	10.885	11.433	1084.48	-2.143E-02	5.616E-03	1.414E-04	1.295E-05	1.544E-04
1.0000	13.606	14.154	875.98	-1.255E-02	1.240E-05	6.003E-05	7.810E-11	6.003E-05
2.0000	27.212	27.760	446.64	-1.046E-03	2.709E-04	8.177E-07	7.314E-08	8.908E-07
3.0000	40.818	41.366	299.73	1.036E-04	1.076E-03	1.196E-08	1.720E-06	1.732E-06

RB I 6F EO= 2.7955E-02 (RYD) N*= 5.9810 MU= .0190

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.380	32598.15	-2.497E+01	6.877E+01	6.389E+00	6.459E+01	7.098E+01
.0200	.272	.652	19002.73	-9.029E+00	2.402E+01	1.432E+00	1.352E+01	1.495E+01
.0400	.544	.925	13409.95	-4.557E+00	1.156E+01	5.172E-01	4.437E+00	4.954E+00
.0800	1.088	1.469	8441.21	-1.774E+00	4.085E+00	1.245E-01	8.801E-01	1.005E+00
.1000	1.361	1.741	7121.81	-1.242E+00	2.730E+00	7.228E-02	4.658E-01	5.381E-01
.2000	2.721	3.102	3997.58	-3.546E-01	6.293E-01	1.051E-02	4.410E-02	5.460E-02
.4000	5.442	5.823	2129.36	-8.587E-02	9.849E-02	1.156E-03	2.028E-03	3.184E-03
.6000	8.164	8.544	1451.17	-3.580E-02	2.366E-02	2.949E-04	1.718E-04	4.667E-04
.8000	10.885	11.265	1100.63	-1.875E-02	5.484E-03	1.067E-04	1.217E-05	1.188E-04
1.0000	13.606	13.986	886.49	-1.095E-02	3.077E-04	4.516E-05	4.754E-08	4.521E-05
2.0000	27.212	27.592	449.35	-9.418E-04	2.164E-04	6.591E-07	4.641E-08	7.055E-07
3.0000	40.818	41.198	300.95	7.911E-05	9.070E-04	6.945E-09	1.217E-06	1.224E-06

RB I 8F EO= 1.5706E-02 (RYD) N*= 7.9794 MU= .0206

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.214	58020.59	-5.117E+01	1.182E+02	1.507E+01	1.072E+02	1.223E+02
.0100	.136	.350	35449.70	-2.087E+01	4.985E+01	4.102E+00	3.121E+01	3.531E+01
.0400	.544	.758	16358.54	-4.779E+00	1.128E+01	4.661E-01	3.464E+00	3.930E+00
.0800	1.088	1.302	9521.54	-1.607E+00	3.546E+00	9.058E-02	5.880E-01	6.786E-01
.2000	2.721	2.935	4224.58	-2.831E-01	4.980E-01	6.335E-03	2.614E-02	3.247E-02
.4000	5.442	5.656	2192.10	-6.500E-02	7.590E-02	6.437E-04	1.170E-03	1.814E-03
.6000	8.164	8.377	1480.04	-2.660E-02	1.837E-02	1.597E-04	1.015E-04	2.612E-04
.8000	10.885	11.098	1117.15	-1.382E-02	4.450E-03	5.706E-05	7.892E-06	6.496E-05
1.0000	13.606	13.820	897.18	-8.077E-03	4.364E-04	2.428E-05	9.452E-08	2.437E-05
2.0000	27.212	27.426	452.08	-6.987E-04	1.455E-04	3.605E-07	2.084E-08	3.814E-07
3.0000	40.818	41.031	302.17	5.430E-05	6.516E-04	3.259E-09	6.256E-07	6.289E-07

RB I 10F EO= 1.0043E-02 (RYD) N*= 9.9786 MU= .0214

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.137	90737.09	-8.518E+01	1.745E+02	2.670E+01	1.494E+02	1.761E+02
.0050	.068	.205	60577.74	-4.147E+01	8.927E+01	9.480E+00	5.856E+01	6.804E+01
.0100	.136	.273	45465.76	-2.463E+01	5.450E+01	4.457E+00	2.909E+01	3.355E+01
.0400	.544	.681	18209.71	-4.375E+00	9.941E+00	3.511E-01	2.416E+00	2.767E+00
.0600	.816	.953	13010.13	-2.248E+00	4.999E+00	1.297E-01	8.552E-01	9.850E-01
.0800	1.088	1.225	10120.37	-1.350E+00	2.914E+00	6.013E-02	3.737E-01	4.338E-01
.2000	2.721	2.858	4338.48	-2.225E-01	3.896E-01	3.811E-03	1.557E-02	1.938E-02
.4000	5.442	5.579	2222.37	-4.977E-02	5.859E-02	3.722E-04	6.877E-04	1.060E-03
.6000	8.164	8.300	1493.78	-2.019E-02	1.422E-02	9.108E-05	6.023E-05	1.513E-04
.8000	10.885	11.021	1124.96	-1.045E-02	3.506E-03	3.241E-05	4.864E-06	3.728E-05
1.0000	13.606	13.743	902.21	-6.073E-03	4.090E-04	1.365E-05	8.257E-08	1.373E-05
2.0000	27.212	27.348	453.36	-5.317E-04	1.046E-04	2.082E-07	1.074E-08	2.190E-07
3.0000	40.818	40.954	302.74	3.737E-05	4.796E-04	1.540E-09	3.383E-07	3.398E-07

RB I 12F EO= 6.9698E-03 (RYD) N*= 11.9782 MU= .0218

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.095	130745.75	-1.267E+02	2.376E+02	4.097E+01	1.922E+02	2.332E+02
.0025	.034	.129	96229.14	-7.394E+01	1.450E+02	1.897E+01	9.727E+01	1.162E+02
.0075	.102	.197	62977.35	-3.469E+01	7.183E+01	6.381E+00	3.648E+01	4.286E+01
.0200	.272	.367	33788.49	-1.106E+01	2.423E+01	1.209E+00	7.738E+00	8.946E+00
.0400	.544	.639	19401.16	-3.839E+00	8.529E+00	2.536E-01	1.669E+00	1.923E+00
.0600	.816	.911	13607.15	-1.906E+00	4.170E+00	8.914E-02	5.689E-01	6.580E-01
.1000	1.361	1.455	8518.93	-7.322E-01	1.515E+00	2.101E-02	1.199E-01	1.409E-01
.2000	2.721	2.816	4402.90	-1.780E-01	3.109E-01	2.404E-03	9.776E-03	1.218E-02
.4000	5.442	5.537	2239.15	-3.927E-02	4.631E-02	2.300E-04	4.265E-04	6.565E-04
.6000	8.164	8.258	1501.34	-1.585E-02	1.128E-02	5.585E-05	3.771E-05	9.355E-05
.8000	10.885	10.980	1129.25	-8.162E-03	2.760E-03	1.970E-05	3.004E-06	2.270E-05
1.0000	13.606	13.701	904.96	-4.742E-03	3.692E-04	8.298E-06	6.706E-08	8.365E-06
2.0000	27.212	27.307	454.05	-4.291E-04	8.050E-05	1.354E-07	6.355E-09	1.418E-07
3.0000	40.818	40.913	303.05	-5.708E-06	3.805E-04	3.590E-11	2.127E-07	2.128E-07

RB I 16F EO= 3.9171E-03 (RYD) N*= 15.9778 MU= .0222

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.053	232637.04	-2.310E+02	3.836E+02	7.657E+01	2.816E+02	3.582E+02
.0025	.034	.087	142005.67	-9.802E+01	1.756E+02	2.259E+01	9.663E+01	1.192E+02
.0050	.068	.121	102193.03	-5.493E+01	1.032E+02	9.859E+00	4.642E+01	5.627E+01
.0087	.119	.172	71939.61	-2.934E+01	5.782E+01	3.995E+00	2.069E+01	2.469E+01
.0200	.272	.325	38101.06	-9.175E+00	1.936E+01	7.378E-01	4.379E+00	5.117E+00
.0400	.544	.598	20749.72	-2.895E+00	6.279E+00	1.348E-01	8.460E-01	9.809E-01
.0600	.816	.870	14257.02	-1.381E+00	2.973E+00	4.466E-02	2.760E-01	3.207E-01
.1000	1.361	1.414	8769.18	-5.138E-01	1.053E+00	1.005E-02	5.626E-02	6.631E-02
.2000	2.721	2.774	4468.81	-1.215E-01	2.121E-01	1.103E-03	4.483E-03	5.587E-03
.4000	5.442	5.496	2256.08	-2.643E-02	3.107E-02	1.034E-04	1.906E-04	2.939E-04
.6000	8.164	8.217	1508.93	-1.045E-02	7.654E-03	2.417E-05	1.729E-05	4.146E-05
.8000	10.885	10.938	1133.53	-5.535E-03	1.920E-03	9.023E-06	1.449E-06	1.047E-05
1.0000	13.606	13.659	907.71	-3.181E-03	2.653E-04	3.721E-06	3.453E-08	3.756E-06
2.0000	27.212	27.265	454.74	-1.968E-04	-2.279E-06	2.845E-08	5.083E-12	2.846E-08
3.0000	40.818	40.871	303.36	2.539E-05	1.943E-04	7.093E-10	5.542E-08	5.613E-08

RB I 20F EO= 2.5056E-03 (RYD) N*= 19.9776 MU= .0224

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.034	363690.68	-3.628E+02	5.554E+02	1.209E+02	3.776E+02	4.985E+02
.0013	.017	.051	242641.61	-1.810E+02	2.944E+02	4.508E+01	1.590E+02	2.041E+02
.0025	.034	.068	182049.22	-1.100E+02	1.867E+02	2.217E+01	8.527E+01	1.074E+02
.0050	.068	.102	121411.52	-5.399E+01	9.746E+01	8.018E+00	3.483E+01	4.285E+01
.0087	.119	.153	80961.19	-2.625E+01	5.018E+01	2.842E+00	1.385E+01	1.669E+01
.0200	.272	.306	40490.69	-7.422E+00	1.537E+01	4.543E-01	2.597E+00	3.051E+00
.0400	.544	.578	21438.76	-2.226E+00	4.774E+00	7.716E-02	4.734E-01	5.505E-01
.0600	.816	.850	14578.98	-1.046E+00	2.228E+00	2.505E-02	1.516E-01	1.767E-01
.0800	1.088	1.123	11044.92	-5.942E-01	1.245E+00	1.067E-02	6.244E-02	7.311E-02
.1000	1.361	1.395	8889.93	-3.798E-01	7.754E-01	5.417E-03	3.011E-02	3.552E-02
.2000	2.721	2.755	4499.96	-8.847E-02	1.542E-01	5.808E-04	2.352E-03	2.932E-03
.4000	5.442	5.476	2263.99	-1.881E-02	2.241E-02	5.219E-05	9.874E-05	1.509E-04
.6000	8.164	8.198	1512.46	-7.829E-03	5.533E-03	1.353E-05	9.010E-06	2.254E-05
.8000	10.885	10.919	1135.53	-4.061E-03	1.379E-03	4.849E-06	7.456E-07	5.594E-06
1.0000	13.606	13.640	908.99	-2.316E-03	1.290E-04	1.970E-06	8.150E-09	1.978E-06
2.0000	27.212	27.246	455.06	-1.210E-04	4.322E-05	1.075E-08	1.828E-09	1.257E-08
3.0000	40.818	40.852	303.50	6.385E-05	1.567E-04	4.486E-09	3.601E-08	4.050E-08

SR II 5S EO= 8.0900E-01 (RYD) N*= 2.2236 MU= 2.7764

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.007	1126.41	.000	5.279E-01	.000	1.928E-01	1.928E-01
.1500	2.041	13.048	950.23	.000	5.111E-01	.000	2.142E-01	2.142E-01
.2000	2.721	13.728	903.14	.000	4.987E-01	.000	2.146E-01	2.146E-01
.2500	3.401	14.409	860.50	.000	4.848E-01	.000	2.128E-01	2.128E-01
1.0000	13.606	24.613	503.74	.000	2.842E-01	.000	1.250E-01	1.250E-01
2.0000	27.212	38.219	324.41	.000	1.557E-01	.000	5.819E-02	5.819E-02

SR II 6S EO= 3.7300E-01 (RYD) N*= 3.2747 MU= 2.7253

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.075	2443.10	.000	6.595E-01	.000	1.387E-01	1.387E-01
.1500	2.041	7.116	1742.40	.000	6.548E-01	.000	1.917E-01	1.917E-01
.2000	2.721	7.796	1590.36	.000	6.264E-01	.000	1.922E-01	1.922E-01
.2500	3.401	8.476	1462.72	.000	5.955E-01	.000	1.889E-01	1.889E-01
1.0000	13.606	18.681	663.71	.000	2.715E-01	.000	8.655E-02	8.655E-02
2.0000	27.212	32.287	384.02	.000	1.231E-01	.000	3.075E-02	3.075E-02
4.0000	54.424	59.499	208.39	.000	4.809E-02	.000	8.648E-03	8.648E-03
8.0000	108.847	113.922	108.83	.000	2.152E-02	.000	3.317E-03	3.317E-03

SR II 8S EO= 1.4264E-01 (RYD) N*= 5.2956 MU= 2.7044

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.941	6388.65	.000	6.629E-01	.000	5.359E-02	5.359E-02
.0500	.680	2.621	4730.46	.000	8.143E-01	.000	1.092E-01	1.092E-01
.1000	1.361	3.301	3755.66	.000	7.742E-01	.000	1.243E-01	1.243E-01
.1500	2.041	3.982	3113.97	.000	7.010E-01	.000	1.229E-01	1.229E-01
.3000	4.082	6.023	2058.72	.000	5.096E-01	.000	9.829E-02	9.829E-02
.8000	10.885	12.825	966.72	.000	2.331E-01	.000	4.378E-02	4.378E-02
1.0000	13.606	15.547	797.51	.000	1.842E-01	.000	3.314E-02	3.314E-02
4.0000	54.424	56.364	219.97	.000	2.574E-02	.000	2.347E-03	2.347E-03
8.0000	108.847	110.788	111.91	.000	1.083E-02	.000	8.169E-04	8.169E-04

SR II 10S EO= 7.5039E-02 (RYD) N*= 7.3011 MU= 2.6989

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.021	12143.88	.000	4.717E-01	.000	1.427E-02	1.427E-02
.0400	.544	1.565	7921.36	.000	8.763E-01	.000	7.553E-02	7.553E-02
.0600	.816	1.837	6748.17	.000	8.599E-01	.000	8.538E-02	8.538E-02
.0800	1.088	2.109	5877.66	.000	8.153E-01	.000	8.812E-02	8.812E-02
.1000	1.361	2.382	5206.08	.000	7.632E-01	.000	8.717E-02	8.717E-02
.6000	8.164	9.185	1349.95	.000	2.200E-01	.000	2.794E-02	2.794E-02
1.0000	13.606	14.627	847.66	.000	1.267E-01	.000	1.474E-02	1.474E-02
2.0000	27.212	28.233	439.16	.000	4.958E-02	.000	4.361E-03	4.361E-03
4.0000	54.424	55.445	223.62	.000	1.642E-02	.000	9.394E-04	9.394E-04

SR II 12S EO= 4.6215E-02 (RYD) N*= 9.3033 MU= 2.6967

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.629	19717.95	.000	7.262E-02	.000	2.084E-04	2.084E-04
.0200	.272	.901	13762.23	.000	8.120E-01	.000	3.733E-02	3.733E-02
.0400	.544	1.173	10569.70	.000	8.942E-01	.000	5.894E-02	5.894E-02
.0600	.816	1.445	8579.45	.000	8.452E-01	.000	6.487E-02	6.487E-02
.0800	1.088	1.717	7219.96	.000	7.712E-01	.000	6.419E-02	6.419E-02
.8000	10.885	11.514	1076.87	.000	1.200E-01	.000	1.041E-02	1.041E-02
1.0000	13.606	14.235	871.01	.000	9.233E-02	.000	7.625E-03	7.625E-03
2.0000	27.841	27.841	445.34	.000	3.553E-02	.000	2.208E-03	2.208E-03
4.0000	54.424	55.052	225.21	.000	1.158E-02	.000	4.641E-04	4.641E-04

SR II 16S EO= 2.2595E-02 (RYD) N*= 13.3051 MU= 2.6949

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.307	40329.66	.000	-1.371E+00	.000	3.630E-02	3.630E-02
.0025	.034	.341	36312.04	.000	-6.523E-01	.000	9.130E-03	9.130E-03
.0050	.068	.375	33022.36	.000	-1.722E-01	.000	6.995E-04	6.995E-04
.0075	.102	.409	30279.23	.000	1.553E-01	.000	6.204E-04	6.204E-04
.0100	.136	.443	27956.88	.000	3.818E-01	.000	4.063E-03	4.063E-03
.0150	.204	.512	24238.76	.000	6.500E-01	.000	1.358E-02	1.358E-02
.0400	.544	.852	14558.05	.000	8.318E-01	.000	3.703E-02	3.703E-02
.0500	.680	.988	12552.68	.000	7.830E-01	.000	3.805E-02	3.805E-02
.0600	.816	1.124	11032.90	.000	7.280E-01	.000	3.743E-02	3.743E-02
.6000	8.164	8.471	1463.66	.000	1.020E-01	.000	5.537E-03	5.537E-03
1.0000	13.606	13.913	891.13	.000	5.616E-02	.000	2.757E-03	2.757E-03
2.0000	27.212	27.519	450.54	.000	2.130E-02	.000	7.848E-04	7.848E-04

SR II 20S EO= 1.3356E-02 (RYD) N*= 17.3058 MU= 2.6942

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.182	68229.34	.000	-3.671E+00	.000	1.538E-01	1.538E-01
.0025	.034	.216	57471.65	.000	-1.795E+00	.000	4.369E-02	4.369E-02
.0050	.068	.250	49644.27	.000	-7.625E-01	.000	9.126E-03	9.126E-03
.0075	.102	.284	43693.42	.000	-1.599E-01	.000	4.558E-04	4.558E-04
.0100	.136	.318	39016.51	.000	2.057E-01	.000	8.449E-04	8.449E-04
.0125	.170	.352	35244.02	.000	4.326E-01	.000	4.137E-03	4.137E-03
.0175	.238	.420	29532.97	.000	6.634E-01	.000	1.161E-02	1.161E-02
.0300	.408	.590	21018.29	.000	7.651E-01	.000	2.170E-02	2.170E-02
.0400	.544	.726	17079.03	.000	7.192E-01	.000	2.359E-02	2.359E-02
.0500	.680	.862	14383.30	.000	6.561E-01	.000	2.332E-02	2.332E-02
.2000	2.721	2.903	4271.11	.000	2.231E-01	.000	9.079E-03	9.079E-03
.6000	8.164	8.345	1485.71	.000	7.038E-02	.000	2.598E-03	2.598E-03
1.0000	13.606	13.788	899.26	.000	3.847E-02	.000	1.282E-03	1.282E-03
2.0000	27.212	27.394	452.61	.000	1.443E-02	.000	3.587E-04	3.587E-04

SR II 5P EO= 5.9481E-01 (RYD) N*= 2.5932 MU= 2.4068

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.093	1532.03	2.035E+00	-3.252E+00	7.020E-01	3.586E+00	4.288E+00
.6000	8.164	16.257	762.69	6.324E-01	-6.209E-01	1.362E-01	2.625E-01	3.987E-01
1.0000	13.606	21.699	571.39	3.838E-01	-2.734E-01	6.696E-02	6.797E-02	1.349E-01
2.0000	27.212	35.305	351.19	1.682E-01	-5.092E-02	2.092E-02	3.834E-03	2.475E-02
3.0000	40.818	48.911	253.50	1.012E-01	-5.488E-03	1.050E-02	6.170E-05	1.056E-02
4.0000	54.424	62.517	198.33	7.066E-02	1.041E-02	6.539E-03	2.836E-04	6.822E-03
5.0000	68.030	76.123	162.88	5.308E-02	1.735E-02	4.493E-03	9.603E-04	5.453E-03
6.0000	81.635	89.728	138.18	4.161E-02	2.028E-02	3.255E-03	1.546E-03	4.800E-03

SR II 6P EO= 3.0160E-01 (RYD) N*= 3.6418 MU= 2.3582

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.104	3021.43	3.862E+00	-6.167E+00	1.282E+00	6.537E+00	7.820E+00
.1000	1.361	5.464	2269.08	2.424E+00	-3.588E+00	6.725E-01	2.947E+00	3.620E+00
.6000	8.164	12.267	1010.72	6.339E-01	-6.219E-01	1.032E-01	1.988E-01	3.020E-01
1.0000	13.606	17.709	700.11	3.352E-01	-2.317E-01	4.169E-02	3.982E-02	8.151E-02
2.0000	27.212	31.315	395.93	1.220E-01	-3.048E-02	9.770E-03	1.219E-03	1.099E-02
3.0000	40.818	44.921	276.01	6.704E-02	-1.220E-03	4.229E-03	2.802E-06	4.232E-03
4.0000	54.424	58.527	211.84	4.503E-02	6.943E-03	2.486E-03	1.182E-04	2.604E-03
8.0000	108.847	112.951	109.77	1.714E-02	1.260E-02	6.947E-04	7.513E-04	1.446E-03

SR II 8P EO= 1.2461E-01 (RYD) N*= 5.6658 MU= 2.3342

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.695	7313.12	8.841E+00	-1.367E+01	2.776E+00	1.327E+01	1.604E+01
.1000	1.361	3.056	4057.16	3.368E+00	-4.922E+00	7.260E-01	3.102E+00	3.828E+00
.6000	8.164	9.859	1257.60	4.885E-01	-4.830E-01	4.928E-02	9.635E-02	1.456E-01
1.0000	13.606	15.301	810.30	2.294E-01	-1.587E-01	1.687E-02	1.614E-02	3.302E-02
2.0000	27.212	28.907	428.91	7.331E-02	-1.639E-02	3.254E-03	3.251E-04	3.579E-03
2.5000	34.015	35.710	347.20	5.049E-02	-4.494E-03	1.907E-03	3.022E-05	1.937E-03
3.0000	40.818	42.513	291.64	3.765E-02	3.826E-04	1.262E-03	2.808E-07	1.263E-03
3.5000	47.621	49.316	251.41	2.974E-02	2.729E-03	9.139E-04	1.538E-05	9.293E-04
6.0000	81.635	83.331	148.79	1.386E-02	6.370E-03	3.355E-04	1.416E-04	4.771E-04

SR II 10P EO= 6.7945E-02 (RYD) N*= 7.6727 MU= 2.3273

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.924	13411.82	1.556E+01	-2.335E+01	4.687E+00	2.112E+01	2.581E+01
.0500	.680	1.605	7726.20	6.265E+00	-9.288E+00	1.319E+00	5.799E+00	7.118E+00
.1000	1.361	2.285	5425.99	3.505E+00	-5.065E+00	5.879E-01	2.456E+00	3.044E+00
.2000	2.721	3.646	3400.95	1.629E+00	-2.207E+00	2.025E-01	7.438E-01	9.463E-01
.6000	8.164	9.088	1364.29	3.598E-01	-3.566E-01	2.464E-02	4.842E-02	7.306E-02
1.0000	13.606	14.530	853.29	1.610E-01	-1.117E-01	7.891E-03	7.593E-03	1.548E-02
2.0000	27.212	28.136	440.66	4.914E-02	-1.065E-02	1.423E-03	1.336E-04	1.557E-03
2.5000	34.015	34.939	354.86	3.338E-02	-2.656E-03	8.156E-04	1.033E-05	8.260E-04
3.0000	40.818	41.742	297.03	2.466E-02	4.869E-04	5.317E-04	4.146E-07	5.321E-04
3.5000	47.621	48.545	255.40	1.934E-02	1.927E-03	3.804E-04	7.553E-06	3.880E-04
4.0000	54.424	55.348	224.01	1.584E-02	2.725E-03	2.909E-04	1.722E-05	3.081E-04
8.0000	108.847	109.772	112.95	5.837E-03	4.199E-03	7.833E-05	8.107E-05	1.594E-04

SR II 12P EO= 4.2726E-02 (RYD) N*= 9.6758 MU= 2.3242

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.581	21328.26	2.394E+01	-3.514E+01	6.976E+00	3.006E+01	3.704E+01
.0500	.680	1.262	9827.55	6.644E+00	-9.743E+00	1.166E+00	5.018E+00	6.184E+00
.1000	1.361	1.942	6384.74	3.264E+00	-4.684E+00	4.333E-01	1.785E+00	2.218E+00
.2000	2.721	3.303	3754.31	1.363E+00	-1.841E+00	1.286E-01	4.689E-01	5.975E-01
.6000	8.164	8.745	1417.82	2.726E-01	-2.704E-01	1.361E-02	2.679E-02	4.040E-02
1.0000	13.606	14.187	873.93	1.191E-01	-8.275E-02	4.217E-03	4.070E-03	8.287E-03
2.0000	27.212	27.793	446.10	3.558E-02	-7.613E-03	7.372E-04	6.749E-05	8.047E-04
2.5000	34.015	34.596	358.38	2.404E-02	-1.814E-03	4.188E-04	4.771E-06	4.235E-04
3.0000	40.818	41.399	299.49	1.767E-02	4.263E-04	2.709E-04	3.152E-07	2.712E-04
3.5000	47.621	48.202	257.22	1.381E-02	1.427E-03	1.927E-04	4.111E-06	1.968E-04
6.0000	81.635	82.217	150.80	6.329E-03	2.886E-03	6.897E-05	2.868E-05	9.766E-05

SR II 16P EO= 2.1380E-02 (RYD) N*= 13.6782 MU= 2.3218

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.291	42623.28	4.543E+01	-6.469E+01	1.257E+01	5.099E+01	6.356E+01
.0200	.272	.563	22022.16	1.517E+01	-2.198E+01	2.716E+00	1.140E+01	1.411E+01
.0600	.816	1.107	11197.75	4.951E+00	-7.162E+00	5.685E-01	2.379E+00	2.948E+00
.1000	1.361	1.651	7507.59	2.558E+00	-3.644E+00	2.263E-01	9.189E-01	1.145E+00
.2000	2.721	3.012	4116.31	9.504E-01	-1.279E+00	5.699E-02	2.063E-01	2.633E-01
.6000	8.164	8.454	1466.52	1.725E-01	-1.712E-01	5.267E-03	1.038E-02	1.565E-02
1.0000	13.606	13.897	892.19	7.377E-02	-5.132E-02	1.584E-03	1.533E-03	3.118E-03
2.0000	27.212	27.503	450.81	2.163E-02	-4.582E-03	2.696E-04	2.419E-05	2.938E-04
2.5000	34.015	34.306	361.42	1.456E-02	-1.059E-03	1.524E-04	1.610E-06	1.540E-04
3.0000	40.818	41.109	301.61	1.065E-02	2.862E-04	9.766E-05	1.410E-07	9.780E-05
3.5000	47.621	47.912	258.78	8.300E-03	8.859E-04	6.913E-05	1.575E-06	7.071E-05
6.0000	81.635	81.926	151.34	3.787E-03	1.729E-03	2.461E-05	1.026E-05	3.486E-05
10.0000	136.059	136.350	90.93	1.735E-03	1.628E-03	8.596E-06	1.515E-05	2.374E-05

SR II 20P E0= 1.2798E-02 (RYD) N**= 17.6792 MU= 2.3208

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.174	71205.42	7.292E+01	-1.018E+02	1.939E+01	7.562E+01	9.501E+01
.0100	.136	.310	39971.86	2.792E+01	-3.975E+01	5.064E+00	2.053E+01	2.559E+01
.0200	.272	.446	27784.48	1.526E+01	-2.191E+01	2.177E+00	8.974E+00	1.115E+01
.0600	.816	.990	12517.80	4.069E+00	-5.857E+00	3.434E-01	1.424E+00	1.767E+00
.1000	1.361	1.535	8078.78	1.972E+00	-2.800E+00	1.250E-01	5.042E-01	6.292E-01
.2000	2.721	2.895	4282.32	6.924E-01	-9.299E-01	2.907E-02	1.049E-01	1.340E-01
.6000	8.164	8.338	1487.06	1.204E-01	-1.195E-01	2.531E-03	4.990E-03	7.521E-03
1.0000	13.606	13.780	899.75	5.105E-02	-3.550E-02	7.522E-04	7.275E-04	1.480E-03
2.0000	27.212	27.386	452.74	1.485E-02	-3.146E-03	1.265E-04	1.136E-05	1.379E-04
2.5000	34.015	34.189	362.65	9.965E-03	-7.163E-04	7.112E-05	7.350E-07	7.185E-05
3.0000	40.818	40.992	302.47	7.297E-03	2.165E-04	4.571E-05	8.053E-08	4.579E-05
3.5000	47.621	47.795	259.41	5.673E-03	6.103E-04	3.222E-05	7.458E-07	3.296E-05
4.0000	54.424	54.598	227.09	4.623E-03	8.313E-04	2.444E-05	1.581E-06	2.602E-05
8.0000	108.847	109.021	113.73	1.687E-03	1.206E-03	6.496E-06	6.646E-06	1.314E-05

SR II 4D E0= 6.7646E-01 (RYD) N**= 2.4317 MU= 1.5683

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.204	1347.11	8.864E-02	-5.115E+00	1.818E-03	9.081E+00	9.083E+00
.4000	5.442	14.646	846.54	9.807E-02	-2.159E+00	3.541E-03	2.575E+00	2.579E+00
.8000	10.885	20.089	617.20	9.423E-02	-1.131E+00	4.484E-03	9.684E-01	9.729E-01
1.0000	13.606	22.810	543.57	9.079E-02	-8.620E-01	4.726E-03	6.390E-01	6.437E-01
2.0000	27.212	36.416	340.47	7.088E-02	-2.960E-01	4.598E-03	1.203E-01	1.249E-01
4.0000	54.424	63.628	194.86	4.080E-02	-5.042E-02	2.662E-03	6.098E-03	8.760E-03
5.0000	68.030	77.233	160.53	3.174E-02	-1.348E-02	1.956E-03	5.291E-04	2.485E-03
5.5000	74.833	84.036	147.54	2.828E-02	-2.174E-03	1.689E-03	1.498E-05	1.704E-03
6.0000	81.635	90.839	136.49	2.535E-02	6.137E-03	1.468E-03	1.290E-04	1.597E-03
7.0000	95.241	104.445	118.71	2.076E-02	1.679E-02	1.131E-03	1.110E-03	2.242E-03
8.0000	108.847	118.051	105.03	1.736E-02	2.254E-02	8.946E-04	2.262E-03	3.157E-03
12.0000	163.271	172.475	71.89	9.881E-03	2.689E-02	4.232E-04	4.701E-03	5.124E-03
14.0000	190.483	199.687	62.09	7.911E-03	2.542E-02	3.141E-04	4.865E-03	5.179E-03
16.0000	217.695	226.899	54.64	6.501E-03	2.345E-02	2.410E-04	4.703E-03	4.944E-03

SR II 5D E0= 3.2153E-01 (RYD) N**= 3.5271 MU= 1.4729

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.375	2834.16	-2.834E-01	-7.262E+00	8.832E-03	8.699E+00	8.708E+00
.1000	1.361	5.735	2161.81	-1.133E-01	-5.039E+00	1.850E-03	5.491E+00	5.493E+00
.2000	2.721	7.096	1747.30	-3.789E-02	-3.655E+00	2.561E-04	3.574E+00	3.575E+00
.3000	4.082	8.456	1466.17	-1.114E-03	-2.747E+00	2.637E-07	2.406E+00	2.406E+00
.3500	4.762	9.137	1357.00	9.907E-03	-2.408E+00	2.254E-05	1.997E+00	1.997E+00
.4000	5.442	9.817	1262.97	1.793E-02	-2.124E+00	7.931E-05	1.669E+00	1.669E+00
.4500	6.123	10.497	1181.12	2.381E-02	-1.883E+00	1.496E-04	1.404E+00	1.404E+00
1.0000	13.606	17.981	689.56	3.932E-02	-6.505E-01	6.989E-04	2.869E-01	2.876E-01
1.5000	20.409	24.784	500.28	3.787E-02	-3.197E-01	8.933E-04	9.554E-02	9.643E-02
2.0000	27.212	31.587	392.53	3.524E-02	-1.817E-01	9.857E-04	3.930E-02	4.029E-02
2.5000	34.015	38.389	322.97	3.227E-02	-1.128E-01	1.005E-03	1.843E-02	1.944E-02
3.0000	40.818	45.192	274.35	2.917E-02	-7.338E-02	9.664E-04	9.176E-03	1.014E-02
4.0000	54.424	58.798	210.87	2.320E-02	-3.098E-02	7.955E-04	2.128E-03	2.923E-03
5.0000	68.030	72.404	171.24	1.824E-02	-9.669E-03	6.058E-04	2.552E-04	8.610E-04
5.5000	74.833	79.207	156.53	1.622E-02	-3.033E-03	5.240E-04	2.748E-05	5.514E-04
6.0000	81.635	86.010	144.15	1.448E-02	1.877E-03	4.535E-04	1.142E-05	4.649E-04
6.5000	88.438	92.813	133.59	1.300E-02	5.508E-03	3.941E-04	1.062E-04	5.002E-04
10.0000	136.059	140.434	88.29	7.026E-03	1.406E-02	1.743E-04	1.046E-03	1.221E-03
12.0000	163.271	167.646	73.96	5.374E-03	1.413E-02	1.217E-04	1.262E-03	1.384E-03
14.0000	190.483	194.858	63.63	4.269E-03	1.335E-02	8.925E-05	1.309E-03	1.399E-03
16.0000	217.695	222.069	55.83	3.487E-03	1.230E-02	6.787E-05	1.266E-03	1.334E-03

SR II 6D E0= 1.9381E-01 (RYD) N**= 4.5430 MU= 1.4570

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.637	4701.96	-8.598E-01	-9.440E+00	4.899E-02	8.860E+00	8.909E+00
.1000	1.361	3.998	3101.60	-2.924E-01	-5.671E+00	8.590E-03	4.847E+00	4.856E+00
.2000	2.721	5.358	2314.00	-1.102E-01	-3.762E+00	1.635E-03	2.859E+00	2.860E+00
.3000	4.082	6.719	1845.40	-3.707E-02	-2.663E+00	2.320E-04	1.796E+00	1.796E+00
.3500	4.762	7.399	1675.72	-1.745E-02	-2.280E+00	5.666E-05	1.451E+00	1.451E+00
.4000	5.442	8.079	1534.62	-3.927E-03	-1.971E+00	3.132E-06	1.184E+00	1.184E+00
.4500	6.123	8.760	1415.44	5.457E-03	-1.718E+00	6.556E-06	9.751E-01	9.751E-01
.5000	6.803	9.440	1313.43	1.209E-02	-1.508E+00	3.469E-05	8.096E-01	8.096E-01
1.0000	13.606	16.243	763.33	2.718E-02	-5.300E-01	3.017E-04	1.720E-01	1.723E-01
1.5000	20.409	23.046	538.00	2.570E-02	-2.458E-01	3.827E-04	5.250E-02	5.288E-02
2.0000	27.212	29.849	415.38	2.377E-02	-1.341E-01	4.238E-04	2.025E-02	2.068E-02
2.5000	34.015	36.652	338.28	2.190E-02	-8.131E-02	4.420E-04	9.136E-03	9.578E-03
3.0000	40.818	43.455	285.32	2.000E-02	-5.230E-02	4.371E-04	4.482E-03	4.919E-03
5.0000	68.030	70.666	175.45	1.288E-02	-7.261E-03	2.945E-04	1.405E-04	4.350E-04
5.5000	74.833	77.469	160.05	1.147E-02	-2.570E-03	2.562E-04	1.929E-05	2.754E-04
6.0000	81.635	84.272	147.13	1.024E-02	9.216E-04	2.223E-04	2.699E-06	2.249E-04
6.5000	88.438	91.075	136.14	9.184E-03	3.516E-03	1.931E-04	4.245E-05	2.356E-04
7.0000	95.241	97.878	126.67	8.274E-03	5.433E-03	1.684E-04	1.090E-04	2.774E-04
10.0000	136.059	138.696	89.39	4.906E-03	9.643E-03	8.392E-05	4.863E-04	5.702E-04
12.0000	163.271	165.908	74.73	3.737E-03	9.703E-03	5.825E-05	5.889E-04	6.472E-04
14.0000	190.483	193.120	64.20	2.960E-03	9.165E-03	4.252E-05	6.116E-04	6.541E-04
16.0000	217.695	220.332	56.27	2.413E-03	8.437E-03	3.224E-05	5.914E-04	6.236E-04

SR II 8D E0= 9.3153E-02 (RYD) N*= 6.5529 MU= 1.4471

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.267	9782.47	-2.855E+00	-1.370E+01	2.597E-01	8.967E+00	9.227E+00
.1000	1.361	2.628	4717.85	-5.655E-01	-5.845E+00	2.112E-02	3.385E+00	3.406E+00
.2000	2.721	3.989	3108.50	-1.797E-01	-3.332E+00	3.237E-03	1.670E+00	1.673E+00
.3000	4.082	5.349	2317.84	-6.346E-02	-2.167E+00	5.416E-04	9.475E-01	9.481E-01
.4000	5.442	6.710	1847.84	-1.885E-02	-1.521E+00	5.990E-05	5.849E-01	5.850E-01
.4500	6.123	7.390	1677.74	-7.251E-03	-1.299E+00	9.767E-06	4.699E-01	4.699E-01
.5000	6.803	8.070	1536.31	5.622E-04	-1.120E+00	6.411E-08	3.820E-01	3.820E-01
1.0000	13.606	14.873	833.61	1.658E-02	-3.578E-01	1.028E-04	7.176E-02	7.188E-02
1.5000	20.409	21.676	571.99	1.516E-02	-1.579E-01	1.252E-04	2.038E-02	2.050E-02
2.0000	27.212	28.479	435.36	1.373E-02	-8.320E-02	1.350E-04	7.434E-03	7.569E-03
2.5000	34.015	35.282	351.41	1.263E-02	-4.926E-02	1.415E-04	3.228E-03	3.369E-03
3.0000	40.818	42.085	294.61	1.157E-02	-3.129E-02	1.417E-04	1.554E-03	1.695E-03
3.5000	47.621	48.888	253.61	1.054E-02	-2.047E-02	1.365E-04	7.727E-04	9.092E-04
5.0000	68.030	69.297	178.92	7.630E-03	-4.488E-03	1.014E-04	5.262E-05	1.540E-04
5.5000	74.833	76.100	162.93	6.802E-03	-1.711E-03	8.850E-05	8.404E-06	9.691E-05
6.0000	81.635	82.903	149.56	6.086E-03	3.618E-04	7.718E-05	4.091E-07	7.759E-05
6.5000	88.438	89.706	138.21	5.454E-03	1.918E-03	6.707E-05	1.245E-05	7.952E-05
8.0000	108.847	110.115	112.60	4.036E-03	4.523E-03	4.509E-05	8.493E-05	1.300E-04
10.0000	136.059	137.327	90.29	2.888E-03	5.595E-03	2.879E-05	1.621E-04	1.909E-04
12.0000	163.271	164.538	75.35	2.192E-03	5.635E-03	1.986E-05	1.970E-04	2.168E-04
14.0000	190.483	191.750	64.66	1.731E-03	5.321E-03	1.445E-05	2.047E-04	2.191E-04
16.0000	217.695	218.962	56.62	1.408E-03	4.893E-03	1.091E-05	1.977E-04	2.086E-04

SR II 10D E0= 5.4639E-02 (RYD) N*= 8.5562 MU= 1.4438

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.743	16678.00	-5.976E+00	-1.802E+01	6.673E-01	9.101E+00	9.769E+00
.1000	1.361	2.104	5892.87	-6.748E-01	-5.347E+00	2.408E-02	2.268E+00	2.292E+00
.2000	2.721	3.465	3578.67	-1.859E-01	-2.742E+00	3.009E-03	9.818E-01	9.849E-01
.3000	4.082	4.825	2569.57	-6.319E-02	-1.697E+00	4.844E-04	5.237E-01	5.242E-01
.4000	5.442	6.186	2004.38	-2.015E-02	-1.156E+00	6.316E-05	3.119E-01	3.119E-01
.5000	6.803	7.546	1642.99	-2.416E-03	-8.361E-01	1.107E-06	1.989E-01	1.989E-01
.5500	7.483	8.227	1507.13	2.307E-03	-7.224E-01	1.100E-06	1.619E-01	1.619E-01
.6000	8.164	8.907	1392.02	5.500E-03	-6.294E-01	6.773E-06	1.330E-01	1.330E-01
.6500	8.844	9.587	1293.24	7.665E-03	-5.524E-01	1.416E-05	1.103E-01	1.103E-01
.7000	9.524	10.268	1207.55	9.122E-03	-4.879E-01	2.148E-05	9.215E-02	9.217E-02
1.0000	13.606	14.349	864.06	1.149E-02	-2.557E-01	4.761E-05	3.538E-02	3.543E-02
1.5000	20.409	21.152	586.16	1.032E-02	-1.106E-01	5.662E-05	9.758E-03	9.814E-03
2.0000	27.212	27.955	443.52	9.243E-03	-5.747E-02	6.003E-05	3.481E-03	3.541E-03
2.5000	34.015	34.758	356.71	8.447E-03	-3.366E-02	6.235E-05	1.485E-03	1.547E-03
3.0000	40.818	41.561	298.32	7.770E-03	-2.128E-02	6.306E-05	7.096E-04	7.726E-04
3.5000	47.621	48.364	256.36	7.067E-03	-1.390E-02	6.071E-05	3.522E-04	4.129E-04
5.0000	68.030	68.773	180.28	5.159E-03	-3.083E-03	4.601E-05	2.465E-05	7.066E-05
5.5000	74.833	75.576	164.06	4.609E-03	-1.205E-03	4.036E-05	4.140E-06	4.450E-05
6.0000	81.635	82.379	150.51	4.122E-03	2.015E-04	3.519E-05	1.262E-07	3.532E-05
6.5000	88.438	89.182	139.03	3.697E-03	1.254E-03	3.064E-05	5.289E-06	3.593E-05
7.0000	95.241	95.985	129.17	3.327E-03	2.035E-03	2.671E-05	1.499E-05	4.170E-05
10.0000	136.059	136.803	90.63	1.951E-03	3.760E-03	1.309E-05	7.292E-05	8.601E-05
12.0000	163.271	164.014	75.59	1.479E-03	3.787E-03	9.017E-06	8.870E-05	9.772E-05
14.0000	190.483	191.226	64.84	1.170E-03	3.576E-03	6.579E-06	9.220E-05	9.878E-05
16.0000	217.695	218.438	56.76	9.491E-04	3.290E-03	4.946E-06	8.913E-05	9.408E-05

SR II 12D E0= 3.5886E-02 (RYD) N*= 10.5577 MU= 1.4423

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.488	25393.56	-1.021E+01	-2.245E+01	1.278E+00	9.278E+00	1.056E+01
.1000	1.361	1.849	6705.13	-6.792E-01	-4.683E+00	2.144E-02	1.529E+00	1.550E+00
.2000	2.721	3.209	3863.17	-1.699E-01	-2.237E+00	2.329E-03	6.054E-01	6.078E-01
.3000	4.082	4.570	2713.03	-5.606E-02	-1.343E+00	3.610E-04	3.109E-01	3.113E-01
.4000	5.442	5.931	2090.61	-1.817E-02	-9.006E-01	4.923E-05	1.814E-01	1.814E-01
.5000	6.803	7.291	1700.49	-3.017E-03	-6.445E-01	1.668E-06	1.142E-01	1.142E-01
.5500	7.483	7.972	1555.37	9.436E-04	-5.546E-01	1.784E-07	9.246E-02	9.246E-02
.6000	8.164	8.652	1433.07	3.604E-03	-4.817E-01	2.825E-06	7.568E-02	7.569E-02
.7000	9.524	10.012	1238.33	6.603E-03	-3.714E-01	1.097E-05	5.207E-02	5.208E-02
1.0000	13.606	14.094	879.70	8.521E-03	-1.927E-01	2.572E-05	1.973E-02	1.975E-02
1.5000	20.409	20.897	593.32	7.601E-03	-8.252E-02	3.035E-05	5.365E-03	5.395E-03
2.5000	34.015	34.503	359.35	6.176E-03	-2.483E-02	3.309E-05	8.021E-04	8.352E-04
3.0000	40.818	41.306	300.17	5.678E-03	-1.564E-02	3.348E-05	3.809E-04	4.144E-04
3.5000	47.621	48.109	257.72	5.180E-03	-1.020E-02	3.245E-05	1.885E-04	2.210E-04
4.0000	54.424	54.912	225.79	4.689E-03	-6.631E-03	3.035E-05	9.102E-05	1.214E-04
5.0000	68.030	68.518	180.95	3.784E-03	-2.282E-03	2.466E-05	1.345E-05	3.811E-05
5.5000	74.833	75.321	164.61	3.388E-03	-9.036E-04	2.173E-05	2.319E-06	2.405E-05
6.0000	81.635	82.124	150.97	3.027E-03	1.303E-04	1.892E-05	5.258E-08	1.897E-05
6.5000	88.438	88.927	139.43	2.713E-03	9.031E-04	1.645E-05	2.735E-06	1.919E-05
7.0000	95.241	95.730	129.52	2.446E-03	1.475E-03	1.440E-05	7.848E-06	2.225E-05
8.0000	108.847	109.336	113.40	2.004E-03	2.206E-03	1.103E-05	2.007E-05	3.110E-05
10.0000	136.059	136.547	90.80	1.430E-03	2.748E-03	7.023E-06	3.888E-05	4.590E-05
12.0000	163.271	163.759	75.71	1.081E-03	2.768E-03	4.809E-06	4.730E-05	5.211E-05
14.0000	190.483	190.971	64.92	8.551E-04	2.612E-03	3.510E-06	4.914E-05	5.265E-05
16.0000	217.695	218.183	56.83	6.914E-04	2.403E-03	2.622E-06	4.749E-05	5.011E-05

SR II 16D EO= 1.8871E-02 (RYD) N*= 14.5590 MU= 1.4410

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.257	48289.29	-2.192E+01	-3.165E+01	3.102E+00	9.699E+00	1.280E+01
.0500	.680	.937	13231.51	-1.864E+00	-6.986E+00	8.184E-02	1.725E+00	1.806E+00
.1000	1.361	1.617	7666.02	-5.802E-01	-3.500E+00	1.369E-02	7.469E-01	7.606E-01
.2000	2.721	2.978	4163.49	-1.300E-01	-1.542E+00	1.265E-03	2.668E-01	2.681E-01
.3000	4.082	4.339	2857.79	-4.146E-02	-8.972E-01	1.875E-04	1.317E-01	1.319E-01
.4000	5.442	5.699	2175.53	-1.355E-02	-5.916E-01	2.629E-05	7.520E-02	7.523E-02
.4500	6.123	6.379	1943.54	-6.950E-03	-4.944E-01	7.745E-06	5.879E-02	5.880E-02
.5000	6.803	7.060	1756.25	-2.699E-03	-4.190E-01	1.293E-06	4.674E-02	4.674E-02
.5500	7.483	7.740	1601.89	7.600E-05	-3.592E-01	1.124E-09	3.766E-02	3.766E-02
.6000	8.164	8.420	1472.47	1.972E-03	-3.110E-01	8.229E-07	3.070E-02	3.070E-02
.6500	8.844	9.101	1362.40	3.197E-03	-2.714E-01	2.338E-06	2.528E-02	2.528E-02
1.0000	13.606	13.863	894.39	5.341E-03	-1.226E-01	9.942E-06	7.853E-03	7.863E-03
1.5000	20.409	20.666	599.96	4.730E-03	-5.201E-02	1.162E-05	2.107E-03	2.119E-03
2.0000	27.212	27.469	451.37	4.186E-03	-2.666E-02	1.210E-05	7.361E-04	7.482E-04
2.5000	34.015	34.272	361.78	3.816E-03	-1.548E-02	1.255E-05	3.095E-04	3.221E-04
3.0000	40.818	41.075	301.86	3.507E-03	-9.720E-03	1.270E-05	1.463E-04	1.590E-04
3.5000	47.621	47.877	258.97	3.203E-03	-6.333E-03	1.234E-05	7.239E-05	8.473E-05
5.0000	68.030	68.286	181.57	2.350E-03	-1.427E-03	9.480E-06	5.239E-06	1.472E-05
5.5000	74.833	75.089	165.12	2.095E-03	-5.671E-04	8.284E-06	9.104E-07	9.195E-06
6.0000	81.635	81.892	151.40	1.873E-03	7.619E-05	7.219E-06	1.792E-08	7.237E-06
6.5000	88.438	88.695	139.79	1.684E-03	5.495E-04	6.325E-06	1.010E-06	7.335E-06
8.0000	108.847	109.104	113.64	1.245E-03	1.363E-03	4.248E-06	7.638E-06	1.189E-05
10.0000	136.059	136.316	90.96	8.816E-04	1.699E-03	2.663E-06	1.483E-05	1.749E-05
12.0000	163.271	163.528	75.82	6.675E-04	1.710E-03	1.832E-06	1.803E-05	1.986E-05
14.0000	190.483	190.740	65.00	5.305E-04	1.615E-03	1.350E-06	1.875E-05	2.010E-05
16.0000	217.695	217.951	56.89	4.301E-04	1.489E-03	1.013E-06	1.821E-05	1.922E-05

SR II 20D EO= 1.1612E-02 (RYD) N*= 18.5596 MU= 1.4404

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.158	78473.45	-3.788E+01	-4.130E+01	5.698E+00	1.016E+01	1.586E+01
.0500	.680	.838	14790.32	-1.650E+00	-5.682E+00	5.740E-02	1.021E+00	1.078E+00
.1000	1.361	1.519	8164.57	-4.685E-01	-2.662E+00	8.377E-03	4.057E-01	4.141E-01
.2000	2.721	2.879	4306.31	-9.927E-02	-1.126E+00	7.132E-04	1.376E-01	1.383E-01
.3000	4.082	4.240	2924.36	-3.116E-02	-6.454E-01	1.034E-04	6.658E-02	6.668E-02
.4000	5.442	5.600	2213.90	-1.018E-02	-4.223E-01	1.458E-05	3.766E-02	3.767E-02
.4500	6.123	6.281	1974.10	-5.311E-03	-3.519E-01	4.454E-06	2.933E-02	2.933E-02
.5000	6.803	6.961	1781.17	-2.192E-03	-2.978E-01	8.406E-07	2.328E-02	2.328E-02
.5500	7.483	7.641	1622.59	-6.329E-05	-2.548E-01	7.693E-10	1.871E-02	1.871E-02
.6000	8.164	8.322	1489.94	1.264E-03	-2.203E-01	3.341E-07	1.522E-02	1.522E-02
.6500	8.844	9.002	1377.34	2.208E-03	-1.920E-01	1.103E-06	1.252E-02	1.252E-02
1.0000	13.606	13.764	900.81	3.752E-03	-8.627E-02	4.870E-06	3.862E-03	3.867E-03
2.0000	27.212	27.370	453.00	2.962E-03	-1.866E-02	6.034E-06	3.593E-04	3.654E-04
2.5000	34.015	34.173	362.82	2.659E-03	-1.080E-02	6.074E-06	1.503E-04	1.563E-04
3.0000	40.818	40.976	302.58	2.434E-03	-6.771E-03	6.100E-06	7.083E-05	7.693E-05
3.5000	47.621	47.779	259.50	2.210E-03	-4.411E-03	5.868E-06	3.505E-05	4.092E-05
5.0000	68.030	68.188	181.83	1.629E-03	-9.888E-04	4.549E-06	2.513E-06	7.062E-06
5.5000	74.833	74.991	165.34	1.444E-03	-3.748E-04	3.932E-06	3.973E-07	4.330E-06
6.0000	81.635	81.793	151.58	1.299E-03	4.655E-05	3.471E-06	6.684E-09	3.478E-06
6.5000	88.438	88.596	139.95	1.165E-03	3.685E-04	3.022E-06	4.536E-07	3.475E-06
7.0000	95.241	95.399	129.97	1.038E-03	6.360E-04	2.586E-06	1.455E-06	4.041E-06
10.0000	136.059	136.217	91.02	6.032E-04	1.196E-03	1.246E-06	7.342E-06	8.588E-06
12.0000	163.271	163.429	75.87	4.755E-04	1.179E-03	9.287E-07	8.565E-06	9.494E-06
14.0000	190.483	190.641	65.04	3.734E-04	1.121E-03	6.682E-07	9.032E-06	9.700E-06
16.0000	217.695	217.853	56.91	2.873E-04	1.038E-03	4.521E-07	8.844E-06	9.296E-06

SR II 4F EO= 2.5976E-01 (RYD) N*= 3.9242 MU= .0758

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.534	3508.16	-1.732E+00	7.136E+00	2.856E-01	6.463E+00	6.749E+00
.2000	2.721	6.255	1982.06	-5.672E-01	1.836E+00	5.420E-02	7.572E-01	8.114E-01
.6000	8.164	11.698	1059.91	-1.500E-01	3.481E-01	7.091E-03	5.091E-02	5.800E-02
1.0000	13.606	17.140	723.37	-5.857E-02	1.180E-01	1.584E-03	8.568E-03	1.015E-02
2.0000	27.212	30.746	403.26	-7.504E-03	3.192E-02	4.663E-05	1.125E-03	1.171E-03

SR II 5F EO= 1.6612E-01 (RYD) N*= 4.9071 MU= .0929

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.260	5485.72	-3.664E+00	1.274E+01	8.173E-01	1.318E+01	1.400E+01
.0200	.272	2.532	4896.22	-2.966E+00	1.021E+01	5.998E-01	9.487E+00	1.009E+01
.1000	1.361	3.621	3424.32	-1.504E+00	4.938E+00	2.205E-01	3.170E+00	3.391E+00
.2000	2.721	4.981	2489.01	-8.051E-01	2.472E+00	8.696E-02	1.093E+00	1.180E+00
.6000	8.164	10.424	1189.46	-1.742E-01	4.097E-01	8.522E-03	6.282E-02	7.134E-02
1.0000	13.606	15.866	781.46	-6.533E-02	1.303E-01	1.824E-03	9.668E-03	1.149E-02
2.0000	27.212	29.472	420.69	-9.059E-03	3.021E-02	6.514E-05	9.655E-04	1.031E-03

SR II 6F EO= 1.1495E-01 (RYD) N*= 5.8990 MU= .1010

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.564	7927.53	-6.106E+00	1.838E+01	1.570E+00	1.897E+01	2.054E+01
.0600	.816	2.380	5208.74	-2.809E+00	8.569E+00	5.058E-01	6.276E+00	6.782E+00
.2000	2.721	4.285	2893.37	-9.058E-01	2.655E+00	9.468E-02	1.085E+00	1.179E+00
.6000	8.164	9.728	1274.59	-1.685E-01	3.974E-01	7.434E-03	5.517E-02	6.261E-02
1.0000	13.606	15.170	817.32	-6.114E-02	1.219E-01	1.527E-03	8.100E-03	9.627E-03

SR II 8F EO= 6.4229E-02 (RYD) N*= 7.8916 MU= .1084

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.874	14187.82	-1.249E+01	3.033E+01	3.673E+00	2.886E+01	3.253E+01
.0600	.816	1.690	7335.40	-3.778E+00	1.009E+01	6.496E-01	6.175E+00	6.825E+00
.2000	2.721	3.595	3448.78	-8.977E-01	2.476E+00	7.802E-02	7.912E-01	8.692E-01
.6000	8.164	9.037	1371.92	-1.376E-01	3.246E-01	4.610E-03	3.420E-02	3.881E-02
1.0000	13.606	14.480	856.27	-4.797E-02	9.591E-02	8.974E-04	4.783E-03	5.680E-03

SR II   10F   EO= 4.0908E-02 (RYD)   N*= 9.8864   MU= .1116

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.557	22276.08	-2.080E+01	4.350E+01	6.482E+00	3.781E+01	4.429E+01
.0600	.816	1.373	9030.69	-4.123E+00	1.018E+01	6.285E-01	5.107E+00	5.735E+00
.2000	2.721	3.278	3782.64	-7.938E-01	2.116E+00	5.563E-02	5.270E-01	5.826E-01
.6000	8.164	8.720	1421.84	-1.092E-01	2.573E-01	2.802E-03	2.072E-02	2.353E-02
1.0000	13.606	14.163	875.45	-3.726E-02	7.466E-02	5.296E-04	2.834E-03	3.364E-03

SR II   12F   EO= 2.8310E-02 (RYD)   N*= 11.8867   MU= .1133

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.385	32189.26	-3.092E+01	5.799E+01	9.919E+00	4.651E+01	5.643E+01
.0200	.272	.657	18863.05	-1.211E+01	2.546E+01	2.597E+00	1.530E+01	1.789E+01
.0600	.816	1.202	10319.00	-4.088E+00	9.611E+00	5.407E-01	3.985E+00	4.526E+00
.2000	2.721	3.106	3991.37	-6.810E-01	1.779E+00	3.880E-02	3.530E-01	3.918E-01
.6000	8.164	8.549	1450.35	-8.780E-02	2.067E-01	1.775E-03	1.311E-02	1.489E-02
1.0000	13.606	13.991	886.18	-2.959E-02	5.935E-02	3.299E-04	1.770E-03	2.100E-03

SR II   16F   EO= 1.5852E-02 (RYD)   N*= 15.8851   MU= .1149

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.216	57486.57	-5.637E+01	9.096E+01	1.846E+01	6.408E+01	8.254E+01
.0200	.272	.488	25417.60	-1.366E+01	2.625E+01	2.453E+00	1.207E+01	1.452E+01
.0600	.816	1.032	12013.79	-3.574E+00	7.963E+00	3.550E-01	2.350E+00	2.705E+00
.1000	1.361	1.576	7865.80	-1.637E+00	3.913E+00	1.137E-01	8.666E-01	9.803E-01
.2000	2.721	2.937	4221.73	-5.004E-01	1.279E+00	1.980E-02	1.726E-01	1.925E-01
.6000	8.164	8.379	1479.69	-6.022E-02	1.415E-01	8.183E-04	6.021E-03	6.839E-03

SR II   20F   EO= 1.0117E-02 (RYD)   N*= 19.8844   MU= .1156

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.138	90076.12	-8.843E+01	1.291E+02	2.899E+01	8.244E+01	1.114E+02
.0100	.136	.274	45299.20	-2.716E+01	4.569E+01	5.437E+00	2.051E+01	2.595E+01
.0200	.272	.410	30257.95	-1.344E+01	2.459E+01	1.994E+00	8.901E+00	1.089E+01
.0600	.816	.954	12996.46	-2.976E+00	6.455E+00	2.276E-01	1.428E+00	1.655E+00
.1000	1.361	1.498	8275.48	-1.297E+00	3.042E+00	6.787E-02	4.979E-01	5.657E-01
.2000	2.721	2.859	4336.96	-3.795E-01	9.604E-01	1.109E-02	9.469E-02	1.058E-01
.6000	8.164	8.301	1493.60	-4.413E-02	1.036E-01	4.354E-04	3.201E-03	3.636E-03

Y III 5S EO= 1.4170E+00 (RYD) N*= 2.5202 MU= 2.4798

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	19.279	643.11	.000	3.535E-01	.000	1.514E-01	1.514E-01
1.0000	13.606	32.885	377.03	.000	2.312E-01	.000	1.104E-01	1.104E-01
2.0000	27.212	46.491	266.69	.000	1.612E-01	.000	7.589E-02	7.589E-02
8.0000	108.847	128.126	96.77	.000	4.940E-02	.000	1.965E-02	1.965E-02

Y III 6S EO= 7.1139E-01 (RYD) N*= 3.5569 MU= 2.4431

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.679	1280.96	.000	5.664E-01	.000	1.951E-01	1.951E-01
1.0000	13.606	23.285	532.47	.000	2.398E-01	.000	8.413E-02	8.413E-02
4.0000	54.424	64.103	193.42	.000	6.991E-02	.000	1.969E-02	1.969E-02
8.0000	108.847	118.526	104.61	.000	3.248E-02	.000	7.858E-03	7.858E-03

Y III 8S EO= 2.8963E-01 (RYD) N*= 5.5744 MU= 2.4256

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.941	3146.32	.000	1.056E+00	.000	2.760E-01	2.760E-01
1.0000	13.606	17.547	706.61	.000	1.988E-01	.000	4.359E-02	4.359E-02
4.0000	54.424	58.364	212.44	.000	4.148E-02	.000	6.310E-03	6.310E-03

Y III 10S EO= 1.5666E-01 (RYD) N*= 7.5796 MU= 2.4204

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.131	5816.91	.000	1.597E+00	.000	3.416E-01	3.416E-01
1.0000	13.606	15.737	787.85	.000	1.519E-01	.000	2.282E-02	2.282E-02
2.0000	27.212	29.343	422.54	.000	6.587E-02	.000	8.000E-03	8.000E-03
4.0000	54.424	56.555	219.23	.000	2.758E-02	.000	2.703E-03	2.703E-03

Y III 12S EO= 9.8028E-02 (RYD) N*= 9.5818 MU= 2.4182

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.334	9296.01	.000	2.181E+00	.000	3.988E-01	3.988E-01
.5000	6.803	8.137	1523.79	.000	2.649E-01	.000	3.588E-02	3.588E-02
1.0000	13.606	14.940	829.91	.000	1.172E-01	.000	1.290E-02	1.290E-02
2.0000	27.212	28.546	434.34	.000	4.867E-02	.000	4.249E-03	4.249E-03

Y III 16S EO= 4.8777E-02 (RYD) N*= 13.5836 MU= 2.4164

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.664	18682.51	.000	3.464E+00	.000	5.005E-01	5.005E-01
.5000	6.803	7.467	1660.54	.000	1.825E-01	.000	1.562E-02	1.562E-02
1.0000	13.606	14.270	868.89	.000	7.539E-02	.000	5.096E-03	5.096E-03

Y III 20S EO= 2.9106E-02 (RYD) N*= 17.5844 MU= 2.4156

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.396	31308.10	.000	4.886E+00	.000	5.941E-01	5.941E-01
.2000	2.721	3.117	3977.49	.000	4.077E-01	.000	3.256E-02	3.256E-02
1.0000	13.606	14.002	885.49	.000	5.296E-02	.000	2.468E-03	2.468E-03

Y III 5P EO= 1.1205E+00 (RYD) N*= 2.8341 MU= 2.1659

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	15.245	813.27	1.105E+00	-1.000E+00	3.899E-01	6.391E-01	1.029E+00
.6000	8.164	23.409	529.65	5.636E-01	-3.144E-01	1.558E-01	9.697E-02	2.527E-01
1.0000	13.606	28.851	429.74	4.069E-01	-1.582E-01	1.001E-01	3.025E-02	1.303E-01
1.5000	20.409	35.654	347.75	2.930E-01	-6.344E-02	6.413E-02	6.011E-03	7.014E-02
2.0000	27.212	42.457	292.03	2.237E-01	-1.638E-02	4.451E-02	4.772E-04	4.498E-02
2.5000	34.015	49.260	251.70	1.779E-01	8.854E-03	3.265E-02	1.618E-04	3.281E-02
3.0000	40.818	56.063	221.15	1.458E-01	2.299E-02	2.495E-02	1.241E-03	2.619E-02
6.0000	81.635	96.881	127.98	6.281E-02	3.913E-02	8.006E-03	6.215E-03	1.422E-02
7.0000	95.241	110.487	112.22	5.127E-02	3.777E-02	6.083E-03	6.602E-03	1.268E-02
8.0000	108.847	124.093	99.91	4.282E-02	3.586E-02	4.767E-03	6.687E-03	1.145E-02
9.0000	122.453	137.699	90.04	3.643E-02	3.381E-02	3.827E-03	6.593E-03	1.042E-02

Y III 6P EO= 6.0002E-01 (RYD) N*= 3.8729 MU= 2.1271

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.164	1518.74	1.980E+00	-1.913E+00	6.704E-01	1.251E+00	1.922E+00
.1000	1.361	9.524	1301.78	1.542E+00	-1.365E+00	4.741E-01	7.432E-01	1.217E+00
.6000	8.164	16.327	759.38	6.457E-01	-3.775E-01	1.426E-01	9.746E-02	2.400E-01
1.0000	13.606	21.770	569.54	4.073E-01	-1.674E-01	7.563E-02	2.557E-02	1.012E-01
1.5000	20.409	28.573	433.93	2.642E-01	-6.287E-02	4.178E-02	4.731E-03	4.651E-02
2.0000	27.212	35.376	350.49	1.885E-01	-1.795E-02	2.632E-02	4.773E-04	2.680E-02
2.5000	34.015	42.179	293.96	1.429E-01	3.848E-03	1.804E-02	2.617E-05	1.807E-02
3.0000	40.818	48.982	253.13	1.130E-01	1.516E-02	1.311E-02	4.713E-04	1.358E-02
3.5000	47.621	55.784	222.26	9.225E-02	2.119E-02	9.945E-03	1.049E-03	1.099E-02
6.0000	81.635	89.799	138.07	4.396E-02	2.628E-02	3.635E-03	2.598E-03	6.233E-03
7.0000	95.241	103.405	119.90	3.530E-02	2.512E-02	2.698E-03	2.733E-03	5.431E-03
8.0000	108.847	117.011	105.96	2.911E-02	2.366E-02	2.077E-03	2.744E-03	4.821E-03
9.0000	122.453	130.617	94.92	2.451E-02	2.216E-02	1.644E-03	2.686E-03	4.330E-03

Y III 8P EO= 2.5904E-01 (RYD) N*= 5.8944 MU= 2.1056

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.524	3517.90	4.424E+00	-4.468E+00	1.445E+00	2.948E+00	4.392E+00
.1000	1.361	4.885	2538.08	2.581E+00	-2.359E+00	6.815E-01	1.139E+00	1.820E+00
.2000	2.721	6.246	1985.17	1.721E+00	-1.435E+00	3.875E-01	5.387E-01	9.262E-01
.6000	8.164	11.688	1060.80	6.142E-01	-3.646E-01	9.235E-02	6.510E-02	1.574E-01
1.0000	13.606	17.130	723.78	3.289E-01	-1.378E-01	3.881E-02	1.363E-02	5.244E-02
1.5000	20.409	23.933	518.05	1.912E-01	-4.721E-02	1.834E-02	2.235E-03	2.057E-02
2.0000	27.212	30.736	403.39	1.279E-01	-1.352E-02	1.053E-02	2.353E-04	1.076E-02
2.5000	34.015	37.539	330.28	9.291E-02	1.396E-03	6.788E-03	3.067E-06	6.791E-03
3.0000	40.818	44.342	279.61	7.131E-02	8.630E-03	4.724E-03	1.383E-04	4.862E-03
6.0000	81.635	85.160	145.59	2.555E-02	1.487E-02	1.164E-03	7.884E-04	1.952E-03
7.0000	95.241	98.766	125.54	2.026E-02	1.409E-02	8.489E-04	8.216E-04	1.671E-03
8.0000	108.847	112.372	110.34	1.655E-02	1.319E-02	6.447E-04	8.189E-04	1.464E-03

Y III 10P EO= 1.4417E-01 (RYD) N*= 7.9012 MU= 2.0988

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.962	6320.98	7.721E+00	-7.926E+00	2.449E+00	5.163E+00	7.612E+00
.1000	1.361	3.322	3732.17	3.222E+00	-2.967E+00	7.223E-01	1.225E+00	1.947E+00
.2000	2.721	4.683	2647.76	1.823E+00	-1.526E+00	3.261E-01	4.570E-01	7.831E-01
.6000	8.164	10.125	1224.55	5.089E-01	-3.024E-01	5.492E-02	3.879E-02	9.371E-02
1.0000	13.606	15.567	796.45	2.508E-01	-1.053E-01	2.051E-02	7.236E-03	2.775E-02
1.5000	20.409	22.370	554.24	1.388E-01	-3.454E-02	9.027E-03	1.118E-03	1.014E-02
2.0000	27.212	29.173	425.00	9.032E-02	-9.792E-03	4.985E-03	1.172E-04	5.102E-03
2.5000	34.015	35.976	344.63	6.449E-02	7.512E-04	3.134E-03	8.506E-07	3.135E-03
3.0000	40.818	42.779	289.83	4.892E-02	5.728E-03	2.144E-03	5.881E-05	2.203E-03
3.5000	47.621	49.582	250.06	3.869E-02	8.180E-03	1.555E-03	1.390E-04	1.694E-03
6.0000	81.635	83.597	148.31	1.699E-02	9.801E-03	5.054E-04	3.364E-04	8.418E-04
7.0000	95.241	97.203	127.55	1.341E-02	9.261E-03	3.662E-04	3.492E-04	7.154E-04
8.0000	108.847	110.809	111.89	1.092E-02	8.647E-03	2.768E-04	3.471E-04	6.239E-04

Y III 12P EO= 9.1750E-02 (RYD) N*= 9.9042 MU= 2.0958

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.248	9932.06	1.183E+01	-1.223E+01	3.657E+00	7.826E+00	1.148E+01
.1000	1.361	2.609	4752.37	3.473E+00	-3.203E+00	6.590E-01	1.121E+00	1.780E+00
.2000	2.721	3.970	3123.45	1.728E+00	-1.447E+00	2.483E-01	3.481E-01	5.964E-01
.6000	8.164	9.412	1317.34	4.122E-01	-2.448E-01	3.350E-02	2.363E-02	5.713E-02
1.0000	13.606	14.854	834.69	1.942E-01	-8.156E-02	1.173E-02	4.140E-03	1.587E-02
1.5000	20.409	21.657	572.49	1.047E-01	-2.613E-02	4.977E-03	6.194E-04	5.596E-03
2.0000	27.212	28.460	435.65	6.725E-02	-7.363E-03	2.696E-03	6.465E-05	2.760E-03
2.5000	34.015	35.263	351.60	4.761E-02	4.852E-04	1.674E-03	3.478E-07	1.674E-03
3.0000	40.818	42.066	294.74	3.590E-02	4.143E-03	1.136E-03	3.025E-05	1.166E-03
3.5000	47.621	48.869	253.71	2.828E-02	5.922E-03	8.187E-04	7.180E-05	8.905E-04
4.0000	54.424	55.672	222.71	2.300E-02	6.779E-03	6.168E-04	1.072E-04	7.240E-04
6.0000	81.635	82.884	149.59	1.229E-02	7.057E-03	2.621E-04	1.729E-04	4.351E-04
7.0000	95.241	96.490	128.50	9.679E-03	6.658E-03	1.894E-04	1.792E-04	3.686E-04
8.0000	108.847	110.096	112.62	7.868E-03	6.210E-03	1.428E-04	1.779E-04	3.206E-04

Y III 16P EO= 4.6536E-02 (RYD) N*= 13.9067 MU= 2.0933

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.633	19581.84	2.234E+01	-2.325E+01	6.617E+00	1.434E+01	2.096E+01
.0500	.680	1.313	9439.63	6.628E+00	-6.457E+00	1.209E+00	2.294E+00	3.503E+00
.1000	1.361	1.994	6218.71	3.306E+00	-3.048E+00	4.565E-01	7.761E-01	1.233E+00
.2000	2.721	3.354	3696.28	1.389E+00	-1.161E+00	1.355E-01	1.895E-01	3.251E-01
.6000	8.164	8.797	1409.46	2.790E-01	-1.655E-01	1.435E-02	1.010E-02	2.444E-02
1.0000	13.606	14.239	870.75	1.258E-01	-5.284E-02	4.718E-03	1.665E-03	6.384E-03
1.5000	20.409	21.042	589.23	6.628E-02	-1.655E-02	1.936E-03	2.415E-04	2.178E-03
2.0000	27.212	27.845	445.27	4.201E-02	-4.642E-03	1.029E-03	2.514E-05	1.055E-03
2.5000	34.015	34.648	357.85	2.953E-02	2.672E-04	6.330E-04	1.037E-07	6.331E-04
3.0000	40.818	41.451	299.12	2.214E-02	2.525E-03	4.257E-04	1.107E-05	4.368E-04
6.0000	81.635	82.269	150.71	7.482E-03	4.284E-03	9.648E-05	6.325E-05	1.597E-04
7.0000	95.241	95.875	129.32	5.884E-03	4.038E-03	6.954E-05	6.548E-05	1.350E-04
8.0000	108.847	109.480	113.25	4.773E-03	3.754E-03	5.225E-05	6.463E-05	1.169E-04

Y III 20P EO= 2.8065E-02 (RYD) N*= 17.9078 MU= 2.0922

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.382	32470.31	3.578E+01	-3.731E+01	1.024E+01	2.227E+01	3.251E+01
.0200	.272	.654	18959.21	1.460E+01	-1.477E+01	2.920E+00	5.977E+00	8.897E+00
.0600	.816	1.198	10347.71	5.321E+00	-5.120E+00	7.106E-01	1.316E+00	2.026E+00
.1000	1.361	1.742	7115.69	2.849E+00	-2.623E+00	2.962E-01	5.024E-01	7.986E-01
.2000	2.721	3.103	3995.66	1.087E+00	-9.081E-01	7.684E-02	1.072E-01	1.840E-01
.6000	8.164	8.545	1450.91	2.010E-01	-1.191E-01	7.229E-03	5.082E-03	1.231E-02
1.0000	13.606	13.988	886.39	8.884E-02	-3.727E-02	2.312E-03	8.140E-04	3.126E-03
1.5000	20.409	20.791	596.35	4.632E-02	-1.158E-02	9.344E-04	1.168E-04	1.051E-03
2.0000	27.212	27.594	449.33	2.921E-02	-3.257E-03	4.933E-04	1.226E-05	5.056E-04
2.5000	34.015	34.397	360.46	2.047E-02	1.870E-04	3.019E-04	5.037E-08	3.019E-04
3.0000	40.818	41.200	300.94	1.531E-02	1.745E-03	2.023E-04	5.254E-06	2.076E-04
3.5000	47.621	48.003	258.29	1.202E-02	2.481E-03	1.453E-04	1.238E-05	1.576E-04
6.0000	81.635	82.017	151.17	5.154E-03	2.939E-03	4.564E-05	2.969E-05	7.532E-05
7.0000	95.241	95.623	129.66	4.047E-03	2.770E-03	3.281E-05	3.075E-05	6.356E-05
8.0000	108.847	109.229	113.51	3.282E-03	2.578E-03	2.464E-05	3.040E-05	5.504E-05

Y III 4D EO= 1.5503E+00 (RYD) N*= 2.4094 MU= 1.5906

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	21.093	587.80	4.883E-01	-2.564E+00	1.264E-01	5.228E+00	5.354E+00
.6000	8.164	29.257	423.78	3.216E-01	-1.279E+00	7.605E-02	1.803E+00	1.880E+00
1.0000	13.606	34.699	357.32	2.586E-01	-8.201E-01	5.834E-02	8.799E-01	9.382E-01
2.0000	27.212	48.305	256.67	1.683E-01	-2.664E-01	3.440E-02	1.293E-01	1.637E-01
3.0000	40.818	61.911	200.26	1.207E-01	-5.775E-02	2.268E-02	7.786E-03	3.047E-02
3.5000	47.621	68.714	180.44	1.047E-01	-4.998E-03	1.892E-02	6.471E-05	1.899E-02
4.0000	54.424	75.517	164.18	9.180E-02	2.978E-02	1.600E-02	2.525E-03	1.852E-02
4.5000	61.227	82.320	150.61	8.131E-02	5.284E-02	1.368E-02	8.666E-03	2.235E-02
5.0000	68.030	89.123	139.12	7.261E-02	6.808E-02	1.181E-02	1.557E-02	2.738E-02
6.0000	81.635	102.729	120.69	5.911E-02	8.422E-02	9.022E-03	2.747E-02	3.650E-02
8.0000	108.847	129.941	95.42	4.166E-02	8.990E-02	5.669E-03	3.959E-02	4.526E-02
10.0000	136.059	157.153	78.90	3.112E-02	8.364E-02	3.825E-03	4.145E-02	4.528E-02
12.0000	163.271	184.364	67.25	2.421E-02	7.483E-02	2.717E-03	3.892E-02	4.164E-02

Y III 5D EO= 7.1290E-01 (RYD) N*= 3.5531 MU= 1.4469

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.700	1278.26	6.552E-01	-3.541E+00	1.047E-01	4.586E+00	4.690E+00
.2000	2.721	12.421	998.22	4.730E-01	-2.435E+00	6.986E-02	2.776E+00	2.846E+00
1.0000	13.606	23.306	532.00	2.101E-01	-7.298E-01	2.586E-02	4.681E-01	4.939E-01
2.0000	27.212	36.911	335.90	1.154E-01	-2.104E-01	1.235E-02	6.162E-02	7.397E-02
3.0000	40.818	50.517	245.43	7.575E-02	-5.286E-02	7.287E-03	5.321E-03	1.261E-02
3.5000	47.621	57.320	216.30	6.372E-02	-1.669E-02	5.850E-03	6.023E-04	6.452E-03
4.0000	54.424	64.123	193.36	5.454E-02	6.204E-03	4.794E-03	9.306E-05	4.887E-03
4.5000	61.227	70.926	174.81	4.733E-02	2.092E-02	3.994E-03	1.171E-03	5.165E-03
8.0000	108.847	118.547	104.59	2.235E-02	4.394E-02	1.489E-03	8.630E-03	1.012E-02
10.0000	136.059	145.759	85.06	1.629E-02	4.081E-02	9.723E-04	9.152E-03	1.012E-02
12.0000	163.271	172.971	71.68	1.245E-02	3.632E-02	6.743E-04	8.604E-03	9.278E-03

Y III 6D EO= 4.2960E-01 (RYD) N*= 4.5771 MU= 1.4229

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.845	2121.18	9.110E-01	-4.884E+00	1.219E-01	5.256E+00	5.378E+00
.2000	2.721	8.566	1447.37	5.435E-01	-2.850E+00	6.360E-02	2.623E+00	2.687E+00
.6000	8.164	14.009	885.07	2.848E-01	-1.260E+00	2.857E-02	8.386E-01	8.672E-01
1.0000	13.606	19.451	637.43	1.856E-01	-6.616E-01	1.684E-02	3.211E-01	3.379E-01
2.0000	27.212	33.057	375.07	9.221E-02	-1.748E-01	7.065E-03	3.808E-02	4.515E-02
3.0000	40.818	46.663	265.71	5.789E-02	-4.431E-02	3.931E-03	3.454E-03	7.385E-03
3.5000	47.621	53.466	231.90	4.800E-02	-1.579E-02	3.097E-03	5.028E-04	3.600E-03
4.0000	54.424	60.269	205.72	4.063E-02	1.912E-03	2.500E-03	8.311E-06	2.509E-03
4.5000	61.227	67.072	184.86	3.494E-02	1.313E-02	2.059E-03	4.357E-04	2.494E-03
5.0000	68.030	73.875	167.83	3.045E-02	2.028E-02	1.722E-03	1.146E-03	2.868E-03
8.0000	108.847	114.692	108.10	1.595E-02	3.034E-02	7.334E-04	3.981E-03	4.714E-03
10.0000	136.059	141.904	87.37	1.151E-02	2.814E-02	4.728E-04	4.237E-03	4.709E-03
12.0000	163.271	169.116	73.31	8.743E-03	2.499E-02	3.249E-04	3.983E-03	4.308E-03

Y III 8D EO= 2.0708E-01 (RYD) N*= 6.5925 MU= 1.4075

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.818	4400.51	1.472E+00	-7.882E+00	1.535E-01	6.600E+00	6.753E+00
.2000	2.721	5.539	2238.53	5.829E-01	-3.145E+00	4.730E-02	2.065E+00	2.113E+00
.6000	8.164	10.981	1129.09	2.350E-01	-1.063E+00	1.524E-02	4.676E-01	4.828E-01
1.0000	13.606	16.423	754.93	1.380E-01	-5.015E-01	7.860E-03	1.558E-01	1.636E-01
2.0000	27.212	30.029	412.88	6.165E-02	-1.201E-01	2.869E-03	1.632E-02	1.919E-02
3.0000	40.818	43.635	284.14	3.706E-02	-3.023E-02	1.507E-03	1.504E-03	3.010E-03
3.5000	47.621	50.438	245.82	3.033E-02	-1.151E-02	1.166E-03	2.518E-04	1.418E-03
4.0000	54.424	57.241	216.60	2.541E-02	-8.900E-05	9.289E-04	1.710E-08	9.289E-04
4.5000	61.227	64.044	193.60	2.168E-02	7.044E-03	7.565E-04	1.198E-04	8.763E-04
6.0000	81.635	84.453	146.81	1.455E-02	1.612E-02	4.494E-04	8.272E-04	1.277E-03
8.0000	108.847	111.665	111.03	9.605E-03	1.780E-02	2.590E-04	1.334E-03	1.593E-03
10.0000	136.059	138.877	89.28	6.878E-03	1.649E-02	1.651E-04	1.423E-03	1.588E-03
12.0000	163.271	166.089	74.65	5.194E-03	1.461E-02	1.126E-04	1.337E-03	1.450E-03

Y III 10D EO= 1.2175E-01 (RYD) N*= 8.5978 MU= 1.4022

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.657	7484.83	2.052E+00	-1.125E+01	1.753E-01	7.905E+00	8.080E+00
.2000	2.721	4.378	2832.23	5.438E-01	-3.006E+00	3.254E-02	1.491E+00	1.524E+00
.6000	8.164	9.820	1262.58	1.860E-01	-8.499E-01	8.543E-03	2.674E-01	2.760E-01
1.0000	13.606	15.262	812.36	1.035E-01	-3.790E-01	4.110E-03	8.266E-02	8.677E-02
2.0000	27.212	28.868	429.49	4.401E-02	-8.653E-02	1.405E-03	8.149E-03	9.554E-03
3.0000	40.818	42.474	291.91	2.596E-02	-2.165E-02	7.196E-04	7.510E-04	1.471E-03
3.5000	47.621	49.277	251.61	2.112E-02	-8.411E-03	5.527E-04	1.314E-04	6.841E-04
4.0000	54.424	56.080	221.09	1.762E-02	-3.963E-04	4.376E-04	3.320E-07	4.379E-04
4.5000	61.227	62.883	197.17	1.498E-02	4.582E-03	3.548E-04	4.977E-05	4.045E-04
5.0000	68.030	69.686	177.92	1.293E-02	7.709E-03	2.930E-04	1.561E-04	4.491E-04
8.0000	108.847	110.504	112.20	6.558E-03	1.203E-02	1.195E-04	6.029E-04	7.224E-04
10.0000	136.059	137.716	90.03	4.681E-03	1.113E-02	7.584E-05	6.437E-04	7.196E-04
12.0000	163.271	164.927	75.18	3.527E-03	9.862E-03	5.156E-05	6.048E-04	6.564E-04

Y III 12D EO= 8.0094E-02 (RYD) N*= 10.6003 MU= 1.3997

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.090	11377.41	2.625E+00	-1.497E+01	1.888E-01	9.207E+00	9.396E+00
.2000	2.721	3.811	3253.43	4.808E-01	-2.708E+00	2.215E-02	1.054E+00	1.076E+00
.6000	8.164	9.253	1339.91	1.484E-01	-6.816E-01	5.120E-03	1.621E-01	1.672E-01
1.0000	13.606	14.696	843.69	8.009E-02	-2.943E-01	2.370E-03	4.800E-02	5.037E-02
2.0000	27.212	28.302	438.09	3.318E-02	-6.549E-02	7.831E-04	4.577E-03	5.360E-03
3.0000	40.818	41.908	295.86	1.938E-02	-1.633E-02	3.955E-04	4.214E-04	8.168E-04
3.5000	47.621	48.710	254.54	1.572E-02	-6.398E-03	3.024E-04	7.519E-05	3.776E-04
4.0000	54.424	55.513	223.34	1.307E-02	-4.159E-04	2.385E-04	3.621E-07	2.389E-04
4.5000	61.227	62.316	198.96	1.110E-02	3.293E-03	1.931E-04	2.547E-05	2.185E-04
5.0000	68.030	69.119	179.38	9.574E-03	5.613E-03	1.593E-04	8.211E-05	2.414E-04
6.0000	81.635	82.725	149.88	7.377E-03	7.954E-03	1.132E-04	1.973E-04	3.105E-04
8.0000	108.847	109.937	112.78	4.829E-03	8.816E-03	6.444E-05	3.222E-04	3.866E-04
10.0000	136.059	137.149	90.40	3.446E-03	8.157E-03	4.094E-05	3.441E-04	3.850E-04
12.0000	163.271	164.361	75.44	2.595E-03	7.224E-03	2.781E-05	3.234E-04	3.513E-04

Y III 16D EO= 4.2207E-02 (RYD) N*= 14.6026 MU= 1.3974

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.574	21590.48	3.705E+00	-2.341E+01	1.981E-01	1.187E+01	1.207E+01
.1000	1.361	1.935	6408.04	7.276E-01	-4.460E+00	2.575E-02	1.451E+00	1.477E+00
.2000	2.721	3.295	3762.35	3.624E-01	-2.090E+00	1.088E-02	5.428E-01	5.537E-01
.6000	8.164	8.738	1418.96	9.984E-02	-4.615E-01	2.190E-03	7.016E-02	7.235E-02
1.0000	13.606	14.180	874.36	5.232E-02	-1.929E-01	9.756E-04	1.989E-02	2.087E-02
2.0000	27.212	27.786	446.22	2.111E-02	-4.185E-02	3.113E-04	1.835E-03	2.146E-03
3.0000	40.818	41.392	299.54	1.222E-02	-1.041E-02	1.555E-04	1.691E-04	3.246E-04
3.5000	47.621	48.195	257.26	9.872E-03	-4.106E-03	1.181E-04	3.063E-05	1.487E-04
4.0000	54.424	54.998	225.44	8.223E-03	-3.356E-04	9.347E-05	2.335E-07	9.370E-05
4.5000	61.227	61.801	200.62	6.958E-03	2.026E-03	7.521E-05	9.567E-06	8.478E-05
5.0000	68.030	68.604	180.73	5.996E-03	3.458E-03	6.199E-05	3.093E-05	9.293E-05
8.0000	108.847	109.422	113.31	3.012E-03	5.469E-03	2.496E-05	1.234E-04	1.484E-04
10.0000	136.059	136.633	90.74	2.145E-03	5.064E-03	1.580E-05	1.321E-04	1.479E-04
12.0000	163.271	163.845	75.67	1.607E-03	4.485E-03	1.064E-05	1.242E-04	1.349E-04

Y III 20D EO= 2.6005E-02 (RYD) N*= 18.6035 MU= 1.3965

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.354	35042.36	4.655E+00	-3.313E+01	1.927E-01	1.464E+01	1.484E+01
.0500	.680	1.034	11989.62	1.130E+00	-7.553E+00	3.320E-02	2.224E+00	2.258E+00
.1000	1.361	1.714	7232.01	5.896E-01	-3.724E+00	1.498E-02	8.966E-01	9.115E-01
.2000	2.721	3.075	4032.07	2.765E-01	-1.616E+00	5.908E-03	3.028E-01	3.087E-01
.6000	8.164	8.517	1455.69	7.212E-02	-3.341E-01	1.114E-03	3.585E-02	3.696E-02
1.0000	13.606	13.960	888.17	3.727E-02	-1.376E-01	4.874E-04	9.970E-03	1.046E-02
2.0000	27.212	27.566	449.79	1.485E-02	-2.953E-02	1.529E-04	9.064E-04	1.059E-03
3.0000	40.818	41.172	301.15	8.580E-03	-7.327E-03	7.619E-05	8.333E-05	1.595E-04
3.5000	47.621	47.975	258.44	6.927E-03	-2.907E-03	5.786E-05	1.529E-05	7.314E-05
4.0000	54.424	54.777	226.35	5.757E-03	-2.487E-04	4.563E-05	1.278E-07	4.576E-05
4.5000	61.227	61.580	201.34	4.867E-03	1.388E-03	3.666E-05	4.473E-06	4.113E-05
5.0000	68.030	68.383	181.31	4.187E-03	2.406E-03	3.013E-05	1.492E-05	4.505E-05

Y III 4F EO= 5.8814E-01 (RYD) N*= 3.9118 MU= .0882

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.002	1549.42	-6.653E-01	3.576E+00	9.538E-02	3.674E+00	3.770E+00
.2000	2.721	10.723	1156.23	-3.537E-01	1.945E+00	3.613E-02	1.456E+00	1.493E+00
.4000	5.442	13.445	922.21	-2.100E-01	1.215E+00	1.597E-02	7.122E-01	7.282E-01
.6000	8.164	16.166	766.97	-1.336E-01	8.288E-01	7.776E-03	3.988E-01	4.065E-01
1.0000	13.606	21.608	573.80	-6.149E-02	4.565E-01	2.200E-03	1.617E-01	1.639E-01
2.0000	27.212	35.214	352.09	-1.215E-02	1.699E-01	1.399E-04	3.649E-02	3.663E-02
3.0000	40.818	48.820	253.97	-2.014E-03	8.795E-02	5.334E-06	1.356E-02	1.357E-02
4.0000	54.424	62.426	198.61	7.143E-04	5.324E-02	8.579E-07	6.354E-03	6.355E-03

Y III 5F EO= 3.7839E-01 (RYD) N*= 4.8770 MU= .1230

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.148	2408.26	-1.476E+00	6.086E+00	3.023E-01	6.849E+00	7.151E+00
.2000	2.721	7.870	1575.52	-6.221E-01	2.790E+00	8.201E-02	2.199E+00	2.281E+00
.4000	5.442	10.591	1170.70	-3.250E-01	1.586E+00	3.012E-02	9.572E-01	9.873E-01
.8000	10.885	16.033	773.31	-1.204E-01	7.111E-01	6.255E-03	2.911E-01	2.974E-01
1.0000	13.606	18.754	661.11	-7.974E-02	5.240E-01	3.212E-03	1.849E-01	1.881E-01
2.0000	27.212	32.360	383.14	-1.433E-02	1.809E-01	1.791E-04	3.801E-02	3.819E-02
3.0000	40.818	45.966	269.73	-2.406E-03	9.082E-02	7.169E-06	1.361E-02	1.362E-02
4.0000	54.424	59.572	208.13	6.468E-04	5.411E-02	6.712E-07	6.264E-03	6.264E-03

Y III 6F EO= 2.6216E-01 (RYD) N*= 5.8592 MU= .1408

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.567	3476.06	-2.518E+00	8.496E+00	6.091E-01	9.245E+00	9.854E+00
.2000	2.721	6.288	1971.78	-8.240E-01	3.223E+00	1.150E-01	2.345E+00	2.460E+00
.4000	5.442	9.009	1376.21	-3.840E-01	1.684E+00	3.578E-02	9.179E-01	9.537E-01
.8000	10.885	14.452	857.94	-1.278E-01	6.980E-01	6.354E-03	2.528E-01	2.592E-01
1.0000	13.606	17.173	721.99	-8.222E-02	5.035E-01	3.126E-03	1.563E-01	1.594E-01
2.0000	27.212	30.779	402.83	-1.384E-02	1.651E-01	1.587E-04	3.014E-02	3.029E-02
3.0000	40.818	44.385	279.35	-2.318E-03	8.132E-02	6.423E-06	1.054E-02	1.055E-02
4.0000	54.424	57.991	213.80	5.367E-04	4.798E-02	4.498E-07	4.794E-03	4.794E-03

Y III 8F EO= 1.4632E-01 (RYD) N*= 7.8427 MU= .1573

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.991	6227.73	-5.287E+00	1.341E+01	1.499E+00	1.286E+01	1.436E+01
.2000	2.721	4.712	2631.26	-1.027E+00	3.409E+00	1.339E-01	1.966E+00	2.100E+00
.4000	5.442	7.433	1668.00	-4.013E-01	1.560E+00	3.224E-02	6.498E-01	6.820E-01
.8000	10.885	12.876	962.96	-1.156E-01	5.815E-01	4.638E-03	1.563E-01	1.610E-01
1.0000	13.606	15.597	794.95	-7.178E-02	4.085E-01	2.164E-03	9.344E-02	9.560E-02
2.0000	27.212	29.203	424.57	-1.117E-02	1.262E-01	9.819E-05	1.671E-02	1.681E-02
3.0000	40.818	42.809	289.63	-1.857E-03	6.084E-02	3.974E-06	5.691E-03	5.695E-03
4.0000	54.424	56.415	219.78	3.713E-04	3.552E-02	2.094E-07	2.556E-03	2.556E-03

Y III 10F EO= 9.3038E-02 (RYD) N*= 9.8354 MU= .1646

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.266	9794.55	-8.947E+00	1.867E+01	2.729E+00	1.584E+01	1.857E+01
.1000	1.361	2.626	4720.66	-2.347E+00	6.207E+00	3.895E-01	3.633E+00	4.023E+00
.4000	5.442	6.708	1848.27	-3.645E-01	1.332E+00	2.401E-02	4.277E-01	4.517E-01
.6000	8.164	9.429	1314.89	-1.737E-01	7.347E-01	7.662E-03	1.828E-01	1.904E-01
.8000	10.885	12.151	1020.41	-9.657E-02	4.664E-01	3.052E-03	9.493E-02	9.798E-02
1.0000	13.606	14.872	833.70	-5.878E-02	3.229E-01	1.384E-03	5.570E-02	5.708E-02
2.0000	27.212	28.478	435.38	-8.783E-03	9.676E-02	5.917E-05	9.575E-03	9.634E-03
3.0000	40.818	42.084	294.62	-1.451E-03	4.615E-02	2.386E-06	3.218E-03	3.220E-03
4.0000	54.424	55.690	222.64	2.694E-04	2.680E-02	1.089E-07	1.436E-03	1.436E-03

Y III 12F EO= 6.4293E-02 (RYD) N*= 11.8315 MU= .1685

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.875	14173.75	-1.347E+01	2.435E+01	4.275E+00	1.862E+01	2.290E+01
.0500	.680	1.555	7973.11	-4.802E+00	1.047E+01	9.659E-01	6.116E+00	7.082E+00
.1000	1.361	2.235	5546.61	-2.457E+00	6.030E+00	3.635E-01	2.918E+00	3.282E+00
.2000	2.721	3.596	3447.95	-9.912E-01	2.850E+00	9.514E-02	1.049E+00	1.144E+00
.4000	5.442	6.317	1962.70	-3.175E-01	1.120E+00	1.716E-02	2.848E-01	3.019E-01
.6000	8.164	9.038	1371.79	-1.464E-01	6.025E-01	5.214E-03	1.178E-01	1.230E-01
.8000	10.885	11.759	1054.35	-7.990E-02	3.774E-01	2.022E-03	6.013E-02	6.216E-02
1.0000	13.606	14.481	856.22	-4.807E-02	2.591E-01	9.011E-04	3.490E-02	3.580E-02
2.0000	27.212	28.087	441.44	-7.017E-03	7.626E-02	3.724E-05	5.865E-03	5.902E-03
3.0000	40.818	41.693	297.38	-1.156E-03	3.615E-02	1.500E-06	1.957E-03	1.958E-03

Y III 16F EO= 3.5925E-02 (RYD) N*= 15.8278 MU= .1722

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.489	25365.53	-2.501E+01	3.704E+01	8.234E+00	2.408E+01	3.231E+01
.0500	.680	1.169	10605.33	-5.343E+00	1.039E+01	8.988E-01	4.530E+00	5.429E+00
.1000	1.361	1.849	6704.17	-2.309E+00	5.209E+00	2.655E-01	1.802E+00	2.067E+00
.2000	2.721	3.210	3862.52	-8.120E-01	2.206E+00	5.699E-02	5.607E-01	6.177E-01
.4000	5.442	5.931	2090.42	-2.370E-01	8.063E-01	8.972E-03	1.384E-01	1.474E-01
.6000	8.164	8.652	1432.98	-1.053E-01	4.217E-01	2.584E-03	5.526E-02	5.785E-02
.8000	10.885	11.374	1090.13	-5.638E-02	2.603E-01	9.737E-04	2.768E-02	2.866E-02
1.0000	13.606	14.095	879.67	-3.350E-02	1.771E-01	4.260E-04	1.588E-02	1.631E-02
2.0000	27.212	27.701	447.59	-4.779E-03	5.120E-02	1.704E-05	2.607E-03	2.624E-03

Y III 20F EO= 2.2896E-02 (RYD) N*= 19.8261 MU= .1739

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.312	39799.50	-3.974E+01	5.149E+01	1.325E+01	2.965E+01	4.290E+01
.0200	.272	.584	21243.43	-1.332E+01	2.071E+01	2.790E+00	8.991E+00	1.178E+01
.0600	.816	1.128	10992.84	-4.118E+00	7.840E+00	5.150E-01	2.490E+00	3.005E+00
.2000	2.721	3.033	4088.30	-6.514E-01	1.721E+00	3.465E-02	3.224E-01	3.571E-01
.4000	5.442	5.754	2154.82	-1.811E-01	6.053E-01	5.080E-03	7.571E-02	8.079E-02
.8000	10.885	11.196	1107.39	-4.183E-02	1.914E-01	5.277E-04	1.472E-02	1.525E-02
1.0000	13.606	13.917	890.87	-2.470E-02	1.297E-01	2.287E-04	8.404E-03	8.633E-03
2.0000	27.212	27.523	450.48	-3.506E-03	3.717E-02	9.113E-06	1.366E-03	1.375E-03

ZR IV 5S EO= 2.1604E+00 (RYD) N*= 2.7214 MU= 2.2786

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	29.394	421.81	.000	3.086E-01	.000	1.759E-01	1.759E-01
1.0000	13.606	43.000	288.34	.000	2.140E-01	.000	1.237E-01	1.237E-01
2.0000	27.212	56.606	219.03	.000	1.583E-01	.000	8.916E-02	8.916E-02
6.0000	81.635	111.029	111.67	.000	7.120E-02	.000	3.537E-02	3.537E-02

ZR IV 6S EO= 1.1329E+00 (RYD) N*= 3.7581 MU= 2.2419

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	15.414	804.38	.000	4.908E-01	.000	2.333E-01	2.333E-01
1.0000	13.606	29.020	427.25	.000	2.435E-01	.000	1.081E-01	1.081E-01
2.0000	27.212	42.626	290.87	.000	1.516E-01	.000	6.156E-02	6.156E-02
10.0000	136.059	151.473	81.85	.000	2.995E-02	.000	8.539E-03	8.539E-03

ZR IV 8S EO= 4.7950E-01 (RYD) N*= 5.7765 MU= 2.2235

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.524	1900.46	.000	9.412E-01	.000	3.632E-01	3.632E-01
1.0000	13.606	20.130	615.93	.000	2.352E-01	.000	6.997E-02	6.997E-02
3.0000	40.818	47.342	261.90	.000	7.451E-02	.000	1.652E-02	1.652E-02
6.0000	81.635	88.160	140.64	.000	3.245E-02	.000	5.834E-03	5.834E-03

ZR IV 10S EO= 2.6420E-01 (RYD) N*= 7.7821 MU= 2.2179

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.595	3449.21	.000	1.479E+00	.000	4.941E-01	4.941E-01
.5000	6.803	10.398	1192.45	.000	3.901E-01	.000	9.943E-02	9.943E-02
1.0000	13.606	17.201	720.83	.000	1.969E-01	.000	4.189E-02	4.189E-02
3.0000	40.818	44.412	279.17	.000	5.313E-02	.000	7.880E-03	7.880E-03
6.0000	81.635	85.230	145.47	.000	2.193E-02	.000	2.576E-03	2.576E-03

ZR IV 12S EO= 1.6712E-01 (RYD) N*= 9.7845 MU= 2.2155

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.274	5452.64	.000	2.095E+00	.000	6.272E-01	6.272E-01
.5000	6.803	9.077	1365.96	.000	3.483E-01	.000	6.918E-02	6.918E-02
1.0000	13.606	15.880	780.78	.000	1.603E-01	.000	2.564E-02	2.564E-02
2.0000	27.212	29.486	420.50	.000	6.736E-02	.000	8.408E-03	8.408E-03
4.0000	54.424	56.698	218.68	.000	2.719E-02	.000	2.635E-03	2.635E-03

ZR IV 16S EO= 8.4179E-02 (RYD) N*= 13.7866 MU= 2.2134

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.145	10825.32	.000	3.544E+00	.000	9.042E-01	9.042E-01
.2000	2.721	3.867	3206.66	.000	7.124E-01	.000	1.233E-01	1.233E-01
.6000	8.164	9.309	1331.91	.000	2.090E-01	.000	2.556E-02	2.556E-02
1.0000	13.606	14.751	840.51	.000	1.089E-01	.000	1.100E-02	1.100E-02
2.0000	27.212	28.357	437.23	.000	4.312E-02	.000	3.313E-03	3.313E-03

ZR IV 20S EO= 5.0570E-02 (RYD) N*= 17.7874 MU= 2.2126

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.688	18019.91	.000	5.266E+00	.000	1.199E+00	1.199E+00
.1000	1.361	2.049	6052.12	.000	1.220E+00	.000	1.917E-01	1.917E-01
.2000	2.721	3.409	3636.78	.000	6.000E-01	.000	7.714E-02	7.714E-02
.4000	5.442	6.130	2022.48	.000	2.622E-01	.000	2.649E-02	2.649E-02
.8000	10.885	11.573	1071.36	.000	1.062E-01	.000	8.198E-03	8.198E-03
1.0000	13.606	14.294	867.40	.000	7.855E-02	.000	5.542E-03	5.542E-03

ZR IV 5P EO= 1.7758E+00 (RYD) N*= 3.0016 MU= 1.9984

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	24.162	513.15	7.027E-01	-3.354E-01	2.499E-01	1.139E-01	3.638E-01
.0500	.680	24.842	499.10	6.725E-01	-3.059E-01	2.354E-01	9.738E-02	3.327E-01
.6000	8.164	32.325	383.56	4.441E-01	-1.084E-01	1.335E-01	1.592E-02	1.494E-01
1.0000	13.606	37.768	328.29	3.478E-01	-4.211E-02	9.568E-02	2.805E-03	9.848E-02
1.5000	20.409	44.571	278.18	2.683E-01	2.560E-03	6.718E-02	1.224E-05	6.720E-02
2.0000	27.212	51.374	241.34	2.148E-01	2.614E-02	4.966E-02	1.470E-03	5.113E-02
3.5000	47.621	71.782	172.73	1.274E-01	4.941E-02	2.442E-02	7.342E-03	3.176E-02
6.0000	81.635	105.797	117.19	6.959E-02	4.883E-02	1.073E-02	1.057E-02	2.130E-02
7.0000	95.241	119.403	103.84	5.760E-02	4.613E-02	8.298E-03	1.065E-02	1.894E-02
8.0000	108.847	133.009	93.22	4.864E-02	4.329E-02	6.593E-03	1.044E-02	1.703E-02

ZR IV 6P EO= 9.7977E-01 (RYD) N*= 4.0411 MU= 1.9589

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	13.331	930.08	1.227E+00	-7.108E-01	4.201E-01	2.822E-01	7.022E-01
.6000	8.164	21.494	576.84	5.652E-01	-1.743E-01	1.438E-01	2.736E-02	1.712E-01
1.0000	13.606	26.937	460.29	3.926E-01	-6.887E-02	8.696E-02	5.352E-03	9.231E-02
1.5000	20.409	33.740	367.48	2.733E-01	-1.050E-02	5.278E-02	1.558E-04	5.293E-02
2.0000	27.212	40.543	305.82	2.036E-01	1.569E-02	3.520E-02	4.181E-04	3.562E-02
2.5000	34.015	47.345	261.88	1.589E-01	2.821E-02	2.505E-02	1.579E-03	2.662E-02
5.0000	68.030	81.360	152.39	6.729E-02	3.706E-02	7.718E-03	4.682E-03	1.240E-02
6.0000	81.635	94.966	130.56	5.271E-02	3.499E-02	5.526E-03	4.871E-03	1.040E-02
7.0000	95.241	108.572	114.20	4.266E-02	3.260E-02	4.139E-03	4.833E-03	8.972E-03

ZR IV 8P EO= 4.3520E-01 (RYD) N*= 6.0634 MU= 1.9366

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.921	2093.90	2.680E+00	-1.794E+00	8.911E-01	7.988E-01	1.690E+00
.2000	2.721	8.642	1434.61	1.435E+00	-7.713E-01	3.727E-01	2.154E-01	5.881E-01
.6000	8.164	14.085	880.28	6.405E-01	-2.232E-01	1.210E-01	2.940E-02	1.504E-01
1.0000	13.606	19.527	634.94	3.739E-01	-7.755E-02	5.720E-02	4.920E-03	6.212E-02
1.5000	20.409	26.330	470.89	2.290E-01	-1.519E-02	2.892E-02	2.544E-04	2.918E-02
2.0000	27.212	33.133	374.21	1.573E-01	7.988E-03	1.718E-02	8.856E-05	1.727E-02
2.5000	34.015	39.936	310.46	1.161E-01	1.764E-02	1.128E-02	5.204E-04	1.180E-02
3.0000	40.818	46.739	265.27	9.003E-02	2.173E-02	7.936E-03	9.243E-04	8.861E-03
3.5000	47.621	53.542	231.57	7.231E-02	2.328E-02	5.864E-03	1.215E-03	7.079E-03
5.0000	68.030	73.951	167.66	4.308E-02	2.264E-02	2.874E-03	1.589E-03	4.463E-03
6.0000	81.635	87.557	141.61	3.290E-02	2.102E-02	1.985E-03	1.621E-03	3.606E-03
7.0000	95.241	101.163	122.56	2.614E-02	1.933E-02	1.448E-03	1.584E-03	3.031E-03

ZR IV 10P EO= 2.4565E-01 (RYD) N*= 8.0706 MU= 1.9294

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.342	3709.66	4.634E+00	-3.299E+00	1.503E+00	1.524E+00	3.027E+00
.0500	.680	4.023	3082.28	3.407E+00	-2.274E+00	9.782E-01	8.711E-01	1.849E+00
.2000	2.721	6.063	2044.82	1.723E+00	-9.645E-01	3.771E-01	2.363E-01	6.134E-01
.6000	8.164	11.506	1077.60	5.941E-01	-2.142E-01	8.507E-02	2.212E-02	1.072E-01
1.0000	13.606	16.948	731.56	3.125E-01	-6.775E-02	3.466E-02	3.259E-03	3.792E-02
1.5000	20.409	23.751	522.02	1.789E-01	-1.336E-02	1.592E-02	1.777E-04	1.610E-02
2.0000	27.212	30.554	405.79	1.182E-01	5.044E-03	8.948E-03	3.257E-05	8.980E-03
2.5000	34.015	37.357	331.90	8.509E-02	1.223E-02	5.666E-03	2.342E-04	5.900E-03
5.0000	68.030	71.372	173.72	2.985E-02	1.544E-02	1.332E-03	7.124E-04	2.044E-03
6.0000	81.635	84.978	145.90	2.257E-02	1.423E-02	9.064E-04	7.210E-04	1.627E-03
7.0000	95.241	98.584	125.77	1.780E-02	1.301E-02	6.542E-04	6.995E-04	1.354E-03

ZR IV 12P EO= 1.5766E-01 (RYD) N*= 10.0738 MU= 1.9262

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.145	5779.81	7.061E+00	-5.201E+00	2.240E+00	2.431E+00	4.671E+00
.1000	1.361	3.506	3536.65	3.119E+00	-2.002E+00	7.142E-01	5.885E-01	1.303E+00
.6000	8.164	10.309	1202.73	5.165E-01	-1.888E-01	5.760E-02	1.539E-02	7.299E-02
1.0000	13.606	15.751	787.16	2.550E-01	-5.629E-02	2.146E-02	2.091E-03	2.355E-02
1.5000	20.409	22.554	549.73	1.406E-01	-1.101E-02	9.343E-03	1.145E-04	9.457E-03
2.0000	27.212	29.357	422.34	9.103E-02	3.560E-03	5.096E-03	1.559E-05	5.112E-03
2.5000	34.015	36.160	342.88	6.466E-02	9.063E-03	3.167E-03	1.244E-04	3.291E-03
5.0000	68.030	70.175	176.68	2.205E-02	1.132E-02	7.147E-04	3.768E-04	1.091E-03
6.0000	81.635	83.781	147.99	1.659E-02	1.040E-02	4.830E-04	3.795E-04	8.625E-04
7.0000	95.241	97.387	127.31	1.304E-02	9.485E-03	3.468E-04	3.670E-04	7.138E-04

ZR IV 16P EO= 8.0747E-02 (RYD) N*= 14.0766 MU= 1.9234

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.099	11285.54	1.327E+01	-1.013E+01	4.051E+00	4.725E+00	8.775E+00
.1000	1.361	2.459	5041.69	3.463E+00	-2.263E+00	6.177E-01	5.278E-01	1.145E+00
.6000	8.164	9.262	1338.63	3.773E-01	-1.393E-01	2.761E-02	7.531E-03	3.514E-02
1.0000	13.606	14.705	843.18	1.744E-01	-3.903E-02	9.364E-03	9.385E-04	1.030E-02
1.5000	20.409	21.508	576.48	9.264E-02	-7.524E-03	3.866E-03	5.101E-05	3.917E-03
2.0000	27.212	28.310	437.95	5.880E-02	2.124E-03	2.050E-03	5.353E-06	2.055E-03
2.5000	34.015	35.113	353.10	4.125E-02	5.659E-03	1.251E-03	4.711E-05	1.298E-03
3.0000	40.818	41.916	295.79	3.087E-02	6.988E-03	8.366E-04	8.576E-05	9.223E-04
3.5000	47.621	48.719	254.49	2.416E-02	7.410E-03	5.954E-04	1.121E-04	7.075E-04

ZR IV 20P EO= 4.8959E-02 (RYD) N*= 18.0778 MU= 1.9222

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.666	18612.94	2.119E+01	-1.649E+01	6.267E+00	7.592E+00	1.386E+01
.0500	.680	1.346	9208.55	6.556E+00	-4.644E+00	1.212E+00	1.216E+00	2.428E+00
.1000	1.361	2.027	6117.58	3.311E+00	-2.178E+00	4.654E-01	4.029E-01	8.683E-01
.2000	2.721	3.387	3660.32	1.402E+00	-8.130E-01	1.395E-01	9.379E-02	2.333E-01
.6000	8.164	8.830	1404.20	2.819E-01	-1.045E-01	1.470E-02	4.039E-03	1.874E-02
1.0000	13.606	14.272	868.74	1.263E-01	-2.842E-02	4.770E-03	4.831E-04	5.253E-03
1.5000	20.409	21.075	588.31	6.600E-02	-5.443E-03	1.923E-03	2.616E-05	1.949E-03
2.0000	27.212	27.878	444.75	4.152E-02	1.446E-03	1.007E-03	2.443E-06	1.009E-03
2.5000	34.015	34.681	357.51	2.898E-02	3.931E-03	6.102E-04	2.246E-05	6.326E-04

ZR IV 4D EO= 2.6167E+00 (RYD) N*= 2.4728 MU= 1.5272

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	35.603	348.25	3.451E-01	-1.082E+00	1.066E-01	1.571E+00	1.678E+00
.1000	1.361	36.963	335.43	3.273E-01	-9.694E-01	9.955E-02	1.310E+00	1.409E+00
.5000	6.803	42.406	292.38	2.698E-01	-6.262E-01	7.757E-02	6.269E-01	7.044E-01
1.0000	13.606	49.209	251.96	2.188E-01	-3.580E-01	5.920E-02	2.378E-01	2.970E-01
2.0000	27.212	62.815	197.38	1.548E-01	-8.901E-02	3.783E-02	1.877E-02	5.660E-02
2.5000	34.015	69.618	178.10	1.336E-01	-2.112E-02	3.124E-02	1.170E-03	3.241E-02
3.0000	40.818	76.421	162.24	1.168E-01	2.378E-02	2.621E-02	1.629E-03	2.784E-02
3.5000	47.621	83.224	148.98	1.032E-01	5.373E-02	2.228E-02	9.057E-03	3.134E-02
4.0000	54.424	90.027	137.72	9.199E-02	7.371E-02	1.915E-02	1.844E-02	3.759E-02
8.0000	108.847	144.450	85.83	4.511E-02	1.026E-01	7.387E-03	5.729E-02	6.468E-02
9.0000	122.453	158.056	78.44	3.921E-02	9.860E-02	6.108E-03	5.794E-02	6.405E-02
10.0000	136.059	171.662	72.23	3.444E-02	9.384E-02	5.117E-03	5.700E-02	6.212E-02

ZR IV 5D EO= 1.2145E+00 (RYD) N*= 3.6297 MU= 1.3703

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	16.524	750.35	5.433E-01	-1.884E+00	1.226E-01	2.210E+00	2.333E+00
.2000	2.721	19.245	644.25	4.345E-01	-1.373E+00	9.131E-02	1.369E+00	1.460E+00
.5000	6.803	23.327	531.52	3.285E-01	-8.889E-01	6.329E-02	6.949E-01	7.582E-01
1.0000	13.606	30.130	411.51	2.271E-01	-4.579E-01	3.906E-02	2.382E-01	2.773E-01
2.0000	27.212	43.736	283.49	1.327E-01	-1.235E-01	1.937E-02	2.516E-02	4.454E-02
2.5000	34.015	50.539	245.33	1.077E-01	-5.425E-02	1.473E-02	5.608E-03	2.034E-02
3.0000	40.818	57.342	216.22	8.960E-02	-1.203E-02	1.157E-02	3.127E-04	1.188E-02
3.5000	47.621	64.144	193.29	7.604E-02	1.441E-02	9.324E-03	5.025E-04	9.826E-03
4.0000	54.424	70.947	174.76	6.556E-02	3.121E-02	7.665E-03	2.606E-03	1.027E-02
6.0000	81.635	98.159	126.31	4.036E-02	5.498E-02	4.019E-03	1.119E-02	1.521E-02
8.0000	108.847	125.371	98.90	2.775E-02	5.509E-02	2.427E-03	1.435E-02	1.677E-02
9.0000	122.453	138.977	89.21	2.364E-02	5.281E-02	1.953E-03	1.461E-02	1.656E-02
10.0000	136.059	152.583	81.26	2.041E-02	5.004E-02	1.598E-03	1.441E-02	1.601E-02

ZR IV 6D EO= 7.3753E-01 (RYD) N*= 4.6577 MU= 1.3423

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.035	1235.56	8.201E-01	-2.868E+00	1.696E-01	3.111E+00	3.281E+00
.5000	6.803	16.838	736.36	3.778E-01	-1.058E+00	6.040E-02	7.109E-01	7.713E-01
1.0000	13.606	23.641	524.46	2.292E-01	-4.860E-01	3.121E-02	2.105E-01	2.417E-01
2.0000	27.212	37.247	332.88	1.177E-01	-1.220E-01	1.298E-02	2.089E-02	3.386E-02
2.5000	34.015	44.050	281.47	9.205E-02	-5.603E-02	9.383E-03	5.213E-03	1.460E-02
3.0000	40.818	50.853	243.82	7.452E-02	-1.778E-02	7.098E-03	6.058E-04	7.704E-03
3.5000	47.621	57.655	215.05	6.190E-02	5.312E-03	5.553E-03	6.133E-05	5.615E-03
4.0000	54.424	64.458	192.35	5.246E-02	1.957E-02	4.459E-03	9.307E-04	5.389E-03
6.0000	81.635	91.670	135.25	3.090E-02	3.902E-02	2.201E-03	5.261E-03	7.462E-03
8.0000	108.847	118.882	104.29	2.074E-02	3.918E-02	1.285E-03	6.881E-03	8.165E-03
9.0000	122.453	132.488	93.58	1.751E-02	3.748E-02	1.021E-03	7.019E-03	8.040E-03
10.0000	136.059	146.094	84.87	1.501E-02	3.544E-02	8.278E-04	6.919E-03	7.747E-03

ZR IV 8D EO= 3.5902E-01 (RYD) N*= 6.6757 MU= 1.3243

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.885	2538.17	1.507E+00	-5.226E+00	2.789E-01	5.031E+00	5.310E+00
.5000	6.803	11.688	1060.82	3.968E-01	-1.136E+00	4.625E-02	5.691E-01	6.153E-01
1.0000	13.606	18.491	670.53	1.994E-01	-4.371E-01	1.849E-02	1.332E-01	1.517E-01
2.0000	27.212	32.097	386.29	8.776E-02	-9.755E-02	6.213E-03	1.152E-02	1.773E-02
2.5000	34.015	38.900	318.73	6.594E-02	-4.522E-02	4.252E-03	2.999E-03	7.251E-03
3.0000	40.818	45.703	271.29	5.188E-02	-1.642E-02	3.091E-03	4.644E-04	3.556E-03
3.5000	47.621	52.506	236.14	4.217E-02	3.117E-04	2.347E-03	1.923E-07	2.347E-03
4.0000	54.424	59.309	209.05	3.514E-02	1.035E-02	1.841E-03	2.394E-04	2.080E-03
6.0000	81.635	86.520	143.30	1.985E-02	2.353E-02	8.572E-04	1.806E-03	2.663E-03
8.0000	108.847	113.732	109.02	1.303E-02	2.364E-02	4.852E-04	2.397E-03	2.883E-03
9.0000	122.453	127.338	97.37	1.092E-02	2.258E-02	3.817E-04	2.447E-03	2.829E-03
10.0000	136.059	140.944	87.97	9.304E-03	2.130E-02	3.067E-04	2.411E-03	2.717E-03

ZR IV 10D EO= 2.1227E-01 (RYD) N*= 8.6820 MU= 1.3180

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.888	4293.05	2.340E+00	-8.065E+00	3.974E-01	7.082E+00	7.480E+00
.2000	2.721	5.609	2210.39	8.342E-01	-2.748E+00	9.811E-02	1.597E+00	1.695E+00
.5000	6.803	9.691	1279.39	3.624E-01	-1.047E+00	3.199E-02	4.002E-01	4.322E-01
1.0000	13.606	16.494	751.71	1.624E-01	-3.599E-01	1.093E-02	8.055E-02	9.148E-02
2.0000	27.212	30.100	411.92	6.593E-02	-7.508E-02	3.288E-03	6.397E-03	9.686E-03
3.0000	40.818	43.706	283.68	3.774E-02	-1.303E-02	1.564E-03	2.800E-04	1.844E-03
3.5000	47.621	50.509	245.47	3.038E-02	-6.679E-04	1.172E-03	8.496E-07	1.173E-03
4.0000	54.424	57.312	216.34	2.513E-02	6.652E-03	9.096E-04	9.561E-05	1.005E-03
6.0000	81.635	84.524	146.69	1.394E-02	1.611E-02	4.129E-04	8.270E-04	1.240E-03
8.0000	108.847	111.735	110.96	9.062E-03	1.619E-02	2.307E-04	1.104E-03	1.335E-03
9.0000	122.453	125.341	98.92	7.569E-03	1.544E-02	1.805E-04	1.126E-03	1.307E-03
10.0000	136.059	138.947	89.23	6.435E-03	1.456E-02	1.446E-04	1.110E-03	1.254E-03

ZR IV 12D EO= 1.4014E-01 (RYD) N*= 10.6850 MU= 1.3150

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.907	6502.39	3.299E+00	-1.135E+01	5.216E-01	9.268E+00	9.789E+00
.1000	1.361	3.267	3794.68	1.419E+00	-4.850E+00	1.653E-01	2.898E+00	3.064E+00
.2000	2.721	4.628	2679.07	8.289E-01	-2.746E+00	7.992E-02	1.316E+00	1.396E+00
.5000	6.803	8.710	1423.54	3.154E-01	-9.153E-01	2.179E-02	2.751E-01	2.969E-01
1.0000	13.606	15.513	799.26	1.317E-01	-2.933E-01	6.759E-03	5.031E-02	5.707E-02
2.0000	27.212	29.119	425.80	5.108E-02	-5.883E-02	1.909E-03	3.799E-03	5.709E-03
2.5000	34.015	35.922	345.16	3.728E-02	-2.712E-02	1.255E-03	9.961E-04	2.251E-03
3.0000	40.818	42.725	290.20	2.874E-02	-1.033E-02	8.870E-04	1.718E-04	1.059E-03
3.5000	47.621	49.527	250.34	2.302E-02	-8.322E-04	6.594E-04	1.293E-06	6.607E-04
4.0000	54.424	56.330	220.11	1.896E-02	4.749E-03	5.090E-04	4.789E-05	5.569E-04
6.0000	81.635	83.542	148.41	1.042E-02	1.189E-02	2.281E-04	4.455E-04	6.736E-04
8.0000	108.847	110.754	111.95	6.745E-03	1.195E-02	1.266E-04	5.962E-04	7.229E-04
9.0000	122.453	124.360	99.70	5.627E-03	1.139E-02	9.896E-05	6.087E-04	7.077E-04
10.0000	136.059	137.966	89.87	4.774E-03	1.073E-02	7.904E-05	5.991E-04	6.781E-04

ZR IV 16D EO= 7.4168E-02 (RYD) N*= 14.6876 MU= 1.3124

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.009	12286.53	5.554E+00	-1.921E+01	7.825E-01	1.405E+01	1.483E+01
.1000	1.361	2.370	5232.12	1.455E+00	-5.031E+00	1.261E-01	2.261E+00	2.388E+00
.2000	2.721	3.730	3323.76	7.226E-01	-2.414E+00	4.896E-02	8.195E-01	8.685E-01
.5000	6.803	7.812	1587.11	2.333E-01	-6.802E-01	1.069E-02	1.363E-01	1.470E-01
1.0000	13.606	14.615	848.35	9.018E-02	-2.018E-01	2.987E-03	2.245E-02	2.543E-02
2.0000	27.212	28.221	439.34	3.342E-02	-3.889E-02	7.923E-04	1.609E-03	2.401E-03
2.5000	34.015	35.024	354.00	2.416E-02	-1.787E-02	5.137E-04	4.215E-04	9.352E-04
3.0000	40.818	41.827	296.43	1.850E-02	-6.878E-03	3.597E-04	7.461E-05	4.344E-04
3.5000	47.621	48.630	254.96	1.474E-02	-7.222E-04	2.656E-04	9.563E-07	2.666E-04
4.0000	54.424	55.433	223.67	1.210E-02	2.872E-03	2.039E-04	1.724E-05	2.211E-04
6.0000	81.635	82.645	150.02	6.591E-03	7.431E-03	9.025E-05	1.721E-04	2.623E-04

ZR IV 20D EO= 4.5810E-02 (RYD) N*= 18.6887 MU= 1.3113

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.623	19892.36	8.218E+00	-2.870E+01	1.058E+00	1.935E+01	2.041E+01
.0500	.680	1.304	9511.20	2.565E+00	-9.059E+00	2.156E-01	4.034E+00	4.249E+00
.1000	1.361	1.984	6249.70	1.336E+00	-4.661E+00	8.898E-02	1.625E+00	1.714E+00
.2000	2.721	3.344	3707.20	5.976E-01	-2.007E+00	3.002E-02	5.078E-01	5.378E-01
.5000	6.803	7.426	1669.57	1.764E-01	-5.154E-01	5.811E-03	7.439E-02	8.020E-02
1.0000	13.606	14.229	871.35	6.565E-02	-1.473E-01	1.542E-03	1.164E-02	1.318E-02
2.0000	27.212	27.835	445.43	2.384E-02	-2.786E-02	3.976E-04	8.143E-04	1.212E-03
2.5000	34.015	34.638	357.95	1.715E-02	-1.277E-02	2.561E-04	2.130E-04	4.691E-04
3.0000	40.818	41.441	299.19	1.308E-02	-4.941E-03	1.783E-04	3.814E-05	2.165E-04
3.5000	47.621	48.244	257.00	1.041E-02	-5.424E-04	1.313E-04	5.351E-07	1.318E-04
4.0000	54.424	55.047	225.24	8.541E-03	1.967E-03	1.009E-04	8.029E-06	1.090E-04
6.0000	81.635	82.259	150.73	4.632E-03	5.197E-03	4.437E-05	8.377E-05	1.281E-04
8.0000	108.847	109.471	113.26	2.975E-03	5.225E-03	2.435E-05	1.127E-04	1.370E-04
9.0000	122.453	123.077	100.74	2.472E-03	4.966E-03	1.890E-05	1.144E-04	1.333E-04
10.0000	136.059	136.682	90.71	2.101E-03	4.680E-03	1.517E-05	1.129E-04	1.280E-04

ZR IV 4F EO= 1.0970E+00 (RYD) N*= 3.8191 MU= .1809

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	14.925	830.72	-2.271E-01	2.347E+00	2.073E-02	2.953E+00	2.974E+00
.5000	6.803	21.728	570.63	-8.139E-02	1.148E+00	3.876E-03	1.028E+00	1.032E+00
1.0000	13.606	28.531	434.57	-3.180E-02	6.812E-01	7.770E-04	4.754E-01	4.762E-01
2.0000	27.212	42.137	294.25	-1.932E-03	3.211E-01	4.237E-06	1.560E-01	1.560E-01
3.0000	40.818	55.743	222.43	4.716E-03	1.856E-01	3.339E-05	6.898E-02	6.901E-02

ZR IV 5F EO= 7.0362E-01 (RYD) N*= 4.7686 MU= .2314

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.573	1295.12	-5.074E-01	3.634E+00	6.639E-02	4.540E+00	4.606E+00
.5000	6.803	16.376	757.11	-1.367E-01	1.470E+00	8.244E-03	1.271E+00	1.279E+00
1.0000	13.606	23.179	534.90	-4.729E-02	7.959E-01	1.396E-03	5.272E-01	5.286E-01
2.0000	27.212	36.785	337.06	-3.537E-03	3.431E-01	1.239E-05	1.555E-01	1.555E-01
3.0000	40.818	50.391	246.05	4.700E-03	1.901E-01	2.998E-05	6.537E-02	6.540E-02

ZR IV 6F EO= 4.8451E-01 (RYD) N*= 5.7466 MU= .2534

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.592	1880.79	-8.778E-01	4.759E+00	1.368E-01	5.362E+00	5.499E+00
.5000	6.803	13.395	925.60	-1.728E-01	1.564E+00	1.078E-02	1.176E+00	1.187E+00
1.0000	13.606	20.198	613.85	-5.336E-02	7.816E-01	1.549E-03	4.431E-01	4.447E-01
2.0000	27.212	33.804	366.78	-4.030E-03	3.148E-01	1.479E-05	1.203E-01	1.203E-01
3.0000	40.818	47.410	261.52	4.157E-03	1.693E-01	2.206E-05	4.877E-02	4.879E-02

ZR IV 8F EO= 2.6791E-01 (RYD) N*= 7.7280 MU= .2720

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.645	3401.41	-1.912E+00	6.924E+00	3.588E-01	6.276E+00	6.635E+00
.5000	6.803	10.448	1186.69	-1.999E-01	1.482E+00	1.124E-02	8.240E-01	8.353E-01
1.0000	13.606	17.251	718.72	-5.203E-02	6.581E-01	1.258E-03	2.683E-01	2.696E-01
2.0000	27.212	30.857	401.81	-3.740E-03	2.429E-01	1.163E-05	6.538E-02	6.539E-02
3.0000	40.818	44.463	278.85	3.095E-03	1.261E-01	1.147E-05	2.539E-02	2.540E-02
4.0000	54.424	58.069	213.52	4.093E-03	7.684E-02	2.620E-05	1.231E-02	1.234E-02

ZR IV 10F EO= 1.6934E-01 (RYD) N*= 9.7204 MU= .2796

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.304	5381.41	-3.347E+00	9.137E+00	6.952E-01	6.907E+00	7.603E+00
.5000	6.803	9.107	1361.45	-1.938E-01	1.294E+00	9.212E-03	5.475E-01	5.567E-01
1.0000	13.606	15.910	779.30	-4.525E-02	5.329E-01	8.775E-04	1.623E-01	1.631E-01
2.0000	27.212	29.516	420.07	-3.118E-03	1.873E-01	7.730E-06	3.719E-02	3.720E-02
3.0000	40.818	43.122	287.53	2.350E-03	9.549E-02	6.412E-06	1.412E-02	1.413E-02
4.0000	54.424	56.728	218.56	3.104E-03	5.765E-02	1.472E-05	6.770E-03	6.784E-03

ZR IV 12F EO= 1.1655E-01 (RYD) N*= 11.7166 MU= .2834

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.586	7818.57	-5.184E+00	1.145E+01	1.148E+00	7.467E+00	8.614E+00
.2000	2.721	4.307	2878.73	-7.486E-01	2.951E+00	6.499E-02	1.347E+00	1.412E+00
.6000	8.164	9.749	1271.74	-1.233E-01	8.777E-01	3.990E-03	2.697E-01	2.737E-01
1.0000	13.606	15.192	816.14	-3.834E-02	4.339E-01	6.014E-04	1.027E-01	1.033E-01
2.0000	27.212	28.798	430.54	-2.574E-03	1.481E-01	5.139E-06	2.269E-02	2.269E-02
3.0000	40.818	42.404	292.40	1.839E-03	7.473E-02	3.863E-06	8.503E-03	8.507E-03
4.0000	54.424	56.009	221.37	2.434E-03	4.488E-02	8.937E-06	4.050E-03	4.059E-03

ZR IV 16F EO= 6.4805E-02 (RYD) N*= 15.7129 MU= .2871

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.882	14061.78	-1.004E+01	1.643E+01	2.393E+00	8.545E+00	1.094E+01
.1000	1.361	2.242	5529.38	-1.773E+00	4.741E+00	1.898E-01	1.810E+00	2.000E+00
.2000	2.721	3.603	3441.28	-6.963E-01	2.453E+00	4.705E-02	7.783E-01	8.254E-01
.6000	8.164	9.045	1370.73	-9.408E-02	6.330E-01	2.156E-03	1.301E-01	1.323E-01
1.0000	13.606	14.488	855.81	-2.773E-02	3.013E-01	3.000E-04	4.724E-02	4.754E-02
2.0000	27.212	28.094	441.33	-1.797E-03	9.978E-02	2.443E-06	1.004E-02	1.005E-02
3.0000	40.818	41.699	297.33	1.231E-03	4.979E-02	1.701E-06	3.712E-03	3.713E-03
4.0000	54.424	55.305	224.18	1.621E-03	2.972E-02	3.914E-06	1.755E-03	1.758E-03

ZR IV 2OF EO= 4.1180E-02 (RYD) N*= 19.7113 MU= .2887

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.560	22128.74	-1.643E+01	2.188E+01	4.075E+00	9.634E+00	1.371E+01
.0500	.680	1.241	9994.13	-3.894E+00	7.612E+00	5.065E-01	2.581E+00	3.088E+00
.2000	2.721	3.281	3778.37	-5.999E-01	1.996E+00	3.181E-02	4.695E-01	5.013E-01
.6000	8.164	8.724	1421.23	-7.264E-02	4.757E-01	1.240E-03	7.088E-02	7.212E-02
1.0000	13.606	14.166	875.23	-2.084E-02	2.222E-01	1.657E-04	2.512E-02	2.528E-02
2.0000	27.212	27.772	446.44	-1.329E-03	7.247E-02	1.321E-06	5.237E-03	5.239E-03
3.0000	40.818	41.378	299.64	8.895E-04	3.599E-02	8.817E-07	1.924E-03	1.925E-03
4.0000	54.424	54.984	225.50	1.174E-03	2.144E-02	2.041E-06	9.079E-04	9.099E-04

NB V 5S EO= 2.9822E+00 (RYD) N*= 2.8954 MU= 2.1046

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	40.576	305.57	.000	2.618E-01	.000	1.747E-01	1.747E-01
2.0000	27.212	67.787	182.90	.000	1.490E-01	.000	9.463E-02	9.463E-02
6.0000	81.635	122.211	101.45	.000	7.278E-02	.000	4.068E-02	4.068E-02

NB V 6S EO= 1.6194E+00 (RYD) N*= 3.9291 MU= 2.0709

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	22.033	562.72	.000	4.103E-01	.000	2.331E-01	2.331E-01
2.0000	27.212	49.245	251.77	.000	1.548E-01	.000	7.416E-02	7.416E-02
6.0000	81.635	103.669	119.60	.000	5.875E-02	.000	2.249E-02	2.249E-02
12.0000	163.271	185.304	66.91	.000	2.735E-02	.000	8.714E-03	8.714E-03

NB V 8S EO= 7.0687E-01 (RYD) N*= 5.9470 MU= 2.0530

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.618	1289.16	.000	7.836E-01	.000	3.711E-01	3.711E-01
2.0000	27.212	36.829	336.65	.000	1.344E-01	.000	4.183E-02	4.183E-02
6.0000	81.635	91.253	135.87	.000	3.871E-02	.000	8.591E-03	8.591E-03
12.0000	163.271	172.889	71.71	.000	1.632E-02	.000	2.893E-03	2.893E-03

NB V 10S EO= 3.9529E-01 (RYD) N*= 7.9526 MU= 2.0474

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.378	2305.31	.000	1.239E+00	.000	5.188E-01	5.188E-01
2.0000	27.212	32.590	380.44	.000	1.070E-01	.000	2.346E-02	2.346E-02
4.0000	54.424	59.802	207.33	.000	4.558E-02	.000	7.808E-03	7.808E-03
8.0000	108.847	114.226	108.55	.000	1.864E-02	.000	2.493E-03	2.493E-03

NB V 12S EO= 2.5226E-01 (RYD) N*= 9.9551 MU= 2.0449

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.432	3612.44	.000	1.769E+00	.000	6.748E-01	6.748E-01
2.0000	27.212	30.644	404.60	.000	8.492E-02	.000	1.389E-02	1.389E-02
4.0000	54.424	57.856	214.30	.000	3.443E-02	.000	4.309E-03	4.309E-03

NB V 16S EO= 1.2833E-01 (RYD) N*= 13.9573 MU= 2.0427

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.746	7100.79	.000	3.037E+00	.000	1.012E+00	1.012E+00
.2000	2.721	4.467	2775.44	.000	8.300E-01	.000	1.934E-01	1.934E-01
.5000	6.803	8.549	1450.29	.000	3.287E-01	.000	5.806E-02	5.806E-02
1.0000	13.606	15.352	807.62	.000	1.413E-01	.000	1.925E-02	1.925E-02
2.0000	27.212	28.958	428.16	.000	5.639E-02	.000	5.787E-03	5.787E-03

NB V 20S EO= 7.7521E-02 (RYD) N*= 17.9581 MU= 2.0419

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.055	11755.15	.000	4.568E+00	.000	1.383E+00	1.383E+00
.1000	1.361	2.415	5133.30	.000	1.427E+00	.000	3.090E-01	3.090E-01
.6000	8.164	9.218	1345.00	.000	2.059E-01	.000	2.456E-02	2.456E-02
1.0000	13.606	14.661	845.71	.000	1.048E-01	.000	1.011E-02	1.011E-02
2.0000	27.212	28.267	438.63	.000	4.029E-02	.000	2.883E-03	2.883E-03

NB V 5P EO= 2.5178E+00 (RYD) N*= 3.1511 MU= 1.8489

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	34.257	361.93	4.919E-01	-8.837E-02	1.736E-01	1.121E-02	1.848E-01
.0500	.680	34.937	354.89	4.768E-01	-7.817E-02	1.664E-01	8.944E-03	1.753E-01
.4000	5.442	39.699	312.32	3.893E-01	-2.445E-02	1.260E-01	9.941E-04	1.270E-01
.6000	8.164	42.420	292.28	3.505E-01	-3.773E-03	1.091E-01	2.529E-05	1.092E-01
.8000	10.885	45.141	274.66	3.176E-01	1.201E-02	9.538E-02	2.729E-04	9.565E-02
1.0000	13.606	47.863	259.05	2.895E-01	2.415E-02	8.403E-02	1.169E-03	8.519E-02
2.0000	27.212	61.468	201.71	1.949E-01	5.406E-02	4.893E-02	7.527E-03	5.646E-02
3.0000	40.818	75.074	165.15	1.422E-01	6.146E-02	3.180E-02	1.188E-02	4.368E-02
5.0000	68.030	102.286	121.22	8.733E-02	5.881E-02	1.634E-02	1.482E-02	3.116E-02
6.0000	81.635	115.892	106.98	7.172E-02	5.534E-02	1.249E-02	1.487E-02	2.736E-02
7.0000	95.241	129.498	95.74	6.020E-02	5.174E-02	9.829E-03	1.452E-02	2.435E-02

NB V 6P EO= 1.4252E+00 (RYD) N*= 4.1882 MU= 1.8118

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	19.391	639.39	8.428E-01	-2.575E-01	2.885E-01	5.388E-02	3.424E-01
.4000	5.442	24.834	499.27	5.634E-01	-9.210E-02	1.651E-01	8.825E-03	1.739E-01
.6000	8.164	27.555	449.96	4.758E-01	-4.908E-02	1.306E-01	2.781E-03	1.334E-01
.8000	10.885	30.276	409.52	4.083E-01	-1.965E-02	1.057E-01	4.895E-04	1.062E-01
1.0000	13.606	32.997	375.75	3.550E-01	9.287E-04	8.711E-02	1.192E-06	8.711E-02
2.0000	27.212	46.603	266.05	2.030E-01	4.290E-02	4.021E-02	3.594E-03	4.380E-02
3.0000	40.818	60.209	205.93	1.343E-01	5.009E-02	2.273E-02	6.329E-03	2.906E-02
4.0000	54.424	73.815	167.97	9.677E-02	4.902E-02	1.448E-02	7.431E-03	2.191E-02
5.0000	68.030	87.421	141.83	7.378E-02	4.581E-02	9.967E-03	7.686E-03	1.765E-02
6.0000	81.635	101.027	122.73	5.853E-02	4.222E-02	7.250E-03	7.544E-03	1.479E-02

NB V 8P EO= 6.4827E-01 (RYD) N*= 6.2100 MU= 1.7900

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.820	1405.68	1.809E+00	-7.657E-01	6.046E-01	2.166E-01	8.212E-01
.2000	2.721	11.542	1074.26	1.159E+00	-3.751E-01	3.249E-01	6.803E-02	3.930E-01
.6000	8.164	16.984	730.02	6.115E-01	-1.048E-01	1.330E-01	7.821E-03	1.409E-01
.8000	10.885	19.705	629.21	4.781E-01	-5.233E-02	9.436E-02	2.260E-03	9.662E-02
1.0000	13.606	22.426	552.86	3.860E-01	-2.071E-02	6.999E-02	4.030E-04	7.039E-02
2.0000	27.212	36.032	344.10	1.764E-01	2.954E-02	2.350E-02	1.317E-03	2.481E-02
3.0000	40.818	49.638	249.78	1.043E-01	3.478E-02	1.130E-02	2.515E-03	1.382E-02
4.0000	54.424	63.244	196.04	7.018E-02	3.294E-02	6.525E-03	2.874E-03	9.399E-03
5.0000	68.030	76.850	161.34	5.112E-02	2.991E-02	4.206E-03	2.880E-03	7.087E-03
6.0000	81.635	90.456	137.07	3.925E-02	2.695E-02	2.919E-03	2.752E-03	5.671E-03

NB V 10P EO= 3.7025E-01 (RYD) N*= 8.2172 MU= 1.7828

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.038	2461.22	3.102E+00	-1.494E+00	1.015E+00	4.708E-01	1.486E+00
.0500	.680	5.718	2168.39	2.513E+00	-1.125E+00	7.566E-01	3.032E-01	1.060E+00
.2000	2.721	7.759	1598.01	1.513E+00	-5.478E-01	3.720E-01	9.756E-02	4.695E-01
.4000	5.442	10.480	1183.08	9.170E-01	-2.487E-01	1.846E-01	2.715E-02	2.117E-01
.6000	8.164	13.201	939.21	6.241E-01	-1.223E-01	1.077E-01	8.266E-03	1.160E-01
.8000	10.885	15.922	778.69	4.567E-01	-5.971E-02	6.955E-02	2.378E-03	7.193E-02
1.0000	13.606	18.644	665.04	3.511E-01	-2.559E-02	4.813E-02	5.114E-04	4.864E-02
2.0000	27.212	32.249	384.46	1.411E-01	2.154E-02	1.346E-02	6.267E-04	1.408E-02
3.0000	40.818	45.855	270.39	7.886E-02	2.525E-02	5.974E-03	1.224E-03	7.198E-03
4.0000	54.424	59.461	208.52	5.145E-02	2.348E-02	3.297E-03	1.374E-03	4.671E-03
5.0000	68.030	73.067	169.69	3.673E-02	2.103E-02	2.065E-03	1.354E-03	3.419E-03
8.0000	108.847	113.885	108.87	1.786E-02	1.513E-02	7.610E-04	1.092E-03	1.853E-03

NB V 12P EO= 2.3933E-01 (RYD) N*= 10.2205 MU= 1.7795

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.256	3807.56	4.704E+00	-2.430E+00	1.510E+00	8.057E-01	2.315E+00
.0500	.680	3.937	3149.57	3.431E+00	-1.635E+00	9.706E-01	4.408E-01	1.411E+00
.2000	2.721	5.978	2074.22	1.710E+00	-6.521E-01	3.662E-01	1.065E-01	4.727E-01
.4000	5.442	8.699	1425.35	9.139E-01	-2.604E-01	1.522E-01	2.472E-02	1.769E-01
.6000	8.164	11.420	1085.71	5.798E-01	-1.200E-01	8.041E-02	6.893E-03	8.730E-02
1.0000	13.606	16.862	735.29	3.021E-01	-2.464E-02	3.225E-02	4.289E-04	3.267E-02
2.0000	27.212	30.468	406.94	1.126E-01	1.642E-02	8.091E-03	3.441E-04	8.435E-03
3.0000	40.818	44.074	281.31	6.103E-02	1.916E-02	3.438E-03	6.777E-04	4.116E-03
4.0000	54.424	57.680	214.96	3.916E-02	1.764E-02	1.853E-03	7.522E-04	2.605E-03
5.0000	68.030	71.286	173.93	2.767E-02	1.569E-02	1.143E-03	7.347E-04	1.878E-03
6.0000	81.635	84.892	146.05	2.080E-02	1.391E-02	7.697E-04	6.884E-04	1.458E-03

NB V 16P EO= 1.2358E-01 (RYD) N*= 14.2233 MU= 1.7767

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.681	7374.08	8.794E+00	-4.898E+00	2.724E+00	1.690E+00	4.413E+00
.0600	.816	2.498	4963.95	4.547E+00	-2.261E+00	1.082E+00	5.348E-01	1.617E+00
.1000	1.361	3.042	4075.85	3.272E+00	-1.521E+00	6.822E-01	2.949E-01	9.771E-01
.2000	2.721	4.403	2816.23	1.764E+00	-7.025E-01	2.869E-01	9.101E-02	3.779E-01
.4000	5.442	7.124	1740.47	7.877E-01	-2.336E-01	9.259E-02	1.629E-02	1.089E-01
.6000	8.164	9.845	1259.39	4.579E-01	-9.907E-02	4.323E-02	4.048E-03	4.728E-02
1.0000	13.606	15.287	811.04	2.189E-01	-1.945E-02	1.534E-02	2.422E-04	1.558E-02
2.0000	27.212	28.893	429.12	7.541E-02	1.057E-02	3.442E-03	1.351E-04	3.577E-03
3.0000	40.818	42.499	291.74	3.968E-02	1.224E-02	1.402E-03	2.665E-04	1.668E-03
4.0000	54.424	56.105	220.99	2.507E-02	1.117E-02	7.387E-04	2.931E-04	1.032E-03
5.0000	68.030	69.711	177.86	1.755E-02	9.855E-03	4.495E-04	2.837E-04	7.332E-04

NB V 20P EO= 7.5271E-02 (RYD) N*= 18.2245 MU= 1.7755

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.024	12106.46	1.401E+01	-8.120E+00	4.212E+00	2.829E+00	7.041E+00
.0600	.816	1.840	6736.60	5.271E+00	-2.687E+00	1.071E+00	5.569E-01	1.628E+00
.1000	1.361	2.385	5199.19	3.419E+00	-1.623E+00	5.839E-01	2.633E-01	8.472E-01
.2000	2.721	3.745	3310.44	1.606E+00	-6.505E-01	2.023E-01	6.640E-02	2.687E-01
.4000	5.442	6.466	1917.36	6.426E-01	-1.935E-01	5.593E-02	1.014E-02	6.607E-02
.6000	8.164	9.188	1349.48	3.563E-01	-7.840E-02	2.443E-02	2.366E-03	2.679E-02
.8000	10.885	11.909	1041.13	2.304E-01	-3.495E-02	1.324E-02	6.096E-04	1.385E-02
1.0000	13.606	14.630	847.48	1.631E-01	-1.497E-02	8.157E-03	1.373E-04	8.294E-03
2.0000	27.212	28.236	439.11	5.418E-02	7.460E-03	1.736E-03	6.583E-05	1.802E-03
3.0000	40.818	41.842	296.32	2.812E-02	8.613E-03	6.930E-04	1.300E-04	8.230E-04
4.0000	54.424	55.448	223.61	1.767E-02	7.815E-03	3.627E-04	1.419E-04	5.046E-04
5.0000	68.030	69.054	179.55	1.228E-02	6.886E-03	2.180E-04	1.372E-04	3.552E-04

NB V 4D EO= 3.7713E+00 (RYD) N*= 2.5747 MU= 1.4253

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	51.312	241.63	2.483E-01	-4.224E-01	7.951E-02	3.452E-01	4.247E-01
.6000	8.164	59.476	208.47	1.998E-01	-2.107E-01	5.969E-02	9.960E-02	1.593E-01
1.0000	13.606	64.918	190.99	1.756E-01	-1.206E-01	5.034E-02	3.561E-02	8.595E-02
2.0000	27.212	78.524	157.90	1.326E-01	9.107E-03	3.470E-02	2.455E-04	3.495E-02
3.0000	40.818	92.130	134.58	1.045E-01	6.838E-02	2.529E-02	1.624E-02	4.153E-02
7.0000	95.241	146.553	84.60	5.149E-02	1.088E-01	9.766E-03	6.543E-02	7.519E-02
8.0000	108.847	160.159	77.41	4.482E-02	1.055E-01	8.086E-03	6.718E-02	7.527E-02
9.0000	122.453	173.765	71.35	3.941E-02	1.010E-01	6.784E-03	6.688E-02	7.366E-02

NB V 5D EO= 1.8092E+00 (RYD) N*= 3.7173 MU= 1.2827

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	24.616	503.68	4.199E-01	-9.283E-01	1.091E-01	7.997E-01	9.089E-01
.1000	1.361	25.977	477.30	3.867E-01	-8.096E-01	9.766E-02	6.420E-01	7.397E-01
1.0000	13.606	38.222	324.38	2.149E-01	-2.519E-01	4.439E-02	9.144E-02	1.358E-01
2.0000	27.212	51.828	239.23	1.355E-01	-5.255E-02	2.394E-02	5.396E-03	2.933E-02
3.0000	40.818	65.434	189.48	9.516E-02	2.094E-02	1.489E-02	1.082E-03	1.598E-02
4.0000	54.424	79.040	156.87	7.133E-02	5.044E-02	1.011E-02	7.582E-03	1.769E-02
5.0000	68.030	92.646	133.83	5.588E-02	6.195E-02	7.273E-03	1.341E-02	2.068E-02
8.0000	108.847	133.463	92.90	3.163E-02	6.287E-02	3.357E-03	1.989E-02	2.325E-02
9.0000	122.453	147.069	84.30	2.713E-02	5.989E-02	2.720E-03	1.989E-02	2.261E-02
10.0000	136.059	160.675	77.17	2.355E-02	5.660E-02	2.241E-03	1.941E-02	2.165E-02

NB V 6D EO= 1.1101E+00 (RYD) N*= 4.7456 MU= 1.2544

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	15.104	820.90	6.515E-01	-1.528E+00	1.611E-01	1.330E+00	1.492E+00
.2000	2.721	17.825	695.58	5.025E-01	-1.067E+00	1.131E-01	7.646E-01	8.777E-01
.6000	8.164	23.267	532.88	3.319E-01	-5.644E-01	6.441E-02	2.794E-01	3.438E-01
1.0000	13.606	28.710	431.86	2.397E-01	-3.164E-01	4.146E-02	1.084E-01	1.498E-01
2.0000	27.212	42.316	293.00	1.318E-01	-7.027E-02	1.848E-02	7.879E-03	2.636E-02
3.0000	40.818	55.921	221.72	8.579E-02	6.657E-03	1.035E-02	9.343E-05	1.044E-02
4.0000	54.424	69.527	178.33	6.129E-02	3.479E-02	6.564E-03	3.174E-03	9.738E-03
6.0000	81.635	96.739	128.17	3.666E-02	4.816E-02	3.268E-03	8.458E-03	1.173E-02
7.0000	95.241	110.345	112.36	2.982E-02	4.790E-02	2.466E-03	9.544E-03	1.201E-02
8.0000	108.847	123.951	100.03	2.481E-02	4.617E-02	1.918E-03	9.963E-03	1.188E-02
9.0000	122.453	137.557	90.13	2.103E-02	4.383E-02	1.528E-03	9.962E-03	1.149E-02

NB V 8D EO= 5.4641E-01 (RYD) N*= 6.7641 MU= 1.2359

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.434	1667.73	1.243E+00	-3.018E+00	2.887E-01	2.553E+00	2.841E+00
.6000	8.164	15.598	794.89	3.827E-01	-6.905E-01	5.741E-02	2.804E-01	3.378E-01
1.0000	13.606	21.040	589.28	2.389E-01	-3.406E-01	3.018E-02	9.204E-02	1.222E-01
2.0000	27.212	34.646	357.86	1.093E-01	-7.009E-02	1.041E-02	6.417E-03	1.683E-02
3.0000	40.818	48.252	256.95	6.516E-02	-2.014E-03	5.150E-03	7.379E-06	5.157E-03
4.0000	54.424	61.858	200.44	4.419E-02	2.032E-02	3.036E-03	9.627E-04	3.999E-03
5.0000	68.030	75.464	164.30	3.236E-02	2.801E-02	1.986E-03	2.232E-03	4.218E-03
7.0000	95.241	102.676	120.76	1.991E-02	2.993E-02	1.023E-03	3.469E-03	4.492E-03
8.0000	108.847	116.282	106.63	1.634E-02	2.876E-02	7.802E-04	3.626E-03	4.406E-03
9.0000	122.453	129.888	95.46	1.369E-02	2.719E-02	6.119E-04	3.620E-03	4.232E-03

NB V 10D EO= 3.2500E-01 (RYD) N*= 8.7706 MU= 1.2294

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.422	2803.93	1.983E+00	-4.865E+00	4.370E-01	3.947E+00	4.384E+00
.6000	8.164	12.585	985.16	3.722E-01	-6.854E-01	4.383E-02	2.230E-01	2.668E-01
1.0000	13.606	18.028	687.75	2.107E-01	-3.083E-01	2.012E-02	6.461E-02	8.472E-02
2.0000	27.212	31.634	391.94	8.680E-02	-5.906E-02	5.991E-03	4.161E-03	1.015E-02
3.0000	40.818	45.240	274.07	4.945E-02	-3.546E-03	2.781E-03	2.144E-05	2.802E-03
4.0000	54.424	58.846	210.70	3.271E-02	1.369E-02	1.583E-03	4.158E-04	1.999E-03
5.0000	68.030	72.451	171.13	2.358E-02	1.944E-02	1.012E-03	1.032E-03	2.044E-03
6.0000	81.635	86.057	144.07	1.796E-02	2.098E-02	6.981E-04	1.429E-03	2.127E-03
7.0000	95.241	99.663	124.41	1.423E-02	2.083E-02	5.075E-04	1.631E-03	2.138E-03
8.0000	108.847	113.269	109.46	1.161E-02	1.998E-02	3.837E-04	1.705E-03	2.088E-03
9.0000	122.453	126.875	97.72	9.680E-03	1.885E-02	2.988E-04	1.701E-03	1.999E-03

NB V 12D EO= 2.1538E-01 (RYD) N*= 10.7737 MU= 1.2263

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.930	4230.95	2.858E+00	-7.050E+00	6.015E-01	5.492E+00	6.094E+00
.6000	8.164	11.094	1117.60	3.381E-01	-6.286E-01	3.188E-02	1.653E-01	1.972E-01
1.0000	13.606	16.536	749.78	1.794E-01	-2.656E-01	1.337E-02	4.399E-02	5.737E-02
2.0000	27.212	30.142	411.34	6.937E-02	-4.852E-02	3.646E-03	2.676E-03	6.322E-03
3.0000	40.818	43.748	283.41	3.855E-02	-3.525E-03	1.634E-03	2.050E-05	1.655E-03
4.0000	54.424	57.354	216.18	2.516E-02	1.002E-02	9.125E-04	2.173E-04	1.130E-03
6.0000	81.635	84.566	146.61	1.362E-02	1.564E-02	3.944E-04	7.797E-04	1.174E-03
7.0000	95.241	98.172	126.30	1.075E-02	1.552E-02	2.850E-04	8.912E-04	1.176E-03
8.0000	108.847	111.778	110.92	8.738E-03	1.487E-02	2.145E-04	9.316E-04	1.146E-03
9.0000	122.453	125.384	98.89	7.267E-03	1.402E-02	1.665E-04	9.291E-04	1.096E-03

NB V 16D EO= 1.1450E-01 (RYD) N*= 14.7765 MU= 1.2235

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.558	7958.83	4.978E+00	-1.238E+01	9.705E-01	8.998E+00	9.968E+00
.0500	.680	2.238	5539.70	2.766E+00	-6.778E+00	4.304E-01	3.877E+00	4.307E+00
.2000	2.721	4.279	2897.53	9.751E-01	-2.240E+00	1.023E-01	8.094E-01	9.116E-01
.6000	8.164	9.721	1275.40	2.628E-01	-4.929E-01	1.688E-02	8.905E-02	1.059E-01
1.0000	13.606	15.164	817.65	1.295E-01	-1.938E-01	6.391E-03	2.148E-02	2.787E-02
2.0000	27.212	28.770	430.96	4.688E-02	-3.358E-02	1.589E-03	1.223E-03	2.812E-03
3.0000	40.818	42.376	292.59	2.540E-02	-2.779E-03	6.873E-04	1.234E-05	6.996E-04
4.0000	54.424	55.982	221.48	1.636E-02	6.218E-03	3.765E-04	8.162E-05	4.581E-04
5.0000	68.030	69.587	178.17	1.160E-02	9.115E-03	2.353E-04	2.180E-04	4.533E-04
7.0000	95.241	96.799	128.09	6.869E-03	9.792E-03	1.148E-04	3.500E-04	4.648E-04
8.0000	108.847	110.405	112.30	5.565E-03	9.372E-03	8.593E-05	3.657E-04	4.516E-04
9.0000	122.453	124.011	99.98	4.618E-03	8.825E-03	6.648E-05	3.642E-04	4.307E-04

NB V 20D EO= 7.0902E-02 (RYD) N*= 18.7777 MU= 1.2223

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.965	12852.58	7.560E+00	-1.891E+01	1.386E+00	1.301E+01	1.440E+01
.0500	.680	1.645	7537.27	3.179E+00	-7.853E+00	4.179E-01	3.825E+00	4.242E+00
.2000	2.721	3.686	3363.83	8.686E-01	-2.006E+00	6.991E-02	5.593E-01	6.292E-01
.6000	8.164	9.128	1358.27	2.039E-01	-3.838E-01	9.536E-03	5.070E-02	6.024E-02
1.0000	13.606	14.571	850.94	9.677E-02	-1.455E-01	3.430E-03	1.163E-02	1.506E-02
2.0000	27.212	28.177	440.03	3.393E-02	-2.456E-02	8.154E-04	6.406E-04	1.456E-03
3.0000	40.818	41.782	296.74	1.816E-02	-2.132E-03	3.463E-04	7.159E-06	3.535E-04
4.0000	54.424	55.388	223.85	1.165E-02	4.333E-03	1.888E-04	3.920E-05	2.280E-04
5.0000	68.030	68.994	179.71	8.226E-03	6.426E-03	1.173E-04	1.074E-04	2.248E-04
6.0000	81.635	82.600	150.10	6.175E-03	6.926E-03	7.916E-05	1.494E-04	2.286E-04
7.0000	95.241	96.206	128.88	4.831E-03	6.875E-03	5.644E-05	1.715E-04	2.279E-04
8.0000	108.847	109.812	112.91	3.935E-03	6.578E-03	4.275E-05	1.791E-04	2.219E-04
9.0000	122.453	123.418	100.46	3.241E-03	6.195E-03	3.259E-05	1.786E-04	2.112E-04

NB V 4F EO= 1.7718E+00 (RYD) N*= 3.7563 MU= .2437

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	24.107	514.32	-4.289E-02	1.598E+00	1.194E-03	2.210E+00	2.211E+00
.2000	2.721	26.828	462.15	-2.581E-02	1.313E+00	4.813E-04	1.660E+00	1.660E+00
.6000	8.164	32.271	384.21	-5.730E-03	9.318E-01	2.853E-05	1.006E+00	1.006E+00
.8000	10.885	34.992	354.33	1.488E-04	8.010E-01	2.087E-08	8.062E-01	8.062E-01
1.0000	13.606	37.713	328.76	4.347E-03	6.960E-01	1.919E-05	6.559E-01	6.559E-01
2.0000	27.212	51.319	241.60	1.272E-02	3.876E-01	2.238E-04	2.769E-01	2.771E-01
4.0000	54.424	78.531	157.88	1.215E-02	1.688E-01	3.120E-04	8.033E-02	8.064E-02

NB V 5F EO= 1.1263E+00 (RYD) N*= 4.7114 MU= .2886

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	15.324	809.10	-1.066E-01	2.332E+00	4.690E-03	2.991E+00	2.996E+00
.4000	5.442	20.766	597.05	-3.297E-02	1.433E+00	6.080E-04	1.532E+00	1.532E+00
.8000	10.885	26.209	473.07	-4.806E-03	9.715E-01	1.630E-05	8.882E-01	8.882E-01
1.0000	13.606	28.930	428.58	2.402E-03	8.206E-01	4.494E-06	6.995E-01	6.995E-01
2.0000	27.212	42.536	291.49	1.450E-02	4.165E-01	2.409E-04	2.649E-01	2.651E-01
3.0000	40.818	56.142	220.85	1.471E-02	2.508E-01	3.270E-04	1.268E-01	1.272E-01
4.0000	54.424	69.748	177.76	1.292E-02	1.669E-01	3.134E-04	6.972E-02	7.004E-02

NB V 6F EO= 7.7126E-01 (RYD) N*= 5.6934 MU= .3066

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.494	1181.52	-1.999E-01	2.973E+00	1.129E-02	3.330E+00	3.341E+00
.2000	2.721	13.215	938.23	-1.018E-01	2.128E+00	3.691E-03	2.150E+00	2.153E+00
.6000	8.164	18.657	664.55	-2.510E-02	1.255E+00	3.166E-04	1.055E+00	1.056E+00
.8000	10.885	21.378	579.96	-9.234E-03	1.010E+00	4.910E-05	7.835E-01	7.835E-01
1.0000	13.606	24.100	514.47	3.492E-04	8.315E-01	7.915E-08	5.984E-01	5.984E-01
2.0000	27.212	37.706	328.83	1.426E-02	3.905E-01	2.066E-04	2.064E-01	2.066E-01
3.0000	40.818	51.312	241.63	1.399E-02	2.263E-01	2.704E-04	9.436E-02	9.463E-02
4.0000	54.424	64.917	190.99	1.194E-02	1.471E-01	2.494E-04	5.047E-02	5.072E-02

NB V 8F EO= 4.2398E-01 (RYD) N*= 7.6788 MU= .3212

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.769	2149.30	-4.934E-01	4.205E+00	3.782E-02	3.662E+00	3.700E+00
.2000	2.721	8.490	1460.41	-1.904E-01	2.509E+00	8.286E-03	1.919E+00	1.927E+00
.4000	5.442	11.211	1105.93	-8.411E-02	1.693E+00	2.136E-03	1.154E+00	1.156E+00
.6000	8.164	13.932	889.92	-3.771E-02	1.230E+00	5.337E-04	7.567E-01	7.572E-01
.8000	10.885	16.653	744.51	-1.476E-02	9.385E-01	9.776E-05	5.267E-01	5.268E-01
1.0000	13.606	19.375	639.94	-2.527E-03	7.421E-01	3.332E-06	3.831E-01	3.831E-01
2.0000	27.212	32.981	375.94	1.207E-02	3.125E-01	1.295E-04	1.157E-01	1.158E-01
3.0000	40.818	46.586	266.14	1.132E-02	1.726E-01	1.606E-04	4.981E-02	4.997E-02
4.0000	54.424	60.192	205.98	9.335E-03	1.092E-01	1.413E-04	2.578E-02	2.592E-02

NB V 10F EO= 2.6718E-01 (RYD) N*= 9.6731 MU= .3269

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.635	3410.64	-9.435E-01	5.451E+00	8.715E-02	3.878E+00	3.965E+00
.2000	2.721	6.356	1950.55	-2.650E-01	2.639E+00	1.202E-02	1.589E+00	1.601E+00
.4000	5.442	9.078	1365.84	-1.014E-01	1.612E+00	2.516E-03	8.473E-01	8.498E-01
.6000	8.164	11.799	1050.84	-4.241E-02	1.105E+00	5.715E-04	5.174E-01	5.180E-01
.8000	10.885	14.520	853.90	-1.648E-02	8.119E-01	1.062E-04	3.437E-01	3.438E-01
1.0000	13.606	17.241	719.13	-3.758E-03	6.250E-01	6.557E-06	2.418E-01	2.418E-01
2.0000	27.212	30.847	401.94	9.781E-03	2.464E-01	7.948E-05	6.725E-02	6.733E-02
3.0000	40.818	44.453	278.92	8.945E-03	1.325E-01	9.580E-05	2.802E-02	2.812E-02
4.0000	54.424	58.059	213.55	7.247E-03	8.268E-02	8.211E-05	1.425E-02	1.433E-02

NB V 12F EO= 1.8356E-01 (RYD) N*= 11.6702 MU= .3298

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.498	4964.34	-1.556E+00	6.737E+00	1.629E-01	4.070E+00	4.233E+00
.2000	2.721	5.219	2375.80	-3.142E-01	2.611E+00	1.388E-02	1.278E+00	1.292E+00
.4000	5.442	7.940	1561.56	-1.067E-01	1.469E+00	2.435E-03	6.153E-01	6.177E-01
.6000	8.164	10.661	1162.98	-4.221E-02	9.646E-01	5.116E-04	3.562E-01	3.567E-01
.8000	10.885	13.382	926.50	-1.615E-02	6.902E-01	9.401E-05	2.289E-01	2.290E-01
1.0000	13.606	16.103	769.94	-4.052E-03	5.219E-01	7.121E-06	1.575E-01	1.575E-01
2.0000	27.212	29.709	417.33	7.966E-03	1.975E-01	5.077E-05	4.161E-02	4.166E-02
3.0000	40.818	43.315	286.24	7.170E-03	1.045E-01	5.997E-05	1.700E-02	1.706E-02
4.0000	54.424	56.921	217.82	5.752E-03	6.471E-02	5.071E-05	8.558E-03	8.609E-03

NB V 16F EO= 1.0185E-01 (RYD) N*= 15.6674 MU= .3326

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.386	8947.52	-3.276E+00	9.454E+00	4.005E-01	4.448E+00	4.848E+00
.1000	1.361	2.746	4514.67	-8.342E-01	3.974E+00	5.147E-02	1.557E+00	1.609E+00
.2000	2.721	4.107	3018.98	-3.465E-01	2.339E+00	1.328E-02	8.065E-01	8.198E-01
.4000	5.442	6.828	1815.83	-9.928E-02	1.168E+00	1.812E-03	3.348E-01	3.366E-01
.6000	8.164	9.549	1298.39	-3.649E-02	7.263E-01	3.425E-04	1.809E-01	1.812E-01
.8000	10.885	12.270	1010.45	-1.361E-02	5.035E-01	6.126E-05	1.117E-01	1.118E-01
1.0000	13.606	14.992	827.04	-3.655E-03	3.730E-01	5.392E-06	7.489E-02	7.490E-02
2.0000	27.212	28.598	433.56	5.520E-03	1.349E-01	2.346E-05	1.868E-02	1.871E-02
3.0000	40.818	42.203	293.78	4.911E-03	7.024E-02	2.741E-05	7.477E-03	7.505E-03
4.0000	54.424	55.809	222.16	3.881E-03	4.312E-02	2.263E-05	3.725E-03	3.748E-03

NB V 20F EO= 6.4639E-02 (RYD) N*= 19.6662 MU= .3338

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.879	14097.71	-5.650E+00	1.238E+01	7.562E-01	4.836E+00	5.593E+00
.0500	.680	1.560	7948.99	-1.889E+00	5.987E+00	1.499E-01	2.008E+00	2.158E+00
.1000	1.361	2.240	5534.93	-9.116E-01	3.744E+00	5.014E-02	1.128E+00	1.178E+00
.2000	2.721	3.601	3443.43	-3.301E-01	1.998E+00	1.057E-02	5.162E-01	5.267E-01
.4000	5.442	6.322	1961.24	-8.508E-02	9.267E-01	1.233E-03	1.950E-01	1.962E-01
.6000	8.164	9.043	1371.07	-3.000E-02	5.585E-01	2.193E-04	1.013E-01	1.015E-01
.8000	10.885	11.764	1053.93	-1.102E-02	3.807E-01	3.848E-05	6.121E-02	6.125E-02
1.0000	13.606	14.485	855.94	-3.029E-03	2.790E-01	3.580E-06	4.049E-02	4.050E-02
2.0000	27.212	28.091	441.37	4.063E-03	9.865E-02	1.249E-05	9.817E-03	9.829E-03
3.0000	40.818	41.697	297.35	3.576E-03	5.098E-02	1.436E-05	3.891E-03	3.905E-03
4.0000	54.424	55.303	224.19	2.819E-03	3.117E-02	1.184E-05	1.929E-03	1.941E-03

MO VI 5S EO= 3.8899E+00 (RYD) N*= 3.0421 MU= 1.9579

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	52.926	234.26	.000	2.222E-01	.000	1.642E-01	1.642E-01
1.0000	13.606	66.532	186.36	.000	1.717E-01	.000	1.233E-01	1.233E-01
2.0000	27.212	80.138	154.72	.000	1.378E-01	.000	9.561E-02	9.561E-02
6.0000	81.635	134.562	92.14	.000	7.243E-02	.000	4.437E-02	4.437E-02

MO VI 6S EO= 2.1702E+00 (RYD) N*= 4.0729 MU= 1.9271

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	29.528	419.90	.000	3.438E-01	.000	2.193E-01	2.193E-01
1.0000	13.606	43.134	287.45	.000	2.161E-01	.000	1.266E-01	1.266E-01
2.0000	27.212	56.740	218.52	.000	1.519E-01	.000	8.232E-02	8.232E-02
6.0000	81.635	111.163	111.54	.000	6.245E-02	.000	2.725E-02	2.725E-02

MO VI 8S EO= 9.7067E-01 (RYD) N*= 6.0900 MU= 1.9100

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	13.207	938.81	.000	6.506E-01	.000	3.512E-01	3.512E-01
1.0000	13.606	26.813	462.42	.000	2.554E-01	.000	1.099E-01	1.099E-01
2.0000	27.212	40.419	306.76	.000	1.449E-01	.000	5.336E-02	5.336E-02
8.0000	108.847	122.054	101.58	.000	3.114E-02	.000	7.439E-03	7.439E-03

MO VI 10S EO= 5.4931E-01 (RYD) N*= 8.0955 MU= 1.9045

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.474	1658.93	.000	1.028E+00	.000	4.963E-01	4.963E-01
1.0000	13.606	21.080	588.18	.000	2.484E-01	.000	8.170E-02	8.170E-02
4.0000	54.424	61.898	200.31	.000	5.352E-02	.000	1.114E-02	1.114E-02
6.0000	81.635	89.109	139.14	.000	3.195E-02	.000	5.716E-03	5.716E-03

MO VI 12S EO= 3.5305E-01 (RYD) N*= 10.0980 MU= 1.9020

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.804	2581.13	.000	1.470E+00	.000	6.523E-01	6.523E-01
1.0000	13.606	18.409	673.49	.000	2.237E-01	.000	5.790E-02	5.790E-02
4.0000	54.424	59.227	209.34	.000	4.140E-02	.000	6.380E-03	6.380E-03
10.0000	136.059	140.863	88.02	.000	1.215E-02	.000	1.306E-03	1.306E-03

MO VI 16S EO= 1.8108E-01 (RYD) N*= 14.1001 MU= 1.8999

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.464	5032.54	.000	2.536E+00	.000	9.958E-01	9.958E-01
.1000	1.361	3.824	3242.08	.000	1.367E+00	.000	4.492E-01	4.492E-01
.4500	6.123	8.586	1443.99	.000	4.262E-01	.000	9.801E-02	9.801E-02
.7500	10.204	12.668	978.73	.000	2.416E-01	.000	4.647E-02	4.647E-02
1.0000	13.606	16.070	771.56	.000	1.706E-01	.000	2.938E-02	2.938E-02
2.0000	27.212	29.676	417.81	.000	6.940E-02	.000	8.981E-03	8.981E-03
4.0000	54.424	56.887	217.95	.000	2.689E-02	.000	2.585E-03	2.585E-03

MO VI 20S EO= 1.0988E-01 (RYD) N*= 18.1010 MU= 1.8990

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.495	8293.68	.000	3.831E+00	.000	1.379E+00	1.379E+00
.2000	2.721	4.216	2940.76	.000	8.543E-01	.000	1.934E-01	1.934E-01
.6000	8.164	9.658	1283.70	.000	2.522E-01	.000	3.859E-02	3.859E-02
1.0000	13.606	15.101	821.05	.000	1.303E-01	.000	1.612E-02	1.612E-02
2.0000	27.212	28.707	431.91	.000	5.051E-02	.000	4.602E-03	4.602E-03

MO VI 5P EO= 3.3482E+00 (RYD) N*= 3.2790 MU= 1.7210

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	45.555	272.17	3.658E-01	2.148E-02	1.277E-01	8.803E-04	1.286E-01
.2000	2.721	48.276	256.83	3.335E-01	3.469E-02	1.125E-01	2.433E-03	1.149E-01
.4000	5.442	50.997	243.12	3.056E-01	4.479E-02	9.974E-02	4.285E-03	1.040E-01
1.0000	13.606	59.161	209.57	2.412E-01	6.291E-02	7.209E-02	9.809E-03	8.190E-02
2.0000	27.212	72.767	170.39	1.735E-01	7.261E-02	4.588E-02	1.607E-02	6.195E-02
3.0000	40.818	86.373	143.55	1.321E-01	7.247E-02	3.157E-02	1.900E-02	5.057E-02
4.0000	54.424	99.979	124.01	1.047E-01	6.906E-02	2.295E-02	1.997E-02	4.292E-02
5.0000	68.030	113.585	109.16	8.547E-02	6.468E-02	1.738E-02	1.991E-02	3.729E-02
8.0000	108.847	154.402	80.30	5.245E-02	5.204E-02	8.898E-03	1.752E-02	2.642E-02

MO VI 6P EO= 1.9349E+00 (RYD) N*= 4.3135 MU= 1.6865

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	26.325	470.97	6.179E-01	-5.210E-02	2.106E-01	2.994E-03	2.136E-01
.2000	2.721	29.047	426.85	5.263E-01	-1.446E-02	1.685E-01	2.543E-04	1.688E-01
.4000	5.442	31.768	390.29	4.547E-01	1.110E-02	1.376E-01	1.638E-04	1.378E-01
.6000	8.164	34.489	359.49	3.977E-01	2.870E-02	1.142E-01	1.190E-03	1.154E-01
.8000	10.885	37.210	333.21	3.513E-01	4.093E-02	9.620E-02	2.611E-03	9.881E-02
1.0000	13.606	39.931	310.50	3.131E-01	4.944E-02	8.201E-02	4.090E-03	8.610E-02
2.0000	27.212	53.537	231.59	1.942E-01	6.465E-02	4.230E-02	9.375E-03	5.167E-02
3.0000	40.818	67.143	184.66	1.344E-01	6.348E-02	2.541E-02	1.133E-02	3.674E-02
4.0000	54.424	80.749	153.55	9.964E-02	5.871E-02	1.679E-02	1.166E-02	2.845E-02
5.0000	68.030	94.355	131.40	7.744E-02	5.347E-02	1.185E-02	1.130E-02	2.316E-02
6.0000	81.635	107.961	114.84	6.229E-02	4.859E-02	8.774E-03	1.068E-02	1.945E-02
8.0000	108.847	135.173	91.72	4.334E-02	4.047E-02	5.318E-03	9.276E-03	1.459E-02

MO VI 8P EO= 8.9722E-01 (RYD) N*= 6.3343 MU= 1.6657

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	12.207	1015.66	1.307E+00	-2.911E-01	4.370E-01	4.335E-02	4.804E-01
.3000	4.082	16.289	761.15	8.106E-01	-9.009E-02	2.242E-01	5.539E-03	2.298E-01
.5000	6.803	19.010	652.20	6.274E-01	-3.096E-02	1.568E-01	7.634E-04	1.575E-01
.6000	8.164	20.371	608.64	5.594E-01	-1.183E-02	1.335E-01	1.193E-04	1.337E-01
.8000	10.885	23.092	536.92	4.543E-01	1.409E-02	9.983E-02	1.920E-04	1.000E-01
1.0000	13.606	25.813	480.32	3.776E-01	2.964E-02	7.710E-02	9.498E-04	7.805E-02
2.0000	27.212	39.419	314.53	1.871E-01	5.058E-02	2.889E-02	4.226E-03	3.312E-02
3.0000	40.818	53.025	233.83	1.145E-01	4.780E-02	1.457E-02	5.076E-03	1.964E-02
4.0000	54.424	66.631	186.08	7.857E-02	4.232E-02	8.616E-03	4.999E-03	1.362E-02

MO VI 10P EO= 5.1740E-01 (RYD) N*= 8.3414 MU= 1.6586

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.040	1761.25	2.226E+00	-6.521E-01	7.308E-01	1.254E-01	8.562E-01
.2000	2.721	9.761	1270.24	1.293E+00	-2.558E-01	3.416E-01	2.676E-02	3.684E-01
.4000	5.442	12.482	993.32	8.579E-01	-1.047E-01	1.924E-01	5.737E-03	1.982E-01
.6000	8.164	15.203	815.53	6.173E-01	-3.574E-02	1.213E-01	8.134E-04	1.222E-01
.7000	9.524	16.564	748.54	5.350E-01	-1.547E-02	9.929E-02	1.661E-04	9.946E-02
.8000	10.885	17.924	691.72	4.689E-01	-7.609E-04	8.254E-02	4.348E-07	8.254E-02
.9000	12.245	19.285	642.92	4.149E-01	1.005E-02	6.954E-02	8.162E-05	6.962E-02
1.0000	13.606	20.646	600.55	3.702E-01	1.807E-02	5.928E-02	2.824E-04	5.956E-02
1.5000	20.409	27.449	451.70	2.300E-01	3.613E-02	3.042E-02	1.501E-03	3.192E-02
2.0000	27.212	34.252	361.99	1.589E-01	3.941E-02	1.812E-02	2.229E-03	2.035E-02
3.0000	40.818	47.857	259.07	9.102E-02	3.620E-02	8.304E-03	2.628E-03	1.093E-02
4.0000	54.424	61.463	201.72	6.007E-02	3.127E-02	4.646E-03	2.517E-03	7.164E-03

MO VI 12P EO= 3.3641E-01 (RYD) N*= 10.3446 MU= 1.6554

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.577	2708.79	3.363E+00	-1.130E+00	1.084E+00	2.447E-01	1.329E+00
.1000	1.361	5.938	2088.09	2.180E+00	-6.015E-01	5.912E-01	8.999E-02	6.811E-01
.2000	2.721	7.298	1698.82	1.545E+00	-3.490E-01	3.651E-01	3.724E-02	4.023E-01
.4000	5.442	10.020	1237.44	9.099E-01	-1.305E-01	1.738E-01	7.153E-03	1.809E-01
.6000	8.164	12.741	973.15	6.086E-01	-4.606E-02	9.885E-02	1.133E-03	9.998E-02
.8000	10.885	15.462	801.88	4.400E-01	-7.558E-03	6.271E-02	3.700E-05	6.274E-02
.9000	12.245	16.823	737.03	3.820E-01	3.632E-03	5.142E-02	9.294E-06	5.143E-02
1.0000	13.606	18.183	681.88	3.353E-01	1.166E-02	4.282E-02	1.036E-04	4.292E-02
1.5000	20.409	24.986	496.22	1.968E-01	2.860E-02	2.027E-02	8.580E-04	2.112E-02
2.0000	27.212	31.789	390.03	1.315E-01	3.121E-02	1.151E-02	1.298E-03	1.280E-02
3.0000	40.818	45.395	273.13	7.246E-02	2.815E-02	4.993E-03	1.507E-03	6.500E-03
4.0000	54.424	59.001	210.14	4.682E-02	2.397E-02	2.709E-03	1.420E-03	4.129E-03

MO VI 16P EO= 1.7488E-01 (RYD) N*= 14.3475 MU= 1.6525

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.379	5210.70	6.259E+00	-2.417E+00	1.952E+00	5.824E-01	2.535E+00
.1000	1.361	3.740	3315.10	2.944E+00	-9.130E-01	6.790E-01	1.306E-01	8.096E-01
.2000	2.721	5.101	2430.80	1.752E+00	-4.423E-01	3.281E-01	4.181E-02	3.699E-01
.4000	5.442	7.822	1585.13	8.561E-01	-1.393E-01	1.201E-01	6.358E-03	1.264E-01
.6000	8.164	10.543	1176.01	5.186E-01	-4.740E-02	5.939E-02	9.922E-04	6.038E-02
.8000	10.885	13.264	934.74	3.526E-01	-1.086E-02	3.453E-02	6.559E-05	3.460E-02
.9000	12.245	14.625	847.78	2.992E-01	-1.012E-03	2.742E-02	6.270E-07	2.742E-02
1.0000	13.606	15.985	775.62	2.576E-01	5.800E-03	2.222E-02	2.253E-05	2.224E-02
1.5000	20.409	22.788	544.08	1.419E-01	1.916E-02	9.610E-03	3.504E-04	9.960E-03
2.0000	27.212	29.591	419.00	9.147E-02	2.087E-02	5.186E-03	5.402E-04	5.726E-03
3.0000	40.818	43.197	287.02	4.850E-02	1.845E-02	2.128E-03	6.159E-04	2.744E-03
4.0000	54.424	56.803	218.27	3.069E-02	1.548E-02	1.121E-03	5.704E-04	1.691E-03

MO VI 20P EO= 1.0693E-01 (RYD) N*= 18.3487 MU= 1.6513

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.455	8522.24	9.949E+00	-4.128E+00	3.017E+00	1.038E+00	4.055E+00
.0500	.680	2.135	5806.91	5.247E+00	-1.915E+00	1.231E+00	3.281E-01	1.560E+00
.1000	1.361	2.815	4403.79	3.305E+00	-1.077E+00	6.444E-01	1.369E-01	7.812E-01
.2000	2.721	4.176	2968.99	1.709E+00	-4.508E-01	2.553E-01	3.555E-02	2.909E-01
.4000	5.442	6.897	1797.63	7.362E-01	-1.256E-01	7.830E-02	4.561E-03	8.286E-02
.6000	8.164	9.618	1289.05	4.209E-01	-4.118E-02	3.569E-02	6.833E-04	3.637E-02
.8000	10.885	12.340	1004.78	2.767E-01	-1.008E-02	1.979E-02	5.256E-05	1.985E-02
.9000	12.245	13.700	905.00	2.320E-01	-2.006E-03	1.545E-02	2.309E-06	1.545E-02
1.0000	13.606	15.061	823.24	1.978E-01	3.459E-03	1.235E-02	7.550E-06	1.236E-02
1.5000	20.409	21.864	567.09	1.056E-01	1.381E-02	5.107E-03	1.747E-04	5.282E-03
2.0000	27.212	28.667	432.51	6.694E-02	1.502E-02	2.691E-03	2.711E-04	2.962E-03
3.0000	40.818	42.273	293.30	3.488E-02	1.315E-02	1.077E-03	3.060E-04	1.383E-03
4.0000	54.424	55.879	221.89	2.186E-02	1.096E-02	5.594E-04	2.812E-04	8.406E-04

MO VI 4D EO= 5.0552E+00 (RYD) N*= 2.6686 MU= 1.3314

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	68.781	180.26	1.867E-01	-1.298E-01	6.024E-02	4.372E-02	1.040E-01
.6000	8.164	76.944	161.14	1.575E-01	-3.883E-02	4.798E-02	4.374E-03	5.235E-02
.8000	10.885	79.665	155.63	1.494E-01	-1.669E-02	4.471E-02	8.363E-04	4.554E-02
1.0000	13.606	82.386	150.49	1.420E-01	2.373E-03	4.175E-02	1.750E-05	4.177E-02
1.5000	20.409	89.189	139.01	1.259E-01	3.932E-02	3.552E-02	5.199E-03	4.072E-02
2.0000	27.212	95.992	129.16	1.125E-01	6.490E-02	3.056E-02	1.525E-02	4.580E-02
6.0000	81.635	150.416	82.43	5.623E-02	1.123E-01	1.195E-02	7.151E-02	8.346E-02
7.0000	95.241	164.022	75.59	4.906E-02	1.096E-01	9.925E-03	7.427E-02	8.420E-02
8.0000	108.847	177.628	69.80	4.324E-02	1.056E-01	8.348E-03	7.463E-02	8.297E-02
9.0000	122.453	191.234	64.83	3.844E-02	1.009E-01	7.101E-03	7.339E-02	8.049E-02

MO VI 5D EO= 2.4980E+00 (RYD) N*= 3.7962 MU= 1.2038

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	33.988	364.79	3.286E-01	-4.361E-01	9.226E-02	2.437E-01	3.359E-01
.6000	8.164	42.152	294.14	2.344E-01	-1.986E-01	5.824E-02	6.268E-02	1.209E-01
1.0000	13.606	47.594	260.51	1.939E-01	-1.098E-01	4.497E-02	2.162E-02	6.659E-02
1.5000	20.409	54.397	227.93	1.573E-01	-3.954E-02	3.385E-02	3.207E-03	3.706E-02
2.0000	27.212	61.200	202.59	1.309E-01	3.855E-03	2.635E-02	3.429E-05	2.638E-02
2.5000	34.015	68.003	182.33	1.110E-01	3.127E-02	2.105E-02	2.506E-03	2.356E-02
4.0000	54.424	88.412	140.24	7.352E-02	6.675E-02	1.201E-02	1.485E-02	2.686E-02
5.0000	68.030	102.018	121.53	5.866E-02	7.299E-02	8.825E-03	2.049E-02	2.931E-02
7.0000	95.241	129.229	95.94	4.029E-02	7.190E-02	5.273E-03	2.519E-02	3.046E-02
8.0000	108.847	142.835	86.80	3.432E-02	6.884E-02	4.230E-03	2.552E-02	2.975E-02
9.0000	122.453	156.441	79.25	2.964E-02	6.528E-02	3.456E-03	2.513E-02	2.859E-02

MO VI 6D EO= 1.5470E+00 (RYD) N*= 4.8240 MU= 1.1760

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	21.049	589.05	5.171E-01	-7.961E-01	1.415E-01	5.029E-01	6.444E-01
.4000	5.442	26.491	468.03	3.578E-01	-4.309E-01	8.524E-02	1.854E-01	2.707E-01
.8000	10.885	31.933	388.27	2.655E-01	-2.397E-01	5.660E-02	6.919E-02	1.258E-01
1.0000	13.606	34.654	357.78	2.331E-01	-1.779E-01	4.733E-02	4.137E-02	8.870E-02
1.5000	20.409	41.457	299.07	1.753E-01	-7.769E-02	3.201E-02	9.434E-03	4.144E-02
2.0000	27.212	48.260	256.91	1.377E-01	-2.180E-02	2.299E-02	8.647E-04	2.385E-02
2.5000	34.015	55.063	225.17	1.116E-01	1.087E-02	1.724E-02	2.452E-04	1.749E-02
3.0000	40.818	61.866	200.41	9.275E-02	3.048E-02	1.338E-02	2.167E-03	1.554E-02
4.0000	54.424	75.472	164.28	6.758E-02	4.946E-02	8.665E-03	6.962E-03	1.563E-02
5.0000	68.030	89.078	139.19	5.187E-02	5.566E-02	6.025E-03	1.041E-02	1.643E-02
7.0000	95.241	116.290	106.62	3.382E-02	5.488E-02	3.343E-03	1.320E-02	1.655E-02
8.0000	108.847	129.896	95.45	2.829E-02	5.228E-02	2.613E-03	1.338E-02	1.600E-02
9.0000	122.453	143.502	86.40	2.407E-02	4.930E-02	2.090E-03	1.315E-02	1.524E-02

MO VI 8D EO= 7.6895E-01 (RYD) N*= 6.8423 MU= 1.1577

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.462	1185.08	1.005E+00	-1.713E+00	2.655E-01	1.158E+00	1.423E+00
.2000	2.721	13.183	940.47	6.897E-01	-1.054E+00	1.576E-01	5.525E-01	7.102E-01
.6000	8.164	18.626	665.67	3.938E-01	-4.740E-01	7.261E-02	1.578E-01	2.304E-01
.8000	10.885	21.347	580.81	3.158E-01	-3.330E-01	5.352E-02	8.924E-02	1.428E-01
1.0000	13.606	24.068	515.15	2.601E-01	-2.375E-01	4.094E-02	5.118E-02	9.212E-02
2.0000	27.212	37.674	329.10	1.262E-01	-3.818E-02	1.508E-02	2.070E-03	1.715E-02
2.5000	34.015	44.477	278.76	9.655E-02	-4.366E-03	1.042E-02	3.197E-05	1.045E-02
3.0000	40.818	51.280	241.78	7.674E-02	1.438E-02	7.592E-03	3.998E-04	7.991E-03
4.0000	54.424	64.886	191.08	5.250E-02	3.114E-02	4.495E-03	2.373E-03	6.868E-03
7.0000	95.241	105.704	117.30	2.383E-02	3.557E-02	1.509E-03	5.042E-03	6.551E-03
8.0000	108.847	119.310	103.92	1.957E-02	3.388E-02	1.149E-03	5.102E-03	6.251E-03
9.0000	122.453	132.915	93.28	1.641E-02	3.157E-02	8.993E-04	4.995E-03	5.894E-03

MO VI 10D EO= 4.5976E-01 (RYD) N*= 8.8488 MU= 1.1512

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.255	1982.06	1.624E+00	-2.878E+00	4.147E-01	1.954E+00	2.369E+00
.2000	2.721	8.977	1381.22	8.998E-01	-1.433E+00	1.827E-01	6.945E-01	8.772E-01
.6000	8.164	14.419	859.88	4.159E-01	-5.246E-01	6.268E-02	1.496E-01	2.123E-01
.8000	10.885	17.140	723.37	3.140E-01	-3.487E-01	4.247E-02	7.859E-02	1.211E-01
1.0000	13.606	19.861	624.26	2.471E-01	-2.393E-01	3.048E-02	4.288E-02	7.336E-02
1.5000	20.409	26.664	464.99	1.531E-01	-9.863E-02	1.572E-02	9.779E-03	2.550E-02
2.0000	27.212	33.467	370.47	1.059E-01	-3.778E-02	9.434E-03	1.801E-03	1.123E-02
2.5000	34.015	40.270	307.89	7.843E-02	-7.788E-03	6.227E-03	9.210E-05	6.319E-03
3.0000	40.818	47.073	263.39	6.088E-02	8.124E-03	4.386E-03	1.171E-04	4.503E-03
4.0000	54.424	60.679	204.33	4.033E-02	2.176E-02	2.481E-03	1.084E-03	3.564E-03
7.0000	95.241	101.497	122.16	1.747E-02	2.519E-02	7.791E-04	2.428E-03	3.207E-03
8.0000	108.847	115.103	107.72	1.423E-02	2.378E-02	5.858E-04	2.453E-03	3.039E-03
9.0000	122.453	128.709	96.33	1.185E-02	2.222E-02	4.543E-04	2.397E-03	2.851E-03

MO VI 12D EO= 3.0569E-01 (RYD) N*= 10.8520 MU= 1.1480

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.159	2980.99	2.364E+00	-4.277E+00	5.842E-01	2.868E+00	3.453E+00
.2000	2.721	6.880	1802.02	1.037E+00	-1.685E+00	1.859E-01	7.362E-01	9.222E-01
.4000	5.442	9.602	1291.31	6.019E-01	-8.736E-01	8.744E-02	2.763E-01	3.637E-01
.8000	10.885	15.044	824.16	2.895E-01	-3.295E-01	3.170E-02	6.157E-02	9.327E-02
1.0000	13.606	17.765	697.92	2.208E-01	-2.198E-01	2.178E-02	3.235E-02	5.413E-02
1.5000	20.409	24.568	504.66	1.302E-01	-8.730E-02	1.048E-02	7.060E-03	1.754E-02
2.0000	27.212	31.371	395.23	8.749E-02	-3.350E-02	6.036E-03	1.328E-03	7.383E-03
2.5000	34.015	38.174	324.79	6.357E-02	-7.985E-03	3.877E-03	9.177E-05	3.969E-03
3.0000	40.818	44.977	275.67	4.868E-02	5.213E-03	2.679E-03	4.609E-05	2.725E-03
4.0000	54.424	58.583	211.64	3.167E-02	1.626E-02	1.477E-03	5.837E-04	2.060E-03
5.0000	68.030	72.189	171.75	2.254E-02	1.934E-02	9.220E-04	1.018E-03	1.940E-03
7.0000	95.241	99.401	124.73	1.338E-02	1.895E-02	4.474E-04	1.345E-03	1.793E-03
8.0000	108.847	113.007	109.72	1.084E-02	1.785E-02	3.341E-04	1.358E-03	1.692E-03
9.0000	122.453	126.612	97.93	9.000E-03	1.666E-02	2.578E-04	1.325E-03	1.583E-03

MO VI 16D EO= 1.6314E-01 (RYD) N*= 14.8548 MU= 1.1452

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.220	5585.69	4.182E+00	-7.735E+00	9.756E-01	5.007E+00	5.983E+00
.1000	1.361	3.580	3463.01	1.909E+00	-3.345E+00	3.278E-01	1.510E+00	1.838E+00
.2000	2.721	4.941	2509.39	1.127E+00	-1.868E+00	1.577E-01	6.499E-01	8.076E-01
.4000	5.442	7.662	1618.18	5.505E-01	-8.143E-01	5.837E-02	1.916E-01	2.499E-01
.6000	8.164	10.383	1194.10	3.352E-01	-4.409E-01	2.933E-02	7.609E-02	1.054E-01
1.0000	13.606	15.826	783.45	1.685E-01	-1.717E-01	1.129E-02	1.759E-02	2.889E-02
1.5000	20.409	22.629	547.92	9.402E-02	-6.522E-02	5.028E-03	3.629E-03	8.658E-03
2.0000	27.212	29.432	421.27	6.120E-02	-2.488E-02	2.771E-03	6.869E-04	3.458E-03
2.5000	34.015	36.234	342.18	4.359E-02	-6.520E-03	1.730E-03	5.808E-05	1.789E-03
3.0000	40.818	43.037	288.09	3.291E-02	2.734E-03	1.172E-03	1.213E-05	1.184E-03
4.0000	54.424	56.643	218.89	2.105E-02	1.029E-02	6.308E-04	2.262E-04	8.570E-04
7.0000	95.241	97.461	127.22	8.672E-03	1.207E-02	1.842E-04	5.358E-04	7.200E-04
8.0000	108.847	111.067	111.63	6.998E-03	1.135E-02	1.367E-04	5.397E-04	6.764E-04
9.0000	122.453	124.673	99.45	5.784E-03	1.058E-02	1.048E-04	5.265E-04	6.314E-04

MO VI 20D EO= 1.0125E-01 (RYD) N*= 18.8560 MU= 1.1440

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.378	9000.00	6.422E+00	-1.203E+01	1.428E+00	7.518E+00	8.947E+00
.1000	1.361	2.738	4528.00	2.080E+00	-3.686E+00	2.979E-01	1.403E+00	1.700E+00
.2000	2.721	4.099	3024.94	1.076E+00	-1.800E+00	1.192E-01	5.006E-01	6.198E-01
.4000	5.442	6.820	1817.98	4.684E-01	-6.986E-01	3.761E-02	1.255E-01	1.631E-01
.6000	8.164	9.541	1299.49	2.707E-01	-3.590E-01	1.757E-02	4.637E-02	6.394E-02
.8000	10.885	12.262	1011.11	1.797E-01	-2.108E-01	9.953E-03	2.054E-02	3.049E-02
1.0000	13.606	14.984	827.48	1.295E-01	-1.333E-01	6.319E-03	1.004E-02	1.636E-02
1.5000	20.409	21.786	569.10	7.024E-02	-4.945E-02	2.702E-03	2.008E-03	4.710E-03
2.0000	27.212	28.589	433.68	4.507E-02	-1.878E-02	1.459E-03	3.801E-04	1.840E-03
2.5000	34.015	35.392	350.32	3.179E-02	-5.075E-03	8.993E-04	3.437E-05	9.336E-04
3.0000	40.818	42.195	293.84	2.387E-02	1.730E-03	6.042E-04	4.761E-06	6.089E-04
4.0000	54.424	55.801	222.19	1.511E-02	7.236E-03	3.204E-04	1.102E-04	4.306E-04
7.0000	95.241	96.619	128.32	6.161E-03	8.512E-03	9.218E-05	2.639E-04	3.561E-04
8.0000	108.847	110.225	112.48	4.961E-03	8.012E-03	6.819E-05	2.668E-04	3.350E-04
9.0000	122.453	123.831	100.13	4.101E-03	7.458E-03	5.235E-05	2.597E-04	3.120E-04

MO VI 4F EO= 2.6027E+00 (RYD) N*= 3.7191 MU= .2809

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	35.412	350.13	2.593E-02	1.134E+00	6.410E-04	1.635E+00	1.635E+00
.6000	8.164	43.575	284.53	2.792E-02	7.747E-01	9.151E-04	9.391E-01	9.400E-01
.8000	10.885	46.297	267.81	2.778E-02	6.923E-01	9.625E-04	7.967E-01	7.977E-01
1.0000	13.606	49.018	252.94	2.743E-02	6.223E-01	9.932E-04	6.815E-01	6.825E-01
2.0000	27.212	62.624	197.99	2.421E-02	3.916E-01	9.885E-04	3.448E-01	3.458E-01
3.0000	40.818	76.230	162.65	2.058E-02	2.680E-01	8.693E-04	1.966E-01	1.975E-01

MO VI 5F EO= 1.6405E+00 (RYD) N*= 4.6844 MU= .3156

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	22.321	555.47	4.151E-02	1.612E+00	1.036E-03	2.082E+00	2.083E+00
.8000	10.885	33.206	373.39	4.061E-02	8.532E-01	1.475E-03	8.681E-01	8.696E-01
1.0000	13.606	35.927	345.11	3.906E-02	7.481E-01	1.477E-03	7.220E-01	7.234E-01
2.0000	27.212	49.533	250.31	3.099E-02	4.304E-01	1.281E-03	3.295E-01	3.308E-01
3.0000	40.818	63.139	196.37	2.445E-02	2.788E-01	1.017E-03	1.762E-01	1.772E-01
4.0000	54.424	76.745	161.56	1.959E-02	1.947E-01	7.930E-04	1.044E-01	1.052E-01

MO VI 6F EO= 1.1196E+00 (RYD) N*= 5.6704 MU= .3296

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	15.233	813.91	5.367E-02	2.041E+00	1.182E-03	2.280E+00	2.281E+00
.4000	5.442	20.676	599.67	5.418E-02	1.313E+00	1.634E-03	1.280E+00	1.281E+00
.6000	8.164	23.397	529.93	5.176E-02	1.089E+00	1.688E-03	9.964E-01	9.981E-01
.8000	10.885	26.118	474.71	4.889E-02	9.188E-01	1.681E-03	7.917E-01	7.933E-01
1.0000	13.606	28.839	429.92	4.592E-02	7.860E-01	1.637E-03	6.398E-01	6.414E-01
3.0000	40.818	56.051	221.20	2.469E-02	2.586E-01	9.201E-04	1.346E-01	1.355E-01
4.0000	54.424	69.657	178.00	1.901E-02	1.756E-01	6.780E-04	7.712E-02	7.780E-02

MO VI 8F EO= 6.1368E-01 (RYD) N*= 7.6591 MU= .3409

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.350	1484.92	5.314E-02	2.876E+00	6.351E-04	2.480E+00	2.481E+00
.2000	2.721	11.071	1119.93	6.497E-02	1.988E+00	1.259E-03	1.571E+00	1.572E+00
.4000	5.442	13.792	898.97	6.383E-02	1.470E+00	1.513E-03	1.071E+00	1.072E+00
.6000	8.164	16.513	750.83	5.923E-02	1.138E+00	1.560E-03	7.686E-01	7.701E-01
.8000	10.885	19.234	644.61	5.399E-02	9.111E-01	1.510E-03	5.733E-01	5.748E-01
1.0000	13.606	21.956	564.71	4.899E-02	7.476E-01	1.419E-03	4.407E-01	4.421E-01
2.0000	27.212	35.562	348.65	3.111E-02	3.512E-01	9.269E-04	1.575E-01	1.584E-01
3.0000	40.818	49.167	252.17	2.145E-02	2.050E-01	6.093E-04	7.422E-02	7.483E-02

MO VI 10F EO= 3.8622E-01 (RYD) N*= 9.6546 MU= .3454

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.255	2359.47	6.390E-03	3.721E+00	5.778E-06	2.613E+00	2.613E+00
.2000	2.721	7.976	1554.49	5.738E-02	2.188E+00	7.074E-04	1.372E+00	1.372E+00
.4000	5.442	10.697	1159.05	6.159E-02	1.476E+00	1.093E-03	8.373E-01	8.384E-01
.6000	8.164	13.418	924.00	5.699E-02	1.077E+00	1.174E-03	5.592E-01	5.604E-01
.8000	10.885	16.140	768.21	5.097E-02	8.272E-01	1.129E-03	3.965E-01	3.977E-01
1.0000	13.606	18.861	657.38	4.529E-02	6.583E-01	1.042E-03	2.935E-01	2.946E-01
2.0000	27.212	32.467	381.89	2.663E-02	2.854E-01	6.199E-04	9.497E-02	9.559E-02
3.0000	40.818	46.073	269.11	1.760E-02	1.610E-01	3.842E-04	4.287E-02	4.325E-02

MO VI 12F EO= 2.6514E-01 (RYD) N*= 11.6524 MU= .3476

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.607	3436.93	-9.419E-02	4.592E+00	8.619E-04	2.732E+00	2.733E+00
.0300	.408	4.016	3087.58	-5.010E-02	4.027E+00	2.715E-04	2.338E+00	2.338E+00
.0600	.816	4.424	2802.69	-1.939E-02	3.570E+00	4.481E-05	2.025E+00	2.025E+00
.0800	1.088	4.696	2640.28	-4.099E-03	3.313E+00	2.125E-06	1.850E+00	1.850E+00
.1000	1.361	4.968	2495.67	8.123E-03	3.085E+00	8.828E-06	1.698E+00	1.698E+00
.2000	2.721	6.329	1959.13	4.141E-02	2.260E+00	2.923E-04	1.161E+00	1.161E+00
.4000	5.442	9.050	1370.04	5.470E-02	1.404E+00	7.292E-04	6.406E-01	6.414E-01
.6000	8.164	11.771	1053.32	5.132E-02	9.771E-01	8.351E-04	4.035E-01	4.043E-01
.8000	10.885	14.492	855.54	4.548E-02	7.274E-01	8.074E-04	2.754E-01	2.762E-01
1.0000	13.606	17.213	720.29	3.990E-02	5.666E-01	7.381E-04	1.984E-01	1.992E-01
2.0000	27.212	30.819	402.30	2.236E-02	2.330E-01	4.151E-04	6.010E-02	6.052E-02

MO VI 16F EO= 1.4698E-01 (RYD) N*= 15.6502 MU= .3498

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.000	6199.89	-4.696E-01	6.428E+00	1.188E-02	2.967E+00	2.979E+00
.0200	.272	2.272	5457.30	-3.285E-01	5.496E+00	6.601E-03	2.464E+00	2.471E+00
.0800	1.088	3.088	4014.73	-1.144E-01	3.744E+00	1.089E-03	1.555E+00	1.556E+00
.1000	1.361	3.360	3689.62	-7.801E-02	3.364E+00	5.508E-04	1.365E+00	1.366E+00
.2000	2.721	4.721	2626.27	8.183E-03	2.170E+00	8.513E-06	7.981E-01	7.981E-01
.3000	4.082	6.082	2038.72	3.305E-02	1.554E+00	1.789E-04	5.272E-01	5.274E-01
.4000	5.442	7.442	1665.99	4.009E-02	1.185E+00	3.221E-04	3.752E-01	3.755E-01
.6000	8.164	10.163	1219.93	3.950E-02	7.724E-01	4.270E-04	2.177E-01	2.182E-01
.8000	10.885	12.885	962.29	3.480E-02	5.528E-01	4.202E-04	1.414E-01	1.418E-01
1.0000	13.606	15.606	794.49	3.013E-02	4.194E-01	3.816E-04	9.856E-02	9.894E-02
2.0000	27.212	29.212	424.44	1.603E-02	1.624E-01	2.021E-04	2.786E-02	2.787E-02
4.0000	54.424	56.423	219.74	6.974E-03	5.511E-02	7.390E-05	6.153E-03	6.226E-03

MO VI 20F EO= 9.3242E-02 (RYD) N*= 19.6493 MU= .3507

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.269	9773.18	-1.086E+00	8.393E+00	4.028E-02	3.209E+00	3.249E+00
.0600	.816	2.085	5946.61	-3.094E-01	4.503E+00	5.376E-03	1.518E+00	1.523E+00
.1000	1.361	2.629	4715.89	-1.491E-01	3.347E+00	1.575E-03	1.058E+00	1.059E+00
.2000	2.721	3.990	3107.57	-1.376E-02	1.947E+00	2.034E-05	5.433E-01	5.433E-01
.3000	4.082	5.350	2317.32	1.997E-02	1.321E+00	5.748E-05	3.351E-01	3.351E-01
.4000	5.442	6.711	1847.51	2.941E-02	9.738E-01	1.564E-04	2.285E-01	2.287E-01
.6000	8.164	9.432	1314.50	3.052E-02	6.104E-01	2.366E-04	1.262E-01	1.264E-01
.8000	10.885	12.153	1020.18	2.688E-02	4.272E-01	2.365E-04	7.966E-02	7.989E-02
1.0000	13.606	14.875	833.55	2.312E-02	3.195E-01	2.142E-04	5.452E-02	5.474E-02
3.0000	40.818	42.086	294.60	7.427E-03	6.404E-02	6.253E-05	6.199E-03	6.261E-03

TC VII 5S EO= 4.9145E+00 (RYD) N*= 3.1576 MU= 1.8424

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	66.866	185.42	.000	1.902E-01	.000	1.521E-01	1.521E-01
1.0000	13.606	80.472	154.07	.000	1.531E-01	.000	1.186E-01	1.186E-01
2.0000	27.212	94.078	131.79	.000	1.267E-01	.000	9.496E-02	9.496E-02
8.0000	108.847	175.713	70.56	.000	5.740E-02	.000	3.638E-02	3.638E-02

TC VII 6S EO= 2.7948E+00 (RYD) N*= 4.1872 MU= 1.8128

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	38.026	326.06	.000	2.911E-01	.000	2.025E-01	2.025E-01
1.0000	13.606	51.631	240.14	.000	1.981E-01	.000	1.273E-01	1.273E-01
2.0000	27.212	65.237	190.05	.000	1.461E-01	.000	8.747E-02	8.747E-02
6.0000	81.635	119.661	103.61	.000	6.494E-02	.000	3.172E-02	3.172E-02

TC VII 8S EO= 1.2730E+00 (RYD) N*= 6.2041 MU= 1.7959

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	17.320	715.84	.000	5.464E-01	.000	3.250E-01	3.250E-01
1.0000	13.606	30.926	400.91	.000	2.504E-01	.000	1.219E-01	1.219E-01
2.0000	27.212	44.532	278.42	.000	1.507E-01	.000	6.357E-02	6.357E-02
8.0000	108.847	126.168	98.27	.000	3.483E-02	.000	9.618E-03	9.618E-03

TC VII 10S EO= 7.2702E-01 (RYD) N*= 8.2097 MU= 1.7903

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.892	1253.43	.000	8.622E-01	.000	4.621E-01	4.621E-01
1.0000	13.606	23.498	527.65	.000	2.585E-01	.000	9.864E-02	9.864E-02
2.0000	27.212	37.104	334.16	.000	1.342E-01	.000	4.201E-02	4.201E-02
6.0000	81.635	91.527	135.46	.000	3.662E-02	.000	7.713E-03	7.713E-03
12.0000	163.271	173.163	71.60	.000	1.486E-02	.000	2.402E-03	2.402E-03

TC VII 12S EO= 4.6985E-01 (RYD) N*= 10.2122 MU= 1.7878

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.393	1939.49	.000	1.233E+00	.000	6.111E-01	6.111E-01
1.0000	13.606	19.999	619.97	.000	2.435E-01	.000	7.454E-02	7.454E-02
4.0000	54.424	60.816	203.87	.000	4.812E-02	.000	8.849E-03	8.849E-03
8.0000	108.847	115.240	107.59	.000	1.915E-02	.000	2.656E-03	2.656E-03

TC VII 16S EO= 2.4252E-01 (RYD) N*= 14.2144 MU= 1.7856

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.300	3757.55	.000	2.132E+00	.000	9.427E-01	9.427E-01
.5000	6.803	10.103	1227.27	.000	4.203E-01	.000	1.121E-01	1.121E-01
1.0000	13.606	16.906	733.40	.000	1.965E-01	.000	4.103E-02	4.103E-02
4.0000	54.424	57.723	214.79	.000	3.202E-02	.000	3.719E-03	3.719E-03

TC VII 20S EO= 1.4768E-01 (RYD) N*= 18.2153 MU= 1.7847

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.009	6170.51	.000	3.228E+00	.000	1.316E+00	1.316E+00
.2000	2.721	4.731	2620.99	.000	9.178E-01	.000	2.504E-01	2.504E-01
.6000	8.164	10.173	1218.79	.000	2.936E-01	.000	5.510E-02	5.510E-02
1.0000	13.606	15.615	794.01	.000	1.549E-01	.000	2.353E-02	2.353E-02
2.0000	27.212	29.221	424.30	.000	6.082E-02	.000	6.793E-03	6.793E-03

TC VII 5P EO= 4.2926E+00 (RYD) N*= 3.3786 MU= 1.6214

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	58.405	212.29	2.831E-01	6.929E-02	9.802E-02	1.175E-02	1.098E-01
1.0000	13.606	72.010	172.18	2.025E-01	8.174E-02	6.188E-02	2.016E-02	8.204E-02
2.0000	27.212	85.616	144.82	1.536E-01	8.188E-02	4.232E-02	2.405E-02	6.637E-02
3.0000	40.818	99.222	124.96	1.214E-01	7.802E-02	3.061E-02	2.530E-02	5.591E-02
4.0000	54.424	112.828	109.89	9.884E-02	7.298E-02	2.309E-02	2.518E-02	4.826E-02

TC VII 6P EO= 2.5172E+00 (RYD) N*= 4.4120 MU= 1.5880

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	34.249	362.01	4.726E-01	4.233E-02	1.602E-01	2.571E-03	1.628E-01
.6000	8.164	42.413	292.33	3.333E-01	7.096E-02	9.868E-02	8.948E-03	1.076E-01
1.0000	13.606	47.855	259.09	2.736E-01	7.743E-02	7.504E-02	1.202E-02	8.706E-02
2.0000	27.212	61.461	201.73	1.818E-01	7.822E-02	4.255E-02	1.575E-02	5.831E-02
3.0000	40.818	75.067	165.17	1.312E-01	7.224E-02	2.706E-02	1.641E-02	4.347E-02
4.0000	54.424	88.673	139.82	9.999E-02	6.534E-02	1.857E-02	1.586E-02	3.443E-02

TC VII 8P EO= 1.1842E+00 (RYD) N*= 6.4326 MU= 1.5674

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	16.112	769.53	9.886E-01	-6.275E-02	3.298E-01	2.658E-03	3.325E-01
.1000	1.361	17.472	709.61	8.643E-01	-2.757E-02	2.734E-01	5.565E-04	2.740E-01
.2000	2.721	18.833	658.34	7.633E-01	-1.870E-03	2.299E-01	2.758E-06	2.299E-01
.3000	4.082	20.194	613.99	6.799E-01	1.713E-02	1.955E-01	2.482E-04	1.958E-01
.4000	5.442	21.554	575.23	6.102E-01	3.128E-02	1.681E-01	8.836E-04	1.690E-01
.5000	6.803	22.915	541.07	5.512E-01	4.188E-02	1.459E-01	1.684E-03	1.475E-01
.8000	10.885	26.997	459.27	4.198E-01	6.020E-02	9.967E-02	4.098E-03	1.038E-01
1.0000	13.606	29.718	417.21	3.579E-01	6.579E-02	7.973E-02	5.388E-03	8.512E-02
2.0000	27.212	43.324	286.19	1.912E-01	6.704E-02	3.319E-02	8.157E-03	4.134E-02
3.0000	40.818	56.930	217.79	1.215E-01	5.842E-02	1.760E-02	8.138E-03	2.574E-02

TC VII 8D EO= 1.0280E+00 (RYD) N*= 6.9041 MU= 1.0959

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	13.987	886.46	8.140E-01	-9.134E-01	2.329E-01	4.400E-01	6.729E-01
.6000	8.164	22.150	559.75	3.823E-01	-2.725E-01	8.138E-02	6.199E-02	1.434E-01
1.0000	13.606	27.593	449.35	2.666E-01	-1.278E-01	4.928E-02	1.699E-02	6.626E-02
1.5000	20.409	34.396	360.47	1.856E-01	-4.083E-02	2.979E-02	2.162E-03	3.196E-02
2.0000	27.212	41.199	300.95	1.380E-01	1.594E-03	1.973E-02	3.948E-06	1.973E-02
2.5000	34.015	48.001	258.30	1.074E-01	2.369E-02	1.392E-02	1.015E-03	1.493E-02
4.0000	54.424	68.410	181.24	5.999E-02	4.483E-02	6.189E-03	5.183E-03	1.137E-02
6.0000	81.635	95.622	129.66	3.456E-02	4.454E-02	2.870E-03	7.153E-03	1.002E-02
7.0000	95.241	109.228	113.51	2.774E-02	4.195E-02	2.113E-03	7.246E-03	9.359E-03
8.0000	108.847	122.834	100.94	2.284E-02	3.908E-02	1.610E-03	7.075E-03	8.685E-03

TC VII 10D EO= 6.1712E-01 (RYD) N*= 8.9108 MU= 1.0892

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.396	1476.66	1.324E+00	-1.631E+00	3.701E-01	8.417E-01	1.212E+00
.2000	2.721	11.118	1115.22	8.333E-01	-8.947E-01	1.940E-01	3.356E-01	5.296E-01
.6000	8.164	16.560	748.71	4.320E-01	-3.447E-01	7.770E-02	7.419E-02	1.519E-01
1.0000	13.606	22.002	563.51	2.704E-01	-1.510E-01	4.045E-02	1.891E-02	5.936E-02
1.5000	20.409	28.805	430.43	1.734E-01	-5.106E-02	2.177E-02	2.832E-03	2.461E-02
2.0000	27.212	35.608	348.20	1.222E-01	-7.382E-03	1.337E-02	7.317E-05	1.344E-02
2.5000	34.015	42.411	292.34	9.157E-02	1.377E-02	8.939E-03	3.030E-04	9.242E-03
3.0000	40.818	49.214	251.93	7.162E-02	2.450E-02	6.345E-03	1.114E-03	7.459E-03
6.0000	81.635	90.032	137.71	2.637E-02	3.231E-02	1.573E-03	3.543E-03	5.117E-03
7.0000	95.241	103.638	119.63	2.088E-02	3.027E-02	1.135E-03	3.581E-03	4.716E-03
8.0000	108.847	117.244	105.75	1.700E-02	2.807E-02	8.522E-04	3.484E-03	4.336E-03

TC VII 12D EO= 4.1137E-01 (RYD) N*= 10.9140 MU= 1.0860

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.597	2215.21	1.938E+00	-2.506E+00	5.284E-01	1.326E+00	1.854E+00
.2000	2.721	8.318	1490.54	1.007E+00	-1.134E+00	2.121E-01	4.031E-01	6.152E-01
.6000	8.164	13.761	901.03	4.389E-01	-3.889E-01	6.662E-02	7.060E-02	1.372E-01
1.0000	13.606	19.203	645.66	2.531E-01	-1.511E-01	3.093E-02	1.654E-02	4.746E-02
1.5000	20.409	26.006	476.76	1.533E-01	-5.075E-02	1.537E-02	2.525E-03	1.789E-02
2.0000	27.212	32.809	377.90	1.044E-01	-9.990E-03	8.986E-03	1.234E-04	9.110E-03
2.5000	34.015	39.612	313.00	7.641E-02	8.852E-03	5.814E-03	1.170E-04	5.931E-03
3.0000	40.818	46.415	267.13	5.877E-02	1.811E-02	4.030E-03	5.741E-04	4.604E-03
4.0000	54.424	60.021	206.57	3.838E-02	2.484E-02	2.222E-03	1.397E-03	3.619E-03
6.0000	81.635	87.233	142.13	2.064E-02	2.463E-02	9.337E-04	1.996E-03	2.930E-03
7.0000	95.241	100.838	122.96	1.621E-02	2.301E-02	6.664E-04	2.014E-03	2.680E-03
8.0000	108.847	114.444	108.34	1.313E-02	2.128E-02	4.962E-04	1.955E-03	2.451E-03

TC VII 16D EO= 2.2021E-01 (RYD) N*= 14.9169 MU= 1.0831

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.996	4138.15	3.456E+00	-4.707E+00	8.997E-01	2.503E+00	3.402E+00
.1000	1.361	4.357	2845.83	1.861E+00	-2.354E+00	3.795E-01	9.104E-01	1.290E+00
.4000	5.442	8.439	1469.29	6.249E-01	-6.375E-01	8.284E-02	1.293E-01	2.122E-01
.6000	8.164	11.160	1111.02	3.938E-01	-3.466E-01	4.351E-02	5.055E-02	9.406E-02
1.0000	13.606	16.602	746.81	2.042E-01	-1.292E-01	1.740E-02	1.044E-02	2.784E-02
1.5000	20.409	23.405	529.74	1.156E-01	-4.212E-02	7.863E-03	1.565E-03	9.428E-03
2.0000	27.212	30.208	410.44	7.572E-02	-9.689E-03	4.354E-03	1.069E-04	4.461E-03
2.5000	34.015	37.011	335.00	5.405E-02	4.559E-03	2.718E-03	2.901E-05	2.747E-03
3.0000	40.818	43.814	282.98	4.085E-02	1.132E-02	1.838E-03	2.115E-04	2.049E-03
4.0000	54.424	57.420	215.93	2.606E-02	1.608E-02	9.803E-04	5.595E-04	1.540E-03
6.0000	81.635	84.632	146.50	1.366E-02	1.592E-02	3.972E-04	8.088E-04	1.206E-03
7.0000	95.241	98.238	126.21	1.066E-02	1.483E-02	2.806E-04	8.143E-04	1.095E-03
8.0000	108.847	111.843	110.86	8.589E-03	1.367E-02	2.074E-04	7.886E-04	9.960E-04

TC VII 20D EO= 1.3691E-01 (RYD) N*= 18.9181 MU= 1.0819

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.863	6655.89	5.341E+00	-7.476E+00	1.336E+00	3.926E+00	5.261E+00
.0500	.680	2.543	4875.40	3.192E+00	-4.291E+00	6.512E-01	1.766E+00	2.417E+00
.1000	1.361	3.223	3846.45	2.158E+00	-2.791E+00	3.772E-01	9.469E-01	1.324E+00
.2000	2.721	4.584	2704.77	1.207E+00	-1.449E+00	1.677E-01	3.630E-01	5.307E-01
.4000	5.442	7.305	1697.24	5.591E-01	-5.812E-01	5.739E-02	9.303E-02	1.504E-01
.6000	8.164	10.026	1236.60	3.313E-01	-2.973E-01	2.767E-02	3.342E-02	6.108E-02
1.0000	13.606	15.469	801.53	1.617E-01	-1.048E-01	1.017E-02	6.400E-03	1.657E-02
1.5000	20.409	22.272	556.70	8.837E-02	-3.345E-02	4.372E-03	9.398E-04	5.311E-03
2.0000	27.212	29.075	426.44	5.677E-02	-8.053E-03	2.356E-03	7.108E-05	2.427E-03
2.5000	34.015	35.878	345.56	4.004E-02	2.827E-03	1.446E-03	1.081E-05	1.456E-03
3.0000	40.818	42.681	290.50	3.000E-02	7.907E-03	9.653E-04	1.006E-04	1.066E-03
5.0000	68.030	69.892	177.40	1.320E-02	1.183E-02	3.062E-04	3.688E-04	6.751E-04
6.0000	81.635	83.498	148.49	9.812E-03	1.131E-02	2.021E-04	4.026E-04	6.047E-04
7.0000	95.241	97.104	127.68	7.630E-03	1.052E-02	1.421E-04	4.050E-04	5.471E-04
8.0000	108.847	110.710	111.99	6.131E-03	9.688E-03	1.046E-04	3.918E-04	4.964E-04

TC VII 4F EO= 3.6359E+00 (RYD) N*= 3.6710 MU= .3290

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	49.470	250.63	5.622E-02	8.498E-01	4.211E-03	1.283E+00	1.287E+00
.6000	8.164	57.634	215.13	4.784E-02	6.429E-01	3.552E-03	8.555E-01	8.590E-01
1.0000	13.606	63.076	196.57	4.327E-02	5.440E-01	3.181E-03	6.702E-01	6.734E-01
4.0000	54.424	103.894	119.34	2.311E-02	2.091E-01	1.495E-03	1.632E-01	1.647E-01

TC VII 5F EO= 2.2644E+00 (RYD) N*= 4.6518 MU= .3482

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	30.809	402.43	1.038E-01	1.174E+00	8.939E-03	1.525E+00	1.534E+00
.6000	8.164	38.973	318.14	7.772E-02	8.135E-01	6.341E-03	9.262E-01	9.325E-01
1.0000	13.606	44.415	279.15	6.591E-02	6.579E-01	5.197E-03	6.904E-01	6.956E-01
4.0000	54.424	85.233	145.47	2.718E-02	2.118E-01	1.695E-03	1.372E-01	1.389E-01
5.0000	68.030	98.839	125.44	2.182E-02	1.611E-01	1.267E-03	9.206E-02	9.333E-02

TC VII 6F EO= 1.5389E+00 (RYD) N*= 5.6427 MU= .3573

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	20.939	592.14	1.608E-01	1.479E+00	1.459E-02	1.645E+00	1.660E+00
.6000	8.164	29.102	426.04	1.044E-01	9.227E-01	8.542E-03	8.897E-01	8.983E-01
1.0000	13.606	34.544	358.92	8.305E-02	7.115E-01	6.416E-03	6.280E-01	6.344E-01
4.0000	54.424	75.362	164.52	2.753E-02	1.957E-01	1.538E-03	1.036E-01	1.052E-01
5.0000	68.030	88.968	139.36	2.138E-02	1.455E-01	1.096E-03	6.767E-02	6.877E-02

TC VII 8F EO= 8.4056E-01 (RYD) N*= 7.6351 MU= .3649

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.437	1084.11	2.904E-01	2.078E+00	2.598E-02	1.773E+00	1.799E+00
.6000	8.164	19.600	632.58	1.391E-01	1.016E+00	1.022E-02	7.265E-01	7.367E-01
1.0000	13.606	25.043	495.10	9.903E-02	7.158E-01	6.615E-03	4.607E-01	4.673E-01
3.0000	40.818	52.254	237.27	3.420E-02	2.285E-01	1.646E-03	9.795E-02	9.960E-02
5.0000	68.030	79.466	156.02	1.795E-02	1.121E-01	6.894E-04	3.589E-02	3.658E-02

TC VII 10F EO= 5.2816E-01 (RYD) N*= 9.6319 MU= .3681

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.186	1725.35	4.290E-01	2.684E+00	3.561E-02	1.859E+00	1.895E+00
.6000	8.164	15.350	807.74	1.514E-01	1.006E+00	9.472E-03	5.578E-01	5.672E-01
1.0000	13.606	20.792	596.32	9.894E-02	6.577E-01	5.481E-03	3.230E-01	3.285E-01
3.0000	40.818	48.004	258.28	2.907E-02	1.838E-01	1.092E-03	5.825E-02	5.935E-02
4.0000	54.424	61.610	201.24	1.980E-02	1.218E-01	6.505E-04	3.283E-02	3.348E-02

TC VII 12F EO= 3.6225E-01 (RYD) N*= 11.6304 MU= .3696

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.929	2515.57	5.690E-01	3.308E+00	4.298E-02	1.937E+00	1.980E+00
.6000	8.164	13.092	947.02	1.498E-01	9.458E-01	7.910E-03	4.205E-01	4.284E-01
1.0000	13.606	18.535	668.94	9.192E-02	5.836E-01	4.218E-03	2.267E-01	2.309E-01
2.0000	27.212	32.141	385.76	4.136E-02	2.594E-01	1.481E-03	7.766E-02	7.914E-02
3.0000	40.818	45.747	271.03	2.431E-02	1.492E-01	7.282E-04	3.656E-02	3.729E-02

TC VII 16F EO= 2.0061E-01 (RYD) N*= 15.6288 MU= .3712

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.729	4542.59	8.390E-01	4.619E+00	5.174E-02	2.091E+00	2.143E+00
.2000	2.721	5.451	2274.73	3.342E-01	1.953E+00	1.639E-02	7.465E-01	7.629E-01
.6000	8.164	10.893	1138.22	1.306E-01	7.851E-01	5.002E-03	2.411E-01	2.461E-01
1.0000	13.606	16.335	759.01	7.393E-02	4.484E-01	2.404E-03	1.179E-01	1.204E-01
2.0000	27.212	29.941	414.10	3.058E-02	1.849E-01	7.542E-04	3.676E-02	3.751E-02
4.0000	54.424	57.153	216.94	1.135E-02	6.638E-02	1.983E-04	9.044E-03	9.243E-03

TC VII 20F EO= 1.2719E-01 (RYD) N*= 19.6282 MU= .3718

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.730	7164.90	1.083E+00	6.017E+00	5.462E-02	2.250E+00	2.304E+00
.1000	1.361	3.091	4011.13	5.105E-01	2.923E+00	2.170E-02	9.482E-01	9.699E-01
.6000	8.164	9.894	1253.14	1.085E-01	6.387E-01	3.136E-03	1.449E-01	1.481E-01
1.0000	13.606	15.336	808.45	5.869E-02	3.486E-01	1.423E-03	6.694E-02	6.836E-02
2.0000	27.212	28.942	428.39	2.323E-02	1.381E-01	4.208E-04	1.983E-02	2.025E-02
3.0000	40.818	42.548	291.40	1.295E-02	7.601E-02	1.921E-04	8.826E-03	9.018E-03
5.0000	68.030	69.760	177.73	5.935E-03	3.372E-02	6.618E-05	2.848E-03	2.914E-03

RU VIII 5S EO= 6.0247E+00 (RYD) N*= 3.2593 MU= 1.7407

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	81.972	151.25	.000	1.643E-01	.000	1.390E-01	1.390E-01
1.0000	13.606	95.578	129.72	.000	1.365E-01	.000	1.120E-01	1.120E-01
2.0000	27.212	109.184	113.56	.000	1.158E-01	.000	9.206E-02	9.206E-02
8.0000	108.847	190.819	64.98	.000	5.660E-02	.000	3.842E-02	3.842E-02

RU VIII 6S EO= 3.4816E+00 (RYD) N*= 4.2875 MU= 1.7125

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	47.370	261.74	.000	2.491E-01	.000	1.846E-01	1.846E-01
1.0000	13.606	60.976	203.34	.000	1.801E-01	.000	1.243E-01	1.243E-01
2.0000	27.212	74.582	166.24	.000	1.381E-01	.000	8.942E-02	8.942E-02
6.0000	81.635	129.005	96.11	.000	6.601E-02	.000	3.532E-02	3.532E-02

RU VIII 8S EO= 1.6104E+00 (RYD) N*= 6.3041 MU= 1.6959

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	21.911	565.86	.000	4.636E-01	.000	2.960E-01	2.960E-01
1.0000	13.606	35.517	349.09	.000	2.398E-01	.000	1.284E-01	1.284E-01
2.0000	27.212	49.123	252.40	.000	1.522E-01	.000	7.152E-02	7.152E-02
6.0000	81.635	103.547	119.74	.000	5.284E-02	.000	1.817E-02	1.817E-02
10.0000	136.059	157.970	78.49	.000	2.908E-02	.000	8.392E-03	8.392E-03

RU VIII 10S EO= 9.2689E-01 (RYD) N*= 8.3095 MU= 1.6905

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	12.611	983.15	.000	7.297E-01	.000	4.219E-01	4.219E-01
1.0000	13.606	26.217	472.92	.000	2.603E-01	.000	1.116E-01	1.116E-01
2.0000	27.212	39.823	311.34	.000	1.424E-01	.000	5.074E-02	5.074E-02
6.0000	81.635	94.247	131.56	.000	4.082E-02	.000	9.868E-03	9.868E-03
10.0000	136.059	148.670	83.40	.000	2.122E-02	.000	4.206E-03	4.206E-03

RU VIII 12S EO= 6.0185E-01 (RYD) N*= 10.3120 MU= 1.6880

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.189	1514.10	.000	1.043E+00	.000	5.599E-01	5.599E-01
1.0000	13.606	21.795	568.88	.000	2.555E-01	.000	8.940E-02	8.940E-02
2.0000	27.212	35.401	350.24	.000	1.254E-01	.000	3.499E-02	3.499E-02
6.0000	81.635	89.824	138.03	.000	3.200E-02	.000	5.781E-03	5.781E-03

RU VIII 16S EO= 3.1235E-01 (RYD) N*= 14.3142 MU= 1.6858

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.250	2917.45	.000	1.804E+00	.000	8.687E-01	8.687E-01
1.0000	13.606	17.856	694.38	.000	2.177E-01	.000	5.318E-02	5.318E-02
4.0000	54.424	58.673	211.32	.000	3.702E-02	.000	5.052E-03	5.052E-03

RU VIII 20S EO= 1.9079E-01 (RYD) N*= 18.3152 MU= 1.6848

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.596	4776.25	.000	2.733E+00	.000	1.219E+00	1.219E+00
.5000	6.803	9.399	1319.17	.000	4.015E-01	.000	9.521E-02	9.521E-02
1.0000	13.606	16.202	765.26	.000	1.770E-01	.000	3.191E-02	3.191E-02
2.0000	27.212	29.808	415.95	.000	7.081E-02	.000	9.392E-03	9.392E-03
4.0000	54.424	57.020	217.45	.000	2.685E-02	.000	2.582E-03	2.582E-03

RU VIII 5P EO= 5.3234E+00 (RYD) N*= 3.4673 MU= 1.5327

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	72.429	171.18	2.262E-01	9.205E-02	7.761E-02	2.571E-02	1.033E-01
1.0000	13.606	86.035	144.11	1.716E-01	9.180E-02	5.310E-02	3.038E-02	8.347E-02
2.0000	27.212	99.641	124.43	1.357E-01	8.717E-02	3.841E-02	3.172E-02	7.013E-02
3.0000	40.818	113.247	109.48	1.105E-01	8.132E-02	2.895E-02	3.137E-02	6.033E-02

RU VIII 6P EO= 3.1613E+00 (RYD) N*= 4.4994 MU= 1.5006

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	43.012	288.26	3.740E-01	9.046E-02	1.260E-01	1.475E-02	1.408E-01
.6000	8.164	51.176	242.27	2.815E-01	9.612E-02	8.494E-02	1.981E-02	1.047E-01
1.0000	13.606	56.618	218.99	2.386E-01	9.534E-02	6.750E-02	2.156E-02	8.906E-02
2.0000	27.212	70.224	176.56	1.677E-01	8.800E-02	4.137E-02	2.278E-02	6.415E-02
3.0000	40.818	83.830	147.90	1.255E-01	7.900E-02	2.766E-02	2.192E-02	4.957E-02

RU VIII 8P EO= 1.5057E+00 (RYD) N*= 6.5196 MU= 1.4804

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	20.487	605.21	7.748E-01	5.920E-02	2.576E-01	3.008E-03	2.606E-01
.6000	8.164	28.650	432.76	4.441E-01	9.352E-02	1.184E-01	1.050E-02	1.289E-01
1.0000	13.606	34.092	363.68	3.326E-01	9.401E-02	7.898E-02	1.262E-02	9.160E-02
2.0000	27.212	47.698	259.94	1.901E-01	8.151E-02	3.612E-02	1.327E-02	4.939E-02
3.0000	40.818	61.304	202.25	1.252E-01	6.821E-02	2.012E-02	1.195E-02	3.207E-02

RU VIII 10P EO= 8.8031E-01 (RYD) N*= 8.5265 MU= 1.4735

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.977	1035.17	1.306E+00	-1.265E-02	4.281E-01	8.028E-05	4.281E-01
.0200	.272	12.249	1012.18	1.258E+00	-3.678E-03	4.063E-01	6.942E-06	4.063E-01
.0400	.544	12.522	990.18	1.213E+00	4.497E-03	3.860E-01	1.061E-05	3.860E-01
.0600	.816	12.794	969.12	1.171E+00	1.196E-02	3.672E-01	7.660E-05	3.673E-01
.0800	1.088	13.066	948.94	1.130E+00	1.876E-02	3.496E-01	1.926E-04	3.498E-01
.2000	2.721	14.699	843.53	9.291E-01	4.896E-02	2.658E-01	1.476E-03	2.672E-01
1.0000	13.606	25.583	484.64	3.681E-01	8.612E-02	7.263E-02	7.948E-03	8.058E-02
2.0000	27.212	39.189	316.38	1.801E-01	7.043E-02	2.664E-02	8.143E-03	3.478E-02
3.0000	40.818	52.795	234.84	1.093E-01	5.600E-02	1.321E-02	6.937E-03	2.015E-02
4.0000	54.424	66.401	186.72	7.442E-02	4.566E-02	7.704E-03	5.799E-03	1.350E-02

RU VIII 12P EO= 5.7722E-01 (RYD) N*= 10.5298 MU= 1.4702

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.854	1578.73	1.962E+00	-1.241E-01	6.331E-01	5.067E-03	6.382E-01
.0800	1.088	8.942	1386.56	1.580E+00	-4.943E-02	4.678E-01	9.153E-04	4.687E-01
.1000	1.361	9.214	1345.61	1.503E+00	-3.577E-02	4.362E-01	4.940E-04	4.367E-01
.2000	2.721	10.575	1172.48	1.195E+00	1.327E-02	3.162E-01	7.802E-05	3.163E-01
.6000	8.164	16.017	774.09	5.966E-01	7.332E-02	1.194E-01	3.608E-03	1.230E-01
1.0000	13.606	21.459	577.77	3.852E-01	7.642E-02	5.995E-02	5.251E-03	6.520E-02
2.0000	27.212	35.065	353.59	1.599E-01	5.957E-02	1.879E-02	5.212E-03	2.400E-02
3.0000	40.818	48.671	254.74	9.212E-02	4.575E-02	8.651E-03	4.267E-03	1.292E-02

RU VIII 16P EO= 3.0303E-01 (RYD) N*= 14.5327 MU= 1.4673

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.123	3007.18	3.628E+00	-4.609E-01	1.137E+00	3.670E-02	1.174E+00
.0200	.272	4.395	2821.00	3.282E+00	-3.769E-01	9.794E-01	2.616E-02	1.006E+00
.0800	1.088	5.211	2379.10	2.455E+00	-2.071E-01	6.579E-01	9.362E-03	6.672E-01
.2000	2.721	6.844	1811.56	1.557E+00	-4.984E-02	3.475E-01	7.121E-04	3.482E-01
.3000	4.082	8.205	1511.15	1.149E+00	5.573E-03	2.270E-01	1.068E-05	2.270E-01
.4000	5.442	9.565	1296.20	8.886E-01	3.337E-02	1.582E-01	4.462E-04	1.586E-01
.5000	6.803	10.926	1134.79	7.108E-01	4.774E-02	1.156E-01	1.043E-03	1.167E-01
.6000	8.164	12.287	1009.12	5.836E-01	5.506E-02	8.766E-02	1.560E-03	8.922E-02
.8000	10.885	15.008	826.15	4.169E-01	5.970E-02	5.463E-02	2.241E-03	5.687E-02
1.0000	13.606	17.729	699.35	3.149E-01	5.874E-02	3.682E-02	2.562E-03	3.938E-02
2.0000	27.212	31.335	395.68	1.205E-01	4.285E-02	9.529E-03	2.410E-03	1:194E-02
3.0000	40.818	44.941	275.89	6.555E-02	3.161E-02	4.045E-03	1.882E-03	5.926E-03

RU VIII 20P EO= 1.8631E-01 (RYD) N*= 18.5339 MU= 1.4661

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.535	4891.05	5.748E+00	-9.434E-01	1.754E+00	9.451E-02	1.849E+00
.0400	.544	3.079	4026.57	4.156E+00	-5.656E-01	1.114E+00	4.126E-02	1.155E+00
.0600	.816	3.351	3699.63	3.608E+00	-4.458E-01	9.140E-01	2.790E-02	9.419E-01
.2000	2.721	5.256	2358.88	1.700E+00	-8.909E-02	3.182E-01	1.748E-03	3.199E-01
.3000	4.082	6.617	1873.83	1.156E+00	-1.426E-02	1.851E-01	5.635E-05	1.852E-01
.4000	5.442	7.977	1554.23	8.443E-01	1.901E-02	1.191E-01	1.208E-04	1.192E-01
.5000	6.803	9.338	1327.77	6.479E-01	3.474E-02	8.212E-02	4.720E-04	8.259E-02
.8000	10.885	13.420	923.91	3.519E-01	4.659E-02	3.481E-02	1.220E-03	3.603E-02
1.0000	13.606	16.141	768.15	2.577E-01	4.557E-02	2.246E-02	1.404E-03	2.386E-02
2.0000	27.212	29.747	416.81	9.177E-02	3.199E-02	5.247E-03	1.275E-03	6.522E-03
3.0000	40.818	43.353	285.99	4.855E-02	2.312E-02	2.140E-03	9.708E-04	3.111E-03

RU VIII 4D EO= 8.1780E+00 (RYD) N*= 2.7975 MU= 1.2025

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	111.269	111.43	1.165E-01	9.032E-02	3.798E-02	3.422E-02	7.220E-02
1.0000	13.606	124.875	99.29	9.716E-02	1.113E-01	2.963E-02	5.828E-02	8.791E-02
4.0000	54.424	165.693	74.83	6.200E-02	1.216E-01	1.601E-02	9.245E-02	1.085E-01
5.0000	68.030	179.299	69.15	5.463E-02	1.184E-01	1.345E-02	9.483E-02	1.083E-01
6.0000	81.635	192.905	64.27	4.856E-02	1.141E-01	1.143E-02	9.474E-02	1.062E-01
7.0000	95.241	206.511	60.04	4.349E-02	1.093E-01	9.818E-03	9.301E-02	1.028E-01

RU VIII 5D EO= 4.1810E+00 (RYD) N*= 3.9125 MU= 1.0875

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	56.886	217.96	2.130E-01	-1.103E-02	6.490E-02	2.611E-04	6.516E-02
.0600	.816	57.702	214.87	2.082E-01	-4.802E-03	6.287E-02	5.017E-05	6.292E-02
.1000	1.361	58.247	212.86	2.051E-01	-8.457E-04	6.156E-02	1.571E-06	6.157E-02
.2000	2.721	59.607	208.01	1.975E-01	8.401E-03	5.847E-02	1.586E-04	5.863E-02
.4000	5.442	62.328	198.92	1.838E-01	2.443E-02	5.292E-02	1.403E-03	5.432E-02
1.0000	13.606	70.492	175.89	1.506E-01	5.776E-02	4.020E-02	8.868E-03	4.907E-02
2.0000	27.212	84.098	147.43	1.132E-01	8.427E-02	2.709E-02	2.252E-02	4.961E-02
5.0000	68.030	124.915	99.26	5.951E-02	9.203E-02	1.112E-02	3.989E-02	5.101E-02
6.0000	81.635	138.521	89.51	5.026E-02	8.800E-02	8.794E-03	4.045E-02	4.924E-02
7.0000	95.241	152.127	81.50	4.309E-02	8.333E-02	7.101E-03	3.983E-02	4.693E-02

RU VIII 6D EO= 2.6221E+00 (RYD) N*= 4.9405 MU= 1.0595

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	35.676	347.54	3.390E-01	-1.302E-01	1.030E-01	2.279E-02	1.258E-01
.0600	.816	36.492	339.76	3.266E-01	-1.151E-01	9.785E-02	1.822E-02	1.161E-01
.3000	4.082	39.757	311.86	2.837E-01	-6.537E-02	8.046E-02	6.405E-03	8.686E-02
.6000	8.164	43.839	282.82	2.417E-01	-2.117E-02	6.437E-02	7.408E-04	6.511E-02
.8000	10.885	46.560	266.29	2.190E-01	5.046E-04	5.611E-02	4.470E-07	5.611E-02
1.0000	13.606	49.281	251.59	1.995E-01	1.763E-02	4.929E-02	5.776E-04	4.986E-02
2.0000	27.212	62.887	197.16	1.337E-01	6.299E-02	2.825E-02	9.408E-03	3.765E-02
3.0000	40.818	76.493	162.09	9.687E-02	7.678E-02	1.804E-02	1.700E-02	3.504E-02
5.0000	68.030	103.705	119.56	5.866E-02	7.680E-02	8.969E-03	2.306E-02	3.203E-02
6.0000	81.635	117.311	105.69	4.784E-02	7.281E-02	6.748E-03	2.345E-02	3.020E-02
7.0000	95.241	130.917	94.71	3.988E-02	6.827E-02	5.233E-03	2.301E-02	2.824E-02

RU VIII 8D EO= 1.3215E+00 (RYD) N*= 6.9592 MU= 1.0408

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	17.980	689.57	6.687E-01	-4.565E-01	2.021E-01	1.413E-01	3.434E-01
.1000	1.361	19.341	641.06	5.925E-01	-3.686E-01	1.707E-01	9.908E-02	2.698E-01
.6000	8.164	26.144	474.25	3.595E-01	-1.255E-01	8.492E-02	1.552E-02	1.004E-01
.8000	10.885	28.865	429.54	3.050E-01	-7.657E-02	6.751E-02	6.381E-03	7.389E-02
1.0000	13.606	31.586	392.53	2.627E-01	-4.153E-02	5.478E-02	2.054E-03	5.683E-02
1.5000	20.409	38.389	322.97	1.900E-01	1.054E-02	3.483E-02	1.608E-04	3.500E-02
2.0000	27.212	45.192	274.35	1.449E-01	3.583E-02	2.384E-02	2.188E-03	2.603E-02
4.0000	54.424	72.404	171.24	6.608E-02	5.728E-02	7.947E-03	8.957E-03	1.690E-02
5.0000	68.030	86.010	144.15	4.957E-02	5.526E-02	5.311E-03	9.904E-03	1.522E-02
6.0000	81.635	99.616	124.46	3.877E-02	5.172E-02	3.764E-03	1.005E-02	1.381E-02
7.0000	95.241	113.222	109.51	3.129E-02	4.785E-02	2.785E-03	9.774E-03	1.256E-02

RU VIII 10D EO= 7.9614E-01 (RYD) N*= 8.9659 MU= 1.0341

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.832	1144.60	1.093E+00	-8.970E-01	3.253E-01	3.286E-01	6.539E-01
.6000	8.164	18.996	652.70	4.297E-01	-1.968E-01	8.817E-02	2.773E-02	1.159E-01
.9000	12.245	23.078	537.26	3.108E-01	-9.503E-02	5.604E-02	7.858E-03	6.390E-02
1.0000	13.606	24.438	507.35	2.825E-01	-7.291E-02	4.904E-02	4.898E-03	5.393E-02
1.5000	20.409	31.241	396.87	1.876E-01	-7.075E-03	2.764E-02	5.896E-05	2.770E-02
2.0000	27.212	38.044	325.90	1.350E-01	2.140E-02	1.744E-02	6.568E-04	1.809E-02
2.5000	34.015	44.847	276.46	1.026E-01	3.446E-02	1.186E-02	2.008E-03	1.387E-02
3.0000	40.818	51.650	240.05	8.098E-02	4.035E-02	8.515E-03	3.171E-03	1.169E-02
5.0000	68.030	78.862	157.22	3.983E-02	4.133E-02	3.145E-03	5.080E-03	8.225E-03
6.0000	81.635	92.468	134.09	3.048E-02	3.838E-02	2.160E-03	5.135E-03	7.295E-03
7.0000	95.241	106.074	116.89	2.419E-02	3.524E-02	1.561E-03	4.967E-03	6.528E-03

RU VIII 12D EO= 5.3191E-01 (RYD) N*= 10.9691 MU= 1.0309

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.237	1713.21	1.605E+00	-1.445E+00	4.688E-01	5.700E-01	1.039E+00
.6000	8.164	15.401	805.07	4.573E-01	-2.350E-01	8.098E-02	3.206E-02	1.130E-01
1.0000	13.606	20.843	594.86	2.762E-01	-8.515E-02	3.996E-02	5.698E-03	4.566E-02
1.5000	20.409	27.646	448.48	1.723E-01	-1.450E-02	2.064E-02	2.192E-04	2.085E-02
2.0000	27.212	34.449	359.91	1.193E-01	1.363E-02	1.232E-02	2.414E-04	1.256E-02
2.5000	34.015	41.252	300.56	8.818E-02	2.587E-02	8.063E-03	1.041E-03	9.104E-03
5.0000	68.030	75.267	164.73	3.211E-02	3.208E-02	1.950E-03	2.921E-03	4.871E-03
6.0000	81.635	88.873	139.51	2.427E-02	2.965E-02	1.316E-03	2.945E-03	4.261E-03
7.0000	95.241	102.478	120.99	1.909E-02	2.710E-02	9.383E-04	2.838E-03	3.776E-03

RU VIII 16D EO= 2.8551E-01 (RYD) N*= 14.9721 MU= 1.0279

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.885	3191.77	2.879E+00	-2.848E+00	8.093E-01	1.188E+00	1.997E+00
.0200	.272	4.157	2982.82	2.573E+00	-2.497E+00	6.915E-01	9.775E-01	1.669E+00
.2000	2.721	6.606	1876.95	1.192E+00	-9.824E-01	2.358E-01	2.404E-01	4.761E-01
.6000	8.164	12.048	1029.09	4.385E-01	-2.485E-01	5.822E-02	2.804E-02	8.626E-02
1.0000	13.606	17.490	708.88	2.354E-01	-8.359E-02	2.437E-02	4.608E-03	2.898E-02
1.5000	20.409	24.293	510.37	1.359E-01	-1.727E-02	1.128E-02	2.731E-04	1.155E-02
2.0000	27.212	31.096	398.72	8.986E-02	6.607E-03	6.312E-03	5.118E-05	6.363E-03
2.5000	34.015	37.899	327.15	6.447E-02	1.637E-02	3.959E-03	3.831E-04	4.342E-03
4.0000	54.424	58.308	212.64	3.123E-02	2.218E-02	1.429E-03	1.081E-03	2.511E-03
5.0000	68.030	71.914	172.41	2.192E-02	2.112E-02	8.686E-04	1.210E-03	2.078E-03
6.0000	81.635	85.520	144.98	1.636E-02	1.942E-02	5.756E-04	1.216E-03	1.792E-03
7.0000	95.241	99.126	125.08	1.275E-02	1.767E-02	4.049E-04	1.167E-03	1.572E-03

RU VIII 20D EO= 1.7778E-01 (RYD) N*= 18.9734 MU= 1.0266

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.419	5125.72	4.467E+00	-4.638E+00	1.213E+00	1.962E+00	3.175E+00
.0200	.272	2.691	4607.40	3.742E+00	-3.805E+00	9.470E-01	1.469E+00	2.416E+00
.0600	.816	3.235	3832.34	2.756E+00	-2.693E+00	6.175E-01	8.845E-01	1.502E+00
.2000	2.721	5.140	2412.14	1.277E+00	-1.095E+00	2.108E-01	2.322E-01	4.430E-01
.6000	8.164	10.582	1171.62	3.843E-01	-2.267E-01	3.928E-02	2.051E-02	5.980E-02
1.0000	13.606	16.025	773.71	1.923E-01	-7.218E-02	1.489E-02	3.148E-03	1.804E-02
1.5000	20.409	22.828	543.14	1.064E-01	-1.549E-02	6.493E-03	2.085E-04	6.700E-03
2.0000	27.212	29.631	418.44	6.868E-02	3.842E-03	3.513E-03	1.650E-05	3.530E-03
2.5000	34.015	36.434	340.31	4.853E-02	1.150E-02	2.157E-03	1.816E-04	2.339E-03
4.0000	54.424	56.843	218.12	2.294E-02	1.593E-02	7.518E-04	5.437E-04	1.295E-03
5.0000	68.030	70.448	176.00	1.597E-02	1.514E-02	4.518E-04	6.089E-04	1.061E-03
6.0000	81.635	84.054	147.51	1.185E-02	1.388E-02	2.967E-04	6.107E-04	9.075E-04
7.0000	95.241	97.660	126.96	9.194E-03	1.261E-02	2.075E-04	5.852E-04	7.927E-04

RU VIII 4F EO= 4.8272E+00 (RYD) N*= 3.6412 MU= .3588

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	65.679	188.78	6.174E-02	6.527E-01	6.742E-03	1.005E+00	1.012E+00
.5000	6.803	72.482	171.06	5.399E-02	5.449E-01	5.691E-03	7.728E-01	7.785E-01
1.0000	13.606	79.285	156.38	4.770E-02	4.613E-01	4.858E-03	6.059E-01	6.108E-01
6.0000	81.635	147.314	84.16	1.890E-02	1.387E-01	1.417E-03	1.018E-01	1.032E-01

RU VIII 5F EO= 2.9792E+00 (RYD) N*= 4.6349 MU= .3651

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	40.535	305.87	1.174E-01	8.938E-01	1.504E-02	1.163E+00	1.178E+00
.5000	6.803	47.338	261.92	9.341E-02	7.028E-01	1.112E-02	8.395E-01	8.507E-01
1.0000	13.606	54.141	229.01	7.655E-02	5.667E-01	8.545E-03	6.243E-01	6.328E-01
4.0000	54.424	94.959	130.57	3.235E-02	2.161E-01	2.677E-03	1.592E-01	1.619E-01
6.0000	81.635	122.171	101.49	2.151E-02	1.361E-01	1.523E-03	8.126E-02	8.278E-02

RU VIII 6F EO= 2.0197E+00 (RYD) N*= 5.6292 MU= .3708

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	27.480	451.19	1.874E-01	1.128E+00	2.600E-02	1.255E+00	1.281E+00
.5000	6.803	34.283	361.66	1.339E-01	8.243E-01	1.656E-02	8.365E-01	8.531E-01
1.0000	13.606	41.086	301.77	1.015E-01	6.297E-01	1.141E-02	5.851E-01	5.965E-01
2.0000	27.212	54.692	226.70	6.524E-02	4.027E-01	6.269E-03	3.185E-01	3.248E-01
6.0000	81.635	109.115	113.63	2.140E-02	1.239E-01	1.346E-03	6.015E-02	6.150E-02

RU VIII 8F EO= 1.1011E+00 (RYD) N*= 7.6239 MU= .3761

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	14.982	827.59	3.592E-01	1.591E+00	5.207E-02	1.362E+00	1.414E+00
.5000	6.803	21.785	569.15	2.012E-01	9.744E-01	2.375E-02	7.427E-01	7.665E-01
1.0000	13.606	28.587	433.71	1.318E-01	6.669E-01	1.337E-02	4.565E-01	4.699E-01
2.0000	27.212	42.193	293.85	7.130E-02	3.747E-01	5.777E-03	2.127E-01	2.185E-01
4.0000	54.424	69.405	178.64	3.183E-02	1.694E-01	1.894E-03	7.154E-02	7.343E-02
6.0000	81.635	96.617	128.33	1.829E-02	9.649E-02	8.700E-04	3.230E-02	3.317E-02

RU VIII 10F EO= 6.9133E-01 (RYD) N*= 9.6216 MU= .3784

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.406	1318.14	5.634E-01	2.063E+00	8.040E-02	1.437E+00	1.518E+00
.5000	6.803	16.209	764.92	2.421E-01	1.030E+00	2.559E-02	6.176E-01	6.432E-01
1.0000	13.606	23.012	538.79	1.401E-01	6.382E-01	1.216E-02	3.365E-01	3.487E-01
2.0000	27.212	36.618	338.59	6.701E-02	3.251E-01	4.429E-03	1.390E-01	1.434E-01
4.0000	54.424	63.830	194.25	2.706E-02	1.361E-01	1.258E-03	4.247E-02	4.373E-02
6.0000	81.635	91.042	136.19	1.486E-02	7.504E-02	5.416E-04	1.841E-02	1.895E-02

RU VIII 12F EO= 4.7395E-01 (RYD) N*= 11.6204 MU= .3796

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.449	1922.70	7.931E-01	2.550E+00	1.093E-01	1.505E+00	1.615E+00
.5000	6.803	13.252	935.64	2.598E-01	1.024E+00	2.410E-02	4.990E-01	5.231E-01
1.0000	13.606	20.054	618.25	1.360E-01	5.837E-01	9.992E-03	2.454E-01	2.554E-01
2.0000	27.212	33.660	368.34	5.970E-02	2.770E-01	3.231E-03	9.276E-02	9.599E-02
4.0000	54.424	60.872	203.68	2.263E-02	1.104E-01	8.393E-04	2.662E-02	2.746E-02

RU VIII 16F EO= 2.6233E-01 (RYD) N*= 15.6193 MU= .3807

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.569	3473.68	1.316E+00	3.575E+00	1.664E-01	1.638E+00	1.805E+00
.5000	6.803	10.372	1195.36	2.538E-01	9.230E-01	1.800E-02	3.173E-01	3.353E-01
1.0000	13.606	17.175	721.89	1.156E-01	4.665E-01	6.181E-03	1.342E-01	1.404E-01
2.0000	27.212	30.781	402.80	4.567E-02	2.026E-01	1.729E-03	4.535E-02	4.708E-02
4.0000	54.424	57.993	213.80	1.614E-02	7.630E-02	4.067E-04	1.212E-02	1.253E-02
6.0000	81.635	85.205	145.52	8.399E-03	4.041E-02	1.619E-04	4.997E-03	5.158E-03

RU VIII 20F EO= 1.6628E-01 (RYD) N*= 19.6188 MU= .3812

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.262	5480.39	1.909E+00	4.672E+00	2.221E-01	1.773E+00	1.995E+00
.2000	2.721	4.984	2487.91	5.673E-01	1.729E+00	4.320E-02	5.351E-01	5.783E-01
.6000	8.164	10.426	1189.21	1.822E-01	6.569E-01	9.320E-03	1.616E-01	1.709E-01
1.0000	13.606	15.868	781.35	9.461E-02	3.709E-01	3.825E-03	7.837E-02	8.220E-02
2.0000	27.212	29.474	420.66	3.530E-02	1.533E-01	9.893E-04	2.488E-02	2.586E-02
4.0000	54.424	56.686	218.72	1.204E-02	5.613E-02	2.215E-04	6.414E-03	6.635E-03
6.0000	81.635	83.898	147.78	6.183E-03	2.943E-02	8.638E-05	2.609E-03	2.695E-03

RH IX 5S EO= 7.2597E+00 (RYD) N*= 3.3403 MU= 1.6597

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	98.775	125.52	.000	1.437E-01	.000	1.282E-01	1.282E-01
2.0000	27.212	125.987	98.41	.000	1.062E-01	.000	8.930E-02	8.930E-02
10.0000	136.059	234.834	52.80	.000	4.725E-02	.000	3.294E-02	3.294E-02

RH IX 6S EO= 4.2445E+00 (RYD) N*= 4.3685 MU= 1.6315

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	57.750	214.70	.000	2.161E-01	.000	1.694E-01	1.694E-01
2.0000	27.212	84.962	145.93	.000	1.300E-01	.000	9.023E-02	9.023E-02
6.0000	81.635	139.385	88.95	.000	6.641E-02	.000	3.863E-02	3.863E-02

RH IX 8S EO= 1.9867E+00 (RYD) N*= 6.3852 MU= 1.6148

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	27.031	458.69	.000	3.996E-01	.000	2.712E-01	2.712E-01
2.0000	27.212	54.243	228.58	.000	1.514E-01	.000	7.814E-02	7.814E-02
6.0000	81.635	108.666	114.10	.000	5.616E-02	.000	2.154E-02	2.154E-02
12.0000	163.271	190.302	65.15	.000	2.529E-02	.000	7.650E-03	7.650E-03

RH IX 10S EO= 1.1505E+00 (RYD) N*= 8.3908 MU= 1.6092

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	15.653	792.08	.000	6.276E-01	.000	3.875E-01	3.875E-01
2.0000	27.212	42.865	289.25	.000	1.481E-01	.000	5.908E-02	5.908E-02
8.0000	108.847	124.501	99.59	.000	3.130E-02	.000	7.665E-03	7.665E-03

RH IX 12S EO= 7.4984E-01 (RYD) N*= 10.3934 MU= 1.6066

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.202	1215.28	.000	8.967E-01	.000	5.156E-01	5.156E-01
2.0000	27.212	37.414	331.39	.000	1.347E-01	.000	4.267E-02	4.267E-02
6.0000	81.635	91.838	135.01	.000	3.576E-02	.000	7.381E-03	7.381E-03
12.0000	163.271	173.473	71.47	.000	1.417E-02	.000	2.188E-03	2.188E-03

RH IX 16S EO= 3.9086E-01 (RYD) N*= 14.3956 MU= 1.6044

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.318	2331.44	.000	1.551E+00	.000	8.038E-01	8.038E-01
2.0000	27.212	32.530	381.15	.000	1.045E-01	.000	2.231E-02	2.231E-02
4.0000	54.424	59.742	207.54	.000	4.203E-02	.000	6.631E-03	6.631E-03
10.0000	136.059	141.377	87.70	.000	1.177E-02	.000	1.230E-03	1.230E-03

RH IX 20S EO= 2.3934E-01 (RYD) N*= 18.3966 MU= 1.6034

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.256	3807.46	.000	2.352E+00	.000	1.132E+00	1.132E+00
1.0000	13.606	16.862	735.29	.000	1.976E-01	.000	4.139E-02	4.139E-02
4.0000	54.424	57.680	214.96	.000	3.087E-02	.000	3.455E-03	3.455E-03

RH IX 5P EO= 6.4779E+00 (RYD) N*= 3.5361 MU= 1.4639

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	88.138	140.67	1.846E-01	1.001E-01	6.291E-02	3.697E-02	9.988E-02
.6000	8.164	96.302	128.75	1.601E-01	9.717E-02	5.173E-02	3.809E-02	8.983E-02
1.0000	13.606	101.744	121.86	1.466E-01	9.481E-02	4.582E-02	3.832E-02	8.414E-02
1.5000	20.409	108.547	114.22	1.322E-01	9.164E-02	3.971E-02	3.819E-02	7.790E-02
2.0000	27.212	115.350	107.49	1.199E-01	8.836E-02	3.472E-02	3.773E-02	7.245E-02

RH IX 6P EO= 3.8814E+00 (RYD) N*= 4.5682 MU= 1.4318

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	52.811	234.78	3.028E-01	1.117E-01	1.014E-01	2.759E-02	1.290E-01
.0600	.816	53.627	231.20	2.953E-01	1.115E-01	9.797E-02	2.792E-02	1.259E-01
.9000	12.245	65.056	190.58	2.153E-01	1.049E-01	6.315E-02	3.000E-02	9.315E-02
1.0000	13.606	66.416	186.68	2.081E-01	1.039E-01	6.025E-02	3.002E-02	9.027E-02
2.0000	27.212	80.022	154.94	1.534E-01	9.295E-02	3.942E-02	2.897E-02	6.839E-02
3.0000	40.818	93.628	132.42	1.186E-01	8.270E-02	2.757E-02	2.682E-02	5.440E-02

RH IX 8P EO= 1.8660E+00 (RYD) N*= 6.5885 MU= 1.4115

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	25.389	488.35	6.225E-01	1.205E-01	2.061E-01	1.545E-02	2.215E-01
.7000	9.524	34.913	355.13	3.669E-01	1.179E-01	9.842E-02	2.034E-02	1.188E-01
.8000	10.885	36.273	341.81	3.443E-01	1.161E-01	9.005E-02	2.047E-02	1.105E-01
.9000	12.245	37.634	329.45	3.238E-01	1.141E-01	8.265E-02	2.052E-02	1.032E-01
1.0000	13.606	38.995	317.96	3.052E-01	1.121E-01	7.610E-02	2.051E-02	9.661E-02
2.0000	27.212	52.600	235.71	1.854E-01	9.181E-02	3.787E-02	1.857E-02	5.645E-02

RH IX 10P EO= 1.0963E+00 (RYD) N*= 8.5955 MU= 1.4045

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	14.916	831.20	1.046E+00	1.065E-01	3.417E-01	7.084E-03	3.488E-01
.2000	2.721	17.638	702.96	7.912E-01	1.214E-01	2.313E-01	1.089E-02	2.422E-01
.8000	10.885	25.801	480.54	4.193E-01	1.157E-01	9.501E-02	1.447E-02	1.095E-01
.9000	12.245	27.162	456.47	3.847E-01	1.128E-01	8.422E-02	1.449E-02	9.871E-02
1.0000	13.606	28.522	434.70	3.545E-01	1.099E-01	7.509E-02	1.442E-02	8.952E-02
2.0000	27.212	42.128	294.31	1.844E-01	8.298E-02	3.000E-02	1.215E-02	4.215E-02
3.0000	40.818	55.734	222.46	1.153E-01	6.456E-02	1.551E-02	9.731E-03	2.524E-02
4.0000	54.424	69.340	178.81	7.987E-02	5.211E-02	9.266E-03	7.889E-03	1.715E-02

RH IX 12P EO= 7.2105E-01 (RYD) N*= 10.5989 MU= 1.4011

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.811	1263.80	1.567E+00	6.960E-02	5.049E-01	1.991E-03	5.069E-01
.4000	5.442	15.253	812.87	7.505E-01	1.189E-01	1.800E-01	9.032E-03	1.890E-01
.6000	8.164	17.974	689.80	5.702E-01	1.160E-01	1.224E-01	1.014E-02	1.325E-01
.7000	9.524	19.335	641.26	5.045E-01	1.131E-01	1.031E-01	1.036E-02	1.135E-01
.8000	10.885	20.695	599.10	4.502E-01	1.097E-01	8.784E-02	1.044E-02	9.828E-02
.9000	12.245	22.056	562.15	4.045E-01	1.061E-01	7.561E-02	1.041E-02	8.602E-02
1.0000	13.606	23.416	529.48	3.659E-01	1.025E-01	6.565E-02	1.031E-02	7.596E-02
2.0000	27.212	37.022	334.90	1.693E-01	7.239E-02	2.223E-02	8.127E-03	3.036E-02
4.0000	54.424	64.234	193.02	6.692E-02	4.251E-02	6.026E-03	4.862E-03	1.089E-02

RH IX 16P EO= 3.7990E-01 (RYD) N*= 14.6018 MU= 1.3982

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.169	2398.70	2.893E+00	-7.028E-02	9.059E-01	1.070E-03	9.070E-01
.0200	.272	5.441	2278.73	2.656E+00	-3.936E-02	8.037E-01	3.531E-04	8.041E-01
.0600	.816	5.985	2071.53	2.265E+00	6.779E-03	6.433E-01	1.152E-05	6.433E-01
.1000	1.361	6.529	1898.86	1.959E+00	3.824E-02	5.249E-01	4.000E-04	5.253E-01
.2000	2.721	7.890	1571.42	1.428E+00	8.069E-02	3.369E-01	2.152E-03	3.391E-01
.6000	8.164	13.332	929.96	5.925E-01	1.000E-01	9.805E-02	5.588E-03	1.036E-01
.7000	9.524	14.693	843.84	5.032E-01	9.640E-02	7.794E-02	5.720E-03	8.366E-02
.8000	10.885	16.054	772.33	4.336E-01	9.232E-02	6.322E-02	5.732E-03	6.895E-02
.9000	12.245	17.414	711.98	3.781E-01	8.813E-02	5.215E-02	5.667E-03	5.782E-02
1.0000	13.606	18.775	660.39	3.331E-01	8.402E-02	4.364E-02	5.553E-03	4.919E-02
3.0000	40.818	45.987	269.61	7.340E-02	3.841E-02	5.190E-03	2.842E-03	8.033E-03

RH IX 20P EO= 2.3405E-01 (RYD) N*= 18.6031 MU= 1.3969

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.185	3893.41	4.578E+00	-2.952E-01	1.398E+00	1.162E-02	1.409E+00
.0200	.272	3.457	3586.91	3.993E+00	-2.089E-01	1.154E+00	6.322E-03	1.161E+00
.0600	.816	4.001	3098.98	3.129E+00	-9.468E-02	8.203E-01	1.503E-03	8.218E-01
.1000	1.361	4.545	2727.91	2.528E+00	-2.649E-02	6.086E-01	1.336E-04	6.087E-01
.2000	2.721	5.906	2099.44	1.631E+00	5.225E-02	3.293E-01	6.755E-04	3.299E-01
.4000	5.442	8.627	1437.21	8.641E-01	8.582E-02	1.349E-01	2.662E-03	1.376E-01
.5000	6.803	9.987	1241.42	6.756E-01	8.617E-02	9.549E-02	3.107E-03	9.860E-02
.6000	8.164	11.348	1092.58	5.450E-01	8.354E-02	7.061E-02	3.318E-03	7.393E-02
.7000	9.524	12.709	975.61	4.504E-01	7.979E-02	5.401E-02	3.390E-03	5.740E-02
.8000	10.885	14.069	881.26	3.795E-01	7.567E-02	4.244E-02	3.375E-03	4.582E-02
1.0000	13.606	16.790	738.43	2.817E-01	6.760E-02	2.790E-02	3.215E-03	3.112E-02
2.0000	27.212	30.396	407.90	1.033E-01	4.111E-02	6.797E-03	2.152E-03	8.949E-03
4.0000	54.424	57.608	215.22	3.501E-02	2.145E-02	1.479E-03	1.110E-03	2.589E-03

RH IX 4D EO= 1.0045E+01 (RYD) N*= 2.8397 MU= 1.1603

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	136.665	90.72	9.513E-02	1.218E-01	3.109E-02	7.647E-02	1.076E-01
1.0000	13.606	150.271	82.51	8.174E-02	1.270E-01	2.524E-02	9.141E-02	1.166E-01
2.0000	27.212	163.877	75.66	7.113E-02	1.274E-01	2.084E-02	1.003E-01	1.212E-01
3.0000	40.818	177.483	69.86	6.256E-02	1.251E-01	1.746E-02	1.048E-01	1.222E-01
4.0000	54.424	191.089	64.88	5.552E-02	1.213E-01	1.480E-02	1.060E-01	1.208E-01
5.0000	68.030	204.695	60.57	4.965E-02	1.167E-01	1.268E-02	1.051E-01	1.178E-01

RH IX 5D EO= 5.1831E+00 (RYD) N*= 3.9532 MU= 1.0468

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	70.521	175.81	1.759E-01	6.903E-02	5.486E-02	1.267E-02	6.753E-02
1.0000	13.606	84.127	147.38	1.319E-01	9.613E-02	3.681E-02	2.931E-02	6.612E-02
4.0000	54.424	124.945	99.23	6.903E-02	1.020E-01	1.497E-02	4.903E-02	6.400E-02
5.0000	68.030	138.551	89.49	5.823E-02	9.725E-02	1.181E-02	4.940E-02	6.121E-02
6.0000	81.635	152.157	81.49	4.988E-02	9.190E-02	9.516E-03	4.845E-02	5.796E-02

RH IX 6D EO= 3.2634E+00 (RYD) N*= 4.9820 MU= 1.0180

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	44.402	279.24	2.804E-01	6.104E-03	8.778E-02	6.238E-05	8.784E-02
.1000	1.361	45.762	270.94	2.668E-01	1.679E-02	8.188E-02	4.867E-04	8.237E-02
.2000	2.721	47.123	263.11	2.542E-01	2.623E-02	7.653E-02	1.223E-03	7.775E-02
1.0000	13.606	58.008	213.74	1.803E-01	7.144E-02	4.738E-02	1.116E-02	5.855E-02
4.0000	54.424	98.825	125.46	7.451E-02	8.949E-02	1.379E-02	2.984E-02	4.363E-02
5.0000	68.030	112.431	110.28	6.010E-02	8.441E-02	1.021E-02	3.021E-02	4.041E-02
6.0000	81.635	126.037	98.37	4.966E-02	7.878E-02	7.814E-03	2.949E-02	3.731E-02

RH IX 8D EO= 1.6525E+00 (RYD) N*= 7.0012 MU= .9988

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	22.484	551.45	5.553E-01	-1.779E-01	1.742E-01	2.684E-02	2.011E-01
.6000	8.164	30.647	404.56	3.312E-01	-1.579E-02	8.453E-02	2.882E-04	8.482E-02
.8000	10.885	33.368	371.57	2.874E-01	9.514E-03	6.928E-02	1.139E-04	6.939E-02
1.0000	13.606	36.089	343.55	2.521E-01	2.771E-02	5.766E-02	1.045E-03	5.871E-02
1.5000	20.409	42.892	289.06	1.889E-01	5.425E-02	3.847E-02	4.760E-03	4.323E-02
2.5000	34.015	56.498	219.45	1.190E-01	7.069E-02	2.013E-02	1.065E-02	3.077E-02
4.0000	54.424	76.907	161.22	7.091E-02	6.886E-02	9.720E-03	1.375E-02	2.347E-02
5.0000	68.030	90.513	136.98	5.389E-02	6.380E-02	6.608E-03	1.389E-02	2.050E-02
6.0000	81.635	104.119	119.08	4.255E-02	5.843E-02	4.738E-03	1.340E-02	1.814E-02

RH IX 10D EO= 9.9819E-01 (RYD) N*= 9.0081 MU= .9919

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	13.581	912.92	9.103E-01	-4.390E-01	2.829E-01	9.871E-02	3.816E-01
.2000	2.721	16.303	760.54	6.711E-01	-2.496E-01	1.846E-01	3.828E-02	2.229E-01
.6000	8.164	21.745	570.19	4.147E-01	-7.395E-02	9.400E-02	4.484E-03	9.848E-02
.8000	10.885	24.466	506.77	3.404E-01	-3.118E-02	7.127E-02	8.967E-04	7.217E-02
1.0000	13.606	27.187	456.05	2.853E-01	-2.846E-03	5.563E-02	8.303E-06	5.563E-02
1.5000	20.409	33.990	364.77	1.962E-01	3.454E-02	3.287E-02	1.529E-03	3.440E-02
2.0000	27.212	40.793	303.94	1.443E-01	4.940E-02	2.137E-02	3.753E-03	2.512E-02
4.0000	54.424	68.005	182.32	6.096E-02	5.356E-02	6.353E-03	7.357E-03	1.371E-02
5.0000	68.030	81.611	151.92	4.477E-02	4.903E-02	4.112E-03	7.398E-03	1.151E-02
6.0000	81.635	95.217	130.21	3.447E-02	4.439E-02	2.844E-03	7.074E-03	9.918E-03

RH IX 12D EO= 6.6803E-01 (RYD) N*= 11.0115 MU= .9885

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.089	1364.12	1.341E+00	-7.733E-01	4.106E-01	2.049E-01	6.155E-01
.2000	2.721	11.810	1049.82	8.658E-01	-3.931E-01	2.226E-01	6.880E-02	2.914E-01
.6000	8.164	17.253	718.65	4.595E-01	-1.135E-01	9.155E-02	8.377E-03	9.993E-02
.8000	10.885	19.974	620.74	3.595E-01	-5.616E-02	6.489E-02	2.375E-03	6.727E-02
1.0000	13.606	22.695	546.32	2.902E-01	-2.075E-02	4.804E-02	3.685E-04	4.841E-02
1.5000	20.409	29.498	420.32	1.868E-01	2.238E-02	2.588E-02	5.570E-04	2.643E-02
2.0000	27.212	36.301	341.55	1.317E-01	3.809E-02	1.583E-02	1.986E-03	1.782E-02
3.0000	40.818	49.907	248.44	7.696E-02	4.482E-02	7.430E-03	3.780E-03	1.121E-02
4.0000	54.424	63.513	195.21	5.117E-02	4.259E-02	4.181E-03	4.343E-03	8.524E-03
5.0000	68.030	77.119	160.77	3.682E-02	3.868E-02	2.627E-03	4.350E-03	6.977E-03
6.0000	81.635	90.725	136.66	2.793E-02	3.476E-02	1.779E-03	4.134E-03	5.913E-03

RH IX 16D EO= 3.5930E-01 (RYD) N*= 15.0145 MU= .9855

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.889	2536.20	2.413E+00	-1.649E+00	7.157E-01	5.014E-01	1.217E+00
.6000	8.164	13.052	949.93	4.682E-01	-1.467E-01	7.193E-02	1.059E-02	8.252E-02
.8000	10.885	15.773	786.05	3.409E-01	-7.425E-02	4.608E-02	3.278E-03	4.936E-02
1.0000	13.606	18.495	670.39	2.610E-01	-3.384E-02	3.167E-02	7.987E-04	3.247E-02
1.5000	20.409	25.298	490.11	1.541E-01	1.035E-02	1.510E-02	1.021E-04	1.521E-02
2.0000	27.212	32.100	386.24	1.031E-01	2.474E-02	8.584E-03	7.407E-04	9.324E-03
2.5000	34.015	38.903	318.70	7.453E-02	2.945E-02	5.432E-03	1.272E-03	6.704E-03
3.0000	40.818	45.706	271.27	5.674E-02	3.046E-02	3.698E-03	1.599E-03	5.298E-03
4.0000	54.424	59.312	209.04	3.646E-02	2.877E-02	1.982E-03	1.852E-03	3.834E-03
5.0000	68.030	72.918	170.03	2.567E-02	2.590E-02	1.208E-03	1.845E-03	3.052E-03
6.0000	81.635	86.524	143.30	1.918E-02	2.310E-02	7.999E-04	1.741E-03	2.541E-03

RH IX 20D EO= 2.2400E-01 (RYD) N*= 19.0158 MU= .9842

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.048	4068.10	3.755E+00	-2.788E+00	1.080E+00	8.934E-01	1.974E+00
.1000	1.361	4.408	2812.53	2.030E+00	-1.329E+00	4.567E-01	2.935E-01	7.502E-01
.6000	8.164	11.211	1105.90	4.272E-01	-1.466E-01	5.142E-02	9.079E-03	6.050E-02
.8000	10.885	13.933	889.91	2.968E-01	-7.274E-02	3.085E-02	2.779E-03	3.363E-02
1.0000	13.606	16.654	744.50	2.200E-01	-3.416E-02	2.026E-02	7.327E-04	2.099E-02
1.5000	20.409	23.457	528.58	1.236E-01	5.449E-03	9.009E-03	2.626E-05	9.036E-03
2.0000	27.212	30.260	409.74	8.043E-02	1.756E-02	4.921E-03	3.518E-04	5.273E-03
3.0000	40.818	43.866	282.65	4.290E-02	2.218E-02	2.029E-03	8.138E-04	2.843E-03
4.0000	54.424	57.471	215.74	2.712E-02	2.089E-02	1.062E-03	9.453E-04	2.008E-03
5.0000	68.030	71.077	174.44	1.889E-02	1.872E-02	6.374E-04	9.389E-04	1.576E-03

RH IX 4F EO= 6.2521E+00 (RYD) N*= 3.5994 MU= .4006

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	85.065	145.75	6.077E-02	5.158E-01	8.460E-03	8.127E-01	8.212E-01
2.0000	27.212	112.277	110.43	3.965E-02	3.065E-01	4.755E-03	3.788E-01	3.836E-01
6.0000	81.635	166.701	74.38	2.085E-02	1.410E-01	1.952E-03	1.191E-01	1.210E-01

RH IX 5F EO= 3.8090E+00 (RYD) N*= 4.6115 MU= .3885

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	51.824	239.24	1.161E-01	7.004E-01	1.880E-02	9.130E-01	9.318E-01
2.0000	27.212	79.036	156.87	5.912E-02	3.558E-01	7.440E-03	3.593E-01	3.667E-01
6.0000	81.635	133.460	92.90	2.471E-02	1.410E-01	2.195E-03	9.533E-02	9.753E-02

RH IX 6F EO= 2.5735E+00 (RYD) N*= 5.6102 MU= .3898

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	35.015	354.09	1.875E-01	8.863E-01	3.316E-02	9.876E-01	1.021E+00
2.0000	27.212	62.227	199.25	7.363E-02	3.777E-01	9.085E-03	3.187E-01	3.278E-01
4.0000	54.424	89.439	138.63	4.019E-02	2.085E-01	3.891E-03	1.396E-01	1.435E-01
6.0000	81.635	116.651	106.29	2.549E-02	1.316E-01	2.042E-03	7.251E-02	7.456E-02

RH IX 8F EO= 1.3995E+00 (RYD) N*= 7.6078 MU= .3922

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	19.041	651.15	3.684E-01	1.258E+00	6.959E-02	1.082E+00	1.151E+00
1.0000	13.606	32.647	379.78	1.529E-01	6.116E-01	2.057E-02	4.385E-01	4.591E-01
2.0000	27.212	46.253	268.06	8.598E-02	3.684E-01	9.208E-03	2.254E-01	2.346E-01
4.0000	54.424	73.465	168.77	3.937E-02	1.788E-01	3.066E-03	8.438E-02	8.745E-02

RH IX 10F EO= 8.7769E-01 (RYD) N*= 9.6066 MU= .3934

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.942	1038.25	5.915E-01	1.638E+00	1.125E-01	1.151E+00	1.263E+00
.5000	6.803	18.745	661.45	2.844E-01	9.228E-01	4.084E-02	5.732E-01	6.140E-01
1.0000	13.606	25.548	485.31	1.714E-01	6.076E-01	2.021E-02	3.386E-01	3.588E-01
2.0000	27.212	39.154	316.67	8.450E-02	3.305E-01	7.529E-03	1.535E-01	1.611E-01
4.0000	54.424	66.365	186.82	3.455E-02	1.472E-01	2.134E-03	5.161E-02	5.374E-02
6.0000	81.635	93.577	132.50	1.900E-02	8.381E-02	9.100E-04	2.360E-02	2.451E-02

RH IX 12F EO= 6.0134E-01 (RYD) N*= 11.6060 MU= .3940

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.182	1515.40	8.511E-01	2.032E+00	1.596E-01	1.213E+00	1.373E+00
.5000	6.803	14.985	827.42	3.193E-01	9.454E-01	4.115E-02	4.809E-01	5.221E-01
1.0000	13.606	21.788	569.07	1.733E-01	5.722E-01	1.762E-02	2.562E-01	2.738E-01
2.0000	27.212	35.394	350.31	7.757E-02	2.880E-01	5.735E-03	1.055E-01	1.112E-01
4.0000	54.424	62.605	198.04	2.947E-02	1.211E-01	1.464E-03	3.296E-02	3.442E-02
6.0000	81.635	89.817	138.04	1.570E-02	6.735E-02	5.965E-04	1.463E-02	1.523E-02

RH IX 16F EO= 3.3261E-01 (RYD) N*= 15.6054 MU= .3946

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.525	2739.74	1.467E+00	2.865E+00	2.624E-01	1.334E+00	1.596E+00
.5000	6.803	11.328	1094.47	3.340E-01	8.937E-01	3.403E-02	3.249E-01	3.590E-01
1.0000	13.606	18.131	683.82	1.552E-01	4.758E-01	1.177E-02	1.474E-01	1.592E-01
2.0000	27.212	31.737	390.66	6.145E-02	2.164E-01	3.228E-03	5.337E-02	5.660E-02
4.0000	54.424	58.949	210.33	2.146E-02	8.506E-02	7.314E-04	1.532E-02	1.605E-02
6.0000	81.635	86.161	143.90	1.106E-02	4.612E-02	2.837E-04	6.581E-03	6.865E-03

RH IX 20F EO= 2.1074E-01 (RYD) N*= 19.6051 MU= .3949

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.867	4324.13	2.200E+00	3.759E+00	3.737E-01	1.455E+00	1.829E+00
.2000	2.721	5.588	2218.60	7.529E-01	1.619E+00	8.532E-02	5.257E-01	6.110E-01
.6000	8.164	11.031	1123.99	2.517E-01	6.653E-01	1.882E-02	1.753E-01	1.941E-01
1.0000	13.606	16.473	752.65	1.310E-01	3.872E-01	7.612E-03	8.870E-02	9.631E-02
2.0000	27.212	30.079	412.20	4.837E-02	1.661E-01	1.895E-03	2.982E-02	3.171E-02
4.0000	54.424	57.291	216.42	1.618E-02	6.307E-02	4.041E-04	8.183E-03	8.587E-03

PD X 5S EO= 8.5469E+00 (RYD) N*= 3.4205 MU= 1.5795

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	116.289	106.62	.000	1.261E-01	.000	1.163E-01	1.163E-01
2.0000	27.212	143.500	86.40	.000	9.676E-02	.000	8.442E-02	8.442E-02
10.0000	136.059	252.348	49.13	.000	4.616E-02	.000	3.379E-02	3.379E-02

PD X 6S EO= 5.0560E+00 (RYD) N*= 4.4473 MU= 1.5527

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	68.791	180.24	.000	1.884E-01	.000	1.535E-01	1.535E-01
2.0000	27.212	96.003	129.15	.000	1.210E-01	.000	8.829E-02	8.829E-02
8.0000	108.847	177.639	69.80	.000	5.211E-02	.000	3.031E-02	3.031E-02

PD X 8S EO= 2.3936E+00 (RYD) N*= 6.4635 MU= 1.5365

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	32.568	380.70	.000	3.460E-01	.000	2.450E-01	2.450E-01
2.0000	27.212	59.779	207.41	.000	1.476E-01	.000	8.183E-02	8.183E-02
6.0000	81.635	114.203	108.57	.000	5.834E-02	.000	2.443E-02	2.443E-02
12.0000	163.271	195.839	63.31	.000	2.693E-02	.000	8.924E-03	8.924E-03

PD X 10S EO= 1.3942E+00 (RYD) N*= 8.4690 MU= 1.5310

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	18.970	653.60	.000	5.419E-01	.000	3.500E-01	3.500E-01
2.0000	27.212	46.182	268.48	.000	1.503E-01	.000	6.552E-02	6.552E-02
6.0000	81.635	100.605	123.24	.000	4.797E-02	.000	1.455E-02	1.455E-02
8.0000	108.847	127.817	97.00	.000	3.381E-02	.000	9.180E-03	9.180E-03

PD X 12S EO= 9.1196E-01 (RYD) N*= 10.4716 MU= 1.5284

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	12.408	999.24	.000	7.731E-01	.000	4.660E-01	4.660E-01
2.0000	27.212	39.620	312.94	.000	1.409E-01	.000	4.941E-02	4.941E-02
6.0000	81.635	94.044	131.84	.000	3.904E-02	.000	9.009E-03	9.009E-03
10.0000	136.059	148.467	83.51	.000	1.995E-02	.000	3.712E-03	3.712E-03

PD X 16S EO= 4.7735E-01 (RYD) N*= 14.4738 MU= 1.5262

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.495	1909.02	.000	1.336E+00	.000	7.280E-01	7.280E-01
2.0000	27.212	33.707	367.84	.000	1.135E-01	.000	2.731E-02	2.731E-02
4.0000	54.424	60.918	203.53	.000	4.658E-02	.000	8.305E-03	8.305E-03
8.0000	108.847	115.342	107.49	.000	1.796E-02	.000	2.338E-03	2.338E-03

PD X 20S EO= 2.9298E-01 (RYD) N*= 18.4747 MU= 1.5253

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.986	3110.30	.000	2.025E+00	.000	1.027E+00	1.027E+00
.5000	6.803	10.789	1149.16	.000	4.504E-01	.000	1.375E-01	1.375E-01
1.0000	13.606	17.592	704.78	.000	2.142E-01	.000	5.071E-02	5.071E-02
4.0000	54.424	58.410	212.27	.000	3.467E-02	.000	4.413E-03	4.413E-03

PD X 5P EO= 7.6848E+00 (RYD) N*= 3.6073 MU= 1.3927

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	104.558	118.58	1.542E-01	1.019E-01	5.206E-02	4.545E-02	9.750E-02
1.0000	13.606	118.164	104.93	1.266E-01	9.472E-02	3.970E-02	4.441E-02	8.411E-02
8.0000	108.847	213.406	58.10	4.882E-02	5.676E-02	1.066E-02	2.880E-02	3.946E-02

PD X 6P EO= 4.6488E+00 (RYD) N*= 4.6380 MU= 1.3620

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	63.252	196.02	2.512E-01	1.209E-01	8.360E-02	3.874E-02	1.223E-01
.0500	.680	63.932	193.94	2.468E-01	1.203E-01	8.159E-02	3.876E-02	1.204E-01
.1000	1.361	64.612	191.89	2.426E-01	1.197E-01	7.965E-02	3.877E-02	1.184E-01
.2000	2.721	65.973	187.94	2.345E-01	1.184E-01	7.596E-02	3.875E-02	1.147E-01
1.0000	13.606	76.857	161.32	1.826E-01	1.079E-01	5.365E-02	3.748E-02	9.113E-02

PD X 8P EO= 2.2561E+00 (RYD) N*= 6.6577 MU= 1.3423

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	30.696	403.92	5.125E-01	1.526E-01	1.689E-01	2.995E-02	1.989E-01
.1000	1.361	32.057	386.77	4.770E-01	1.502E-01	1.528E-01	3.031E-02	1.831E-01
.2000	2.721	33.417	371.02	4.452E-01	1.476E-01	1.387E-01	3.049E-02	1.692E-01
.6000	8.164	38.860	319.06	3.465E-01	1.359E-01	9.772E-02	3.006E-02	1.278E-01
1.0000	13.606	44.302	279.87	2.786E-01	1.242E-01	7.203E-02	2.864E-02	1.007E-01
4.0000	54.424	85.120	145.66	9.373E-02	6.869E-02	1.567E-02	1.682E-02	3.249E-02
6.0000	81.635	112.332	110.38	5.899E-02	5.118E-02	8.188E-03	1.233E-02	2.052E-02

PD X 10P EO= 1.3320E+00 (RYD) N*= 8.6646 MU= 1.3354

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	18.123	684.13	8.578E-01	1.724E-01	2.793E-01	2.256E-02	3.019E-01
.2000	2.721	20.844	594.82	6.796E-01	1.661E-01	2.017E-01	2.409E-02	2.258E-01
.3000	4.082	22.205	558.37	6.116E-01	1.616E-01	1.740E-01	2.431E-02	1.983E-01
.4000	5.442	23.566	526.13	5.539E-01	1.568E-01	1.514E-01	2.429E-02	1.757E-01
.8000	10.885	29.008	427.42	3.914E-01	1.373E-01	9.310E-02	2.291E-02	1.160E-01
1.0000	13.606	31.729	390.77	3.369E-01	1.283E-01	7.543E-02	2.188E-02	9.731E-02
4.0000	54.424	72.547	170.91	8.404E-02	5.814E-02	1.073E-02	1.027E-02	2.100E-02
6.0000	81.635	99.759	124.29	4.920E-02	4.094E-02	5.058E-03	7.004E-03	1.206E-02

PD X 12P EO= 8.7871E-01 (RYD) N*= 10.6678 MU= 1.3322

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.956	1037.05	1.283E+00	1.798E-01	4.122E-01	1.620E-02	4.284E-01
.3000	4.082	16.037	773.10	7.860E-01	1.699E-01	2.076E-01	1.939E-02	2.269E-01
.4000	5.442	17.398	712.65	6.860E-01	1.632E-01	1.715E-01	1.941E-02	1.909E-01
.5000	6.803	18.759	660.96	6.048E-01	1.562E-01	1.437E-01	1.919E-02	1.629E-01
.8000	10.885	22.840	542.84	4.349E-01	1.363E-01	9.047E-02	1.779E-02	1.083E-01
1.0000	13.606	25.562	485.05	3.600E-01	1.247E-01	6.939E-02	1.664E-02	8.604E-02
4.0000	54.424	66.379	186.78	7.214E-02	4.844E-02	7.236E-03	6.524E-03	1.376E-02

PD X 16P EO= 4.6462E-01 (RYD) N*= 14.6708 MU= 1.3292

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.322	1961.34	2.362E+00	1.586E-01	7.386E-01	6.658E-03	7.452E-01
.1000	1.361	7.682	1613.96	1.706E+00	1.781E-01	4.685E-01	1.021E-02	4.787E-01
.3000	4.082	10.403	1191.80	1.028E+00	1.698E-01	2.302E-01	1.256E-02	2.427E-01
.4000	5.442	11.764	1053.96	8.364E-01	1.598E-01	1.724E-01	1.259E-02	1.850E-01
.5000	6.803	13.124	944.70	6.962E-01	1.496E-01	1.332E-01	1.230E-02	1.455E-01
.8000	10.885	17.206	720.59	4.417E-01	1.224E-01	7.031E-02	1.079E-02	8.111E-02
1.0000	13.606	19.927	622.19	3.450E-01	1.080E-01	4.967E-02	9.731E-03	5.941E-02
4.0000	54.424	60.745	204.11	5.246E-02	3.423E-02	3.502E-03	2.983E-03	6.484E-03

PD X 20P EO= 2.8683E-01 (RYD) N*= 18.6720 MU= 1.3280

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.903	3177.08	3.733E+00	9.057E-02	1.139E+00	1.341E-03	1.140E+00
.0500	.680	4.583	2705.46	2.855E+00	1.395E-01	7.825E-01	3.735E-03	7.863E-01
.2000	2.721	6.624	1871.86	1.543E+00	1.670E-01	3.302E-01	7.738E-03	3.379E-01
.3000	4.082	7.984	1552.88	1.128E+00	1.585E-01	2.128E-01	8.401E-03	2.212E-01
.4000	5.442	9.345	1326.78	8.663E-01	1.464E-01	1.469E-01	8.391E-03	1.553E-01
.6000	8.164	12.066	1027.56	5.639E-01	1.231E-01	8.036E-02	7.661E-03	8.802E-02
1.0000	13.606	17.508	708.15	3.012E-01	8.979E-02	3.327E-02	5.914E-03	3.918E-02
2.0000	27.212	31.114	398.49	1.140E-01	5.066E-02	8.468E-03	3.346E-03	1.181E-02
4.0000	54.424	58.326	212.57	3.930E-02	2.534E-02	1.887E-03	1.569E-03	3.456E-03
6.0000	81.635	85.538	144.95	2.054E-02	1.626E-02	7.559E-04	9.475E-04	1.703E-03

PD X 4D EO= 1.1949E+01 (RYD) N*= 2.8929 MU= 1.1071

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	162.577	76.26	7.904E-02	1.303E-01	2.553E-02	1.040E-01	1.295E-01
1.0000	13.606	176.183	70.37	6.941E-02	1.292E-01	2.134E-02	1.109E-01	1.323E-01
2.0000	27.212	189.789	65.33	6.153E-02	1.262E-01	1.806E-02	1.139E-01	1.320E-01
3.0000	40.818	203.395	60.96	5.497E-02	1.220E-01	1.545E-02	1.142E-01	1.296E-01
4.0000	54.424	217.001	57.14	4.946E-02	1.173E-01	1.334E-02	1.125E-01	1.259E-01

PD X 5D EO= 6.2516E+00 (RYD) N*= 3.9995 MU= 1.0005

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	85.059	145.76	1.473E-01	1.070E-01	4.636E-02	3.675E-02	8.311E-02
1.0000	13.606	98.665	125.66	1.154E-01	1.150E-01	3.300E-02	4.924E-02	8.224E-02
3.0000	40.818	125.877	98.50	7.716E-02	1.109E-01	1.884E-02	5.839E-02	7.723E-02
4.0000	54.424	139.483	88.89	6.509E-02	1.055E-01	1.485E-02	5.852E-02	7.337E-02
5.0000	68.030	153.089	80.99	5.576E-02	9.952E-02	1.196E-02	5.717E-02	6.914E-02
6.0000	81.635	166.695	74.38	4.838E-02	9.354E-02	9.808E-03	5.499E-02	6.480E-02

PD X 6D EO= 3.9560E+00 (RYD) N*= 5.0277 MU= .9723

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	53.825	230.35	2.353E-01	7.760E-02	7.493E-02	1.222E-02	8.715E-02
1.0000	13.606	67.431	183.87	1.617E-01	1.029E-01	4.431E-02	2.690E-02	7.122E-02
3.0000	40.818	94.643	131.00	9.178E-02	1.027E-01	2.004E-02	3.767E-02	5.771E-02
4.0000	54.424	108.249	114.54	7.327E-02	9.651E-02	1.461E-02	3.802E-02	5.262E-02
5.0000	68.030	121.855	101.75	6.005E-02	8.969E-02	1.105E-02	3.696E-02	4.800E-02
6.0000	81.635	135.461	91.53	5.025E-02	8.302E-02	8.597E-03	3.520E-02	4.380E-02

PD X 8D EO= 2.0139E+00 (RYD) N*= 7.0466 MU= .9534

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	27.401	452.49	4.674E-01	-2.026E-02	1.505E-01	4.242E-04	1.509E-01
.0500	.680	28.081	441.53	4.486E-01	-1.024E-02	1.420E-01	1.111E-04	1.421E-01
.1000	1.361	28.762	431.08	4.309E-01	-1.138E-03	1.343E-01	1.404E-06	1.343E-01
.2000	2.721	30.122	411.61	3.988E-01	1.469E-02	1.204E-01	2.450E-04	1.207E-01
.3000	4.082	31.483	393.82	3.704E-01	2.783E-02	1.086E-01	9.195E-04	1.095E-01
.4000	5.442	32.843	377.51	3.450E-01	3.878E-02	9.826E-02	1.862E-03	1.001E-01
1.0000	13.606	41.007	302.36	2.377E-01	7.535E-02	5.822E-02	8.779E-03	6.700E-02
2.0000	27.212	54.613	227.03	1.467E-01	8.881E-02	2.954E-02	1.624E-02	4.578E-02
3.0000	40.818	68.219	181.75	1.007E-01	8.551E-02	1.740E-02	1.881E-02	3.621E-02
4.0000	54.424	81.825	151.53	7.403E-02	7.850E-02	1.127E-02	1.901E-02	3.028E-02
5.0000	68.030	95.431	129.92	5.702E-02	7.113E-02	7.798E-03	1.820E-02	2.600E-02

PD X 10D EO= 1.2200E+00 (RYD) N*= 9.0535 MU= .9465

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	16.600	746.93	7.680E-01	-1.707E-01	2.461E-01	1.825E-02	2.644E-01
.1000	1.361	17.960	690.34	6.731E-01	-1.176E-01	2.045E-01	9.370E-03	2.139E-01
.2000	2.721	19.321	641.73	5.955E-01	-7.704E-02	1.722E-01	4.323E-03	1.765E-01
.4000	5.442	22.042	562.50	4.774E-01	-2.100E-02	1.263E-01	3.665E-04	1.266E-01
.5000	6.803	23.403	529.80	4.317E-01	-1.571E-03	1.096E-01	2.179E-06	1.096E-01
.6000	8.164	24.763	500.69	3.926E-01	1.388E-02	9.594E-02	1.798E-04	9.612E-02
1.0000	13.606	30.205	410.48	2.810E-01	5.057E-02	5.996E-02	2.913E-03	6.288E-02
2.0000	27.212	43.811	283.00	1.500E-01	7.276E-02	2.477E-02	8.745E-03	3.352E-02
3.0000	40.818	57.417	215.94	9.482E-02	6.996E-02	1.298E-02	1.060E-02	2.357E-02
4.0000	54.424	71.023	174.57	6.605E-02	6.311E-02	7.787E-03	1.066E-02	1.845E-02
5.0000	68.030	84.629	146.51	4.898E-02	5.620E-02	5.104E-03	1.008E-02	1.518E-02
6.0000	81.635	98.235	126.21	3.796E-02	5.007E-02	3.559E-03	9.286E-03	1.285E-02

PD X 12D EO= 8.1798E-01 (RYD) N*= 11.0568 MU= .9432

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.129	1114.05	1.133E+00	-3.713E-01	3.591E-01	5.785E-02	4.170E-01
.4000	5.442	16.572	748.18	5.814E-01	-7.529E-02	1.408E-01	3.542E-03	1.443E-01
.6000	8.164	19.293	642.65	4.503E-01	-1.994E-02	9.834E-02	2.892E-04	9.863E-02
.7000	9.524	20.653	600.32	4.016E-01	-1.665E-03	8.371E-02	2.158E-06	8.371E-02
.8000	10.885	22.014	563.21	3.607E-01	1.247E-02	7.198E-02	1.291E-04	7.211E-02
1.0000	13.606	24.735	501.25	2.964E-01	3.210E-02	5.461E-02	9.608E-04	5.557E-02
2.0000	27.212	38.341	323.38	1.413E-01	5.986E-02	1.924E-02	5.181E-03	2.442E-02
3.0000	40.818	51.947	238.68	8.435E-02	5.749E-02	9.290E-03	6.474E-03	1.576E-02
4.0000	54.424	65.553	189.14	5.674E-02	5.121E-02	5.305E-03	6.483E-03	1.179E-02
5.0000	68.030	79.159	156.63	4.111E-02	4.509E-02	3.363E-03	6.067E-03	9.430E-03

PD X 16D EO= 4.4092E-01 (RYD) N*= 15.0598 MU= .9402

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.999	2066.74	2.046E+00	-9.147E-01	6.310E-01	1.892E-01	8.202E-01
.1000	1.361	7.360	1684.66	1.453E+00	-5.535E-01	3.908E-01	8.502E-02	4.758E-01
.4000	5.442	11.441	1083.66	6.940E-01	-1.497E-01	1.385E-01	9.672E-03	1.482E-01
.6000	8.164	14.163	875.44	4.850E-01	-5.951E-02	8.375E-02	1.891E-03	8.564E-02
.7000	9.524	15.523	798.71	4.157E-01	-3.308E-02	6.743E-02	6.404E-04	6.807E-02
.8000	10.885	16.884	734.35	3.609E-01	-1.383E-02	5.527E-02	1.218E-04	5.539E-02
.9000	12.245	18.244	679.58	3.167E-01	4.144E-04	4.600E-02	1.181E-07	4.600E-02
1.0000	13.606	19.605	632.42	2.805E-01	1.108E-02	3.878E-02	9.077E-05	3.888E-02
2.0000	27.212	33.211	373.33	1.150E-01	4.209E-02	1.104E-02	2.218E-03	1.326E-02
3.0000	40.818	46.817	264.83	6.414E-02	4.034E-02	4.841E-03	2.872E-03	7.713E-03
4.0000	54.424	60.423	205.20	4.149E-02	3.539E-02	2.614E-03	2.853E-03	5.468E-03

PD X 20D EO= 2.7523E-01 (RYD) N*= 19.0611 MU= .9389

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.745	3310.88	3.189E+00	-1.638E+00	9.575E-01	3.789E-01	1.336E+00
.2000	2.721	6.466	1917.51	1.280E+00	-4.733E-01	2.664E-01	5.462E-02	3.210E-01
.6000	8.164	11.908	1041.17	4.598E-01	-7.288E-02	6.330E-02	2.385E-03	6.568E-02
.8000	10.885	14.630	847.51	3.253E-01	-2.314E-02	3.891E-02	2.954E-04	3.920E-02
.9000	12.245	15.990	775.39	2.800E-01	-8.506E-03	3.152E-02	4.362E-05	3.156E-02
1.0000	13.606	17.351	714.59	2.440E-01	2.144E-03	2.597E-02	3.006E-06	2.597E-02
1.5000	20.409	24.154	513.32	1.395E-01	2.593E-02	1.181E-02	6.125E-04	1.243E-02
2.0000	27.212	30.957	400.52	9.160E-02	3.119E-02	6.529E-03	1.135E-03	7.664E-03
3.0000	40.818	44.563	278.23	4.927E-02	2.985E-02	2.720E-03	1.497E-03	4.217E-03
4.0000	54.424	58.168	213.15	3.125E-02	2.598E-02	1.428E-03	1.480E-03	2.908E-03
5.0000	68.030	71.774	172.74	2.180E-02	2.243E-02	8.575E-04	1.362E-03	2.219E-03

PD X 4F EO= 7.7573E+00 (RYD) N*= 3.5904 MU= .4096

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	105.545	117.47	5.402E-02	4.141E-01	8.295E-03	6.501E-01	6.583E-01
2.0000	27.212	132.757	93.39	3.727E-02	2.686E-01	4.965E-03	3.440E-01	3.490E-01
8.0000	108.847	214.392	57.83	1.642E-02	1.040E-01	1.556E-03	8.323E-02	8.479E-02
12.0000	163.271	268.816	46.12	1.085E-02	6.517E-02	8.529E-04	4.100E-02	4.185E-02

PD X 5F EO= 4.7075E+00 (RYD) N*= 4.6090 MU= .3910

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	64.050	193.58	1.055E-01	5.864E-01	1.919E-02	7.378E-01	7.569E-01
2.0000	27.212	91.262	135.86	5.855E-02	3.208E-01	8.427E-03	3.372E-01	3.456E-01
6.0000	81.635	145.686	85.11	2.621E-02	1.415E-01	2.695E-03	1.048E-01	1.075E-01
8.0000	108.847	172.898	71.71	1.932E-02	1.031E-01	1.738E-03	6.605E-02	6.779E-02
12.0000	163.271	227.321	54.54	1.168E-02	6.113E-02	8.359E-04	3.050E-02	3.134E-02

PD X 6F EO= 3.1784E+00 (RYD) N*= 5.6091 MU= .3909

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	43.245	286.71	1.726E-01	7.202E-01	3.468E-02	8.055E-01	8.402E-01
2.0000	27.212	70.457	175.98	7.603E-02	3.495E-01	1.097E-02	3.090E-01	3.200E-01
4.0000	54.424	97.669	126.95	4.338E-02	2.061E-01	4.949E-03	1.490E-01	1.539E-01
6.0000	81.635	124.880	99.28	2.816E-02	1.355E-01	2.667E-03	8.238E-02	8.504E-02
10.0000	136.059	179.304	69.15	1.463E-02	7.083E-02	1.034E-03	3.230E-02	3.334E-02
12.0000	163.271	206.516	60.04	1.124E-02	5.442E-02	7.030E-04	2.196E-02	2.266E-02

PD X 8F EO= 1.7278E+00 (RYD) N*= 7.6077 MU= .3923

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	23.509	527.41	3.452E-01	1.029E+00	7.545E-02	8.944E-01	9.699E-01
2.0000	27.212	50.720	244.45	9.464E-02	3.561E-01	1.223E-02	2.309E-01	2.432E-01
4.0000	54.424	77.932	159.10	4.503E-02	1.840E-01	4.255E-03	9.473E-02	9.898E-02
8.0000	108.847	132.356	93.68	1.748E-02	7.621E-02	1.089E-03	2.760E-02	2.869E-02
10.0000	136.059	159.568	77.70	1.239E-02	5.483E-02	6.602E-04	1.723E-02	1.789E-02

PD X 10F EO= 1.0835E+00 (RYD) N*= 9.6068 MU= .3932

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	14.742	841.02	5.621E-01	1.348E+00	1.254E-01	9.616E-01	1.087E+00
2.0000	27.212	41.954	295.53	9.722E-02	3.298E-01	1.068E-02	1.639E-01	1.745E-01
4.0000	54.424	69.166	179.26	4.091E-02	1.552E-01	3.117E-03	5.981E-02	6.293E-02
8.0000	108.847	123.590	100.32	1.447E-02	6.003E-02	6.970E-04	1.599E-02	1.669E-02
10.0000	136.059	150.802	82.22	1.003E-02	4.250E-02	4.082E-04	9.782E-03	1.019E-02

PD X 12F EO= 7.4235E-01 (RYD) N*= 11.6063 MU= .3937

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.100	1227.54	8.184E-01	1.679E+00	1.822E-01	1.022E+00	1.205E+00
1.0000	13.606	23.706	523.01	1.983E-01	5.551E-01	2.511E-02	2.623E-01	2.875E-01
2.0000	27.212	37.312	332.29	9.202E-02	2.941E-01	8.509E-03	1.159E-01	1.244E-01
4.0000	54.424	64.524	192.16	3.564E-02	1.297E-01	2.208E-03	3.898E-02	4.119E-02
6.0000	81.635	91.736	135.16	1.908E-02	7.408E-02	8.991E-04	1.808E-02	1.898E-02
8.0000	108.847	118.948	104.24	1.191E-02	4.808E-02	4.544E-04	9.874E-03	1.033E-02

PD X 16F EO= 4.1061E-01 (RYD) N*= 15.6058 MU= .3942

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.587	2219.32	1.438E+00	2.383E+00	3.112E-01	1.139E+00	1.451E+00
.5000	6.803	12.390	1000.73	3.874E-01	8.615E-01	5.009E-02	3.302E-01	3.803E-01
1.0000	13.606	19.193	646.01	1.870E-01	4.799E-01	1.808E-02	1.587E-01	1.768E-01
2.0000	27.212	32.799	378.02	7.564E-02	2.273E-01	5.054E-03	6.084E-02	6.589E-02
6.0000	81.635	87.222	142.15	1.367E-02	5.138E-02	4.390E-04	8.269E-03	8.708E-03
10.0000	136.059	141.646	87.53	5.629E-03	2.278E-02	1.209E-04	2.640E-03	2.761E-03

PD X 20F EO= 2.6016E-01 (RYD) N*= 19.6056 MU= .3944

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.540	3502.73	2.190E+00	3.144E+00	4.571E-01	1.257E+00	1.714E+00
.2000	2.721	6.261	1980.33	8.602E-01	1.520E+00	1.248E-01	5.194E-01	6.442E-01
.6000	8.164	11.703	1059.42	3.071E-01	6.691E-01	2.973E-02	1.881E-01	2.179E-01
1.0000	13.606	17.146	723.14	1.628E-01	4.001E-01	1.223E-02	9.855E-02	1.108E-01
2.0000	27.212	30.752	403.19	6.073E-02	1.772E-01	3.055E-03	3.468E-02	3.773E-02
4.0000	54.424	57.963	213.90	2.028E-02	6.938E-02	6.421E-04	1.002E-02	1.066E-02
6.0000	81.635	85.175	145.57	1.023E-02	3.786E-02	2.400E-04	4.383E-03	4.623E-03
10.0000	136.059	139.599	88.82	4.139E-03	1.657E-02	6.441E-05	1.377E-03	1.441E-03

AG XI 5S EO= 9.8606E+00 (RYD) N*= 3.5030 MU= 1.4970

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	134.163	92.41	.000	1.126E-01	.000	1.069E-01	1.069E-01
2.0000	27.212	161.375	76.83	.000	8.885E-02	.000	8.006E-02	8.006E-02
12.0000	163.271	297.434	41.69	.000	3.944E-02	.000	2.908E-02	2.908E-02

AG XI 6S EO= 5.9044E+00 (RYD) N*= 4.5269 MU= 1.4731

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	80.335	154.34	.000	1.673E-01	.000	1.413E-01	1.413E-01
2.0000	27.212	107.546	115.29	.000	1.130E-01	.000	8.633E-02	8.633E-02
8.0000	108.847	189.182	65.54	.000	5.187E-02	.000	3.199E-02	3.199E-02

AG XI 8S EO= 2.8273E+00 (RYD) N*= 6.5419 MU= 1.4581

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	38.468	322.31	.000	3.051E-01	.000	2.250E-01	2.250E-01
2.0000	27.212	65.680	188.77	.000	1.433E-01	.000	8.477E-02	8.477E-02
6.0000	81.635	120.103	103.23	.000	6.005E-02	.000	2.722E-02	2.722E-02

AG XI 10S EO= 1.6563E+00 (RYD) N*= 8.5471 MU= 1.4529

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	22.536	550.17	.000	4.762E-01	.000	3.212E-01	3.212E-01
2.0000	27.212	49.748	249.23	.000	1.511E-01	.000	7.141E-02	7.141E-02
6.0000	81.635	104.172	119.02	.000	5.087E-02	.000	1.694E-02	1.694E-02
10.0000	136.059	158.595	78.18	.000	2.743E-02	.000	7.499E-03	7.499E-03

AG XI 12S EO= 1.0872E+00 (RYD) N*= 10.5495 MU= 1.4505

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	14.793	838.15	.000	6.783E-01	.000	4.277E-01	4.277E-01
2.0000	27.212	42.005	295.17	.000	1.457E-01	.000	5.606E-02	5.606E-02
8.0000	108.847	123.640	100.28	.000	2.917E-02	.000	6.611E-03	6.611E-03

AG XI 16S EO= 5.7143E-01 (RYD) N*= 14.5516 MU= 1.4484

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.775	1594.72	.000	1.170E+00	.000	6.688E-01	6.688E-01
2.0000	27.212	34.987	354.38	.000	1.219E-01	.000	3.268E-02	3.268E-02
6.0000	81.635	89.410	138.67	.000	2.957E-02	.000	4.911E-03	4.911E-03

AG XI 20S EO= 3.5154E-01 (RYD) N*= 18.5525 MU= 1.4475

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.783	2592.19	.000	1.772E+00	.000	9.443E-01	9.443E-01
1.0000	13.606	18.389	674.24	.000	2.290E-01	.000	6.062E-02	6.062E-02
4.0000	54.424	59.207	209.41	.000	3.855E-02	.000	5.528E-03	5.528E-03

AG XI 5P EO= 8.9311E+00 (RYD) N*= 3.6808 MU= 1.3192

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	121.516	102.03	1.308E-01	9.921E-02	4.355E-02	5.011E-02	9.366E-02
1.0000	13.606	135.122	91.76	1.102E-01	9.182E-02	3.438E-02	4.773E-02	8.211E-02
10.0000	136.059	257.575	48.14	3.876E-02	4.961E-02	8.104E-03	2.655E-02	3.466E-02

AG XI 6P EO= 5.4576E+00 (RYD) N*= 4.7086 MU= 1.2914

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	74.256	166.97	2.120E-01	1.218E-01	6.994E-02	4.612E-02	1.161E-01
1.0000	13.606	87.861	141.12	1.609E-01	1.075E-01	4.762E-02	4.255E-02	9.018E-02
8.0000	108.847	183.103	67.71	4.799E-02	5.245E-02	8.833E-03	2.111E-02	2.994E-02

AG XI 8P EO= 2.6739E+00 (RYD) N*= 6.7270 MU= 1.2730

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	36.381	340.80	4.299E-01	1.648E-01	1.409E-01	4.140E-02	1.823E-01
1.0000	13.606	49.987	248.04	2.535E-01	1.297E-01	6.729E-02	3.524E-02	1.025E-01
4.0000	54.424	90.805	136.54	9.350E-02	7.215E-02	1.663E-02	1.980E-02	3.643E-02
6.0000	81.635	118.016	105.06	6.028E-02	5.405E-02	8.983E-03	1.444E-02	2.343E-02
10.0000	136.059	172.440	71.90	3.195E-02	3.488E-02	3.687E-03	8.788E-03	1.248E-02

AG XI 10P EO= 1.5864E+00 (RYD) N*= 8.7335 MU= 1.2665

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	21.584	574.43	7.171E-01	2.024E-01	2.325E-01	3.703E-02	2.696E-01
1.0000	13.606	35.190	352.33	3.171E-01	1.394E-01	7.412E-02	2.865E-02	1.028E-01
4.0000	54.424	76.008	163.12	8.691E-02	6.300E-02	1.203E-02	1.264E-02	2.466E-02
6.0000	81.635	103.220	120.12	5.189E-02	4.441E-02	5.821E-03	8.529E-03	1.435E-02

AG XI 12P EO= 1.0497E+00 (RYD) N*= 10.7366 MU= 1.2634

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	14.282	868.15	1.070E+00	2.339E-01	3.427E-01	3.273E-02	3.754E-01
.0100	.136	14.418	859.96	1.054E+00	2.328E-01	3.352E-01	3.273E-02	3.679E-01
.0200	.272	14.554	851.92	1.037E+00	2.317E-01	3.279E-01	3.272E-02	3.607E-01
1.0000	13.606	27.888	444.59	3.495E-01	1.400E-01	7.134E-02	2.289E-02	9.423E-02
3.0000	40.818	55.099	225.02	1.110E-01	6.879E-02	1.421E-02	1.092E-02	2.513E-02
4.0000	54.424	68.705	180.46	7.642E-02	5.359E-02	8.405E-03	8.266E-03	1.667E-02

AG XI 16P EO= 5.5696E-01 (RYD) N*= 14.7394 MU= 1.2606

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.578	1636.15	1.966E+00	2.788E-01	6.133E-01	2.469E-02	6.380E-01
.0600	.816	8.394	1477.03	1.657E+00	2.678E-01	4.830E-01	2.522E-02	5.082E-01
.0800	1.088	8.666	1430.65	1.571E+00	2.637E-01	4.483E-01	2.525E-02	4.735E-01
.1000	1.361	8.939	1387.10	1.492E+00	2.595E-01	4.170E-01	2.522E-02	4.423E-01
1.0000	13.606	21.184	585.29	3.512E-01	1.271E-01	5.472E-02	1.434E-02	6.906E-02
2.0000	27.212	34.790	356.39	1.520E-01	7.512E-02	1.684E-02	8.225E-03	2.507E-02
3.0000	40.818	48.396	256.19	8.694E-02	5.175E-02	7.663E-03	5.431E-03	1.309E-02

AG XI 20P EO= 3.4452E-01 (RYD) N*= 18.7406 MU= 1.2594

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.688	2645.02	3.102E+00	3.003E-01	9.451E-01	1.771E-02	9.628E-01
.0800	1.088	5.776	2146.57	2.190E+00	2.836E-01	5.803E-01	1.947E-02	5.997E-01
.1000	1.361	6.048	2049.99	2.028E+00	2.776E-01	5.210E-01	1.953E-02	5.405E-01
.2000	2.721	7.409	1673.52	1.444E+00	2.461E-01	3.238E-01	1.880E-02	3.426E-01
.6000	8.164	12.851	964.79	5.733E-01	1.552E-01	8.849E-02	1.297E-02	1.015E-01
1.0000	13.606	18.293	677.76	3.163E-01	1.090E-01	3.835E-02	9.110E-03	4.746E-02
3.0000	40.818	45.505	272.47	6.768E-02	3.956E-02	4.366E-03	2.983E-03	7.350E-03

AG XI 4D EO= 1.3827E+01 (RYD) N*= 2.9582 MU= 1.0418

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	188.126	65.91	6.677E-02	1.248E-01	2.108E-02	1.106E-01	1.316E-01
1.0000	13.606	201.732	61.46	5.958E-02	1.220E-01	1.800E-02	1.131E-01	1.311E-01
1.5000	20.409	208.535	59.46	5.643E-02	1.201E-01	1.669E-02	1.135E-01	1.302E-01
2.0000	27.212	215.338	57.58	5.355E-02	1.181E-01	1.552E-02	1.133E-01	1.288E-01
6.0000	81.635	269.761	45.96	3.693E-02	1.000E-01	9.248E-03	1.018E-01	1.111E-01

AG XI 5D EO= 7.3659E+00 (RYD) N*= 4.0530 MU= .9470

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	100.220	123.71	1.248E-01	1.167E-01	3.924E-02	5.142E-02	9.066E-02
1.0000	13.606	113.826	108.93	1.010E-01	1.173E-01	2.920E-02	5.902E-02	8.821E-02
2.5000	34.015	134.235	92.37	7.676E-02	1.114E-01	1.988E-02	6.284E-02	8.272E-02
3.0000	40.818	141.038	87.91	7.068E-02	1.087E-01	1.771E-02	6.285E-02	8.056E-02
4.0000	54.424	154.644	80.18	6.059E-02	1.029E-01	1.427E-02	6.174E-02	7.600E-02
6.0000	81.635	181.855	68.18	4.615E-02	9.120E-02	9.736E-03	5.703E-02	6.677E-02

AG XI 6D EO= 4.6906E+00 (RYD) N*= 5.0790 MU= .9210

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	63.820	194.28	1.999E-01	1.042E-01	6.411E-02	2.613E-02	9.024E-02
1.0000	13.606	77.426	160.14	1.446E-01	1.127E-01	4.067E-02	3.705E-02	7.773E-02
2.5000	34.015	97.835	126.73	9.752E-02	1.075E-01	2.339E-02	4.265E-02	6.604E-02
3.0000	40.818	104.638	118.49	8.707E-02	1.043E-01	1.994E-02	4.289E-02	6.283E-02
4.0000	54.424	118.244	104.86	7.081E-02	9.716E-02	1.490E-02	4.209E-02	5.699E-02
6.0000	81.635	145.455	85.24	4.983E-02	8.334E-02	9.080E-03	3.810E-02	4.718E-02

AG XI 8D EO= 2.4025E+00 (RYD) N*= 7.0967 MU= .9033

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	32.689	379.29	3.978E-01	5.148E-02	1.300E-01	3.266E-03	1.333E-01
.4000	5.442	38.131	325.16	3.070E-01	8.009E-02	9.032E-02	9.221E-03	9.954E-02
.6000	8.164	40.852	303.50	2.733E-01	8.799E-02	7.670E-02	1.192E-02	8.862E-02
1.0000	13.606	46.295	267.82	2.213E-01	9.655E-02	5.698E-02	1.627E-02	7.325E-02
2.5000	34.015	66.704	185.88	1.192E-01	9.521E-02	2.381E-02	2.280E-02	4.661E-02
3.0000	40.818	73.507	168.67	1.010E-01	9.120E-02	1.885E-02	2.305E-02	4.190E-02
4.0000	54.424	87.112	142.33	7.562E-02	8.256E-02	1.252E-02	2.239E-02	3.491E-02
5.0000	68.030	100.718	123.10	5.900E-02	7.437E-02	8.813E-03	2.101E-02	2.982E-02

AG XI 10D EO= 1.4602E+00 (RYD) N*= 9.1032 MU= .8968

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	19.867	624.09	6.545E-01	-3.907E-02	2.139E-01	1.144E-03	2.151E-01
.0500	.680	20.547	603.43	6.185E-01	-2.437E-02	1.976E-01	4.601E-04	1.980E-01
.1000	1.361	21.227	584.09	5.855E-01	-1.143E-02	1.829E-01	1.046E-04	1.830E-01
.2000	2.721	22.588	548.91	5.274E-01	1.005E-02	1.579E-01	8.609E-05	1.580E-01
.3000	4.082	23.948	517.72	4.780E-01	2.688E-02	1.375E-01	6.524E-04	1.382E-01
.4000	5.442	25.309	489.89	4.355E-01	4.013E-02	1.207E-01	1.536E-03	1.222E-01
.6000	8.164	28.030	442.33	3.666E-01	5.886E-02	9.469E-02	3.662E-03	9.836E-02
1.0000	13.606	33.473	370.41	2.716E-01	7.778E-02	6.209E-02	7.635E-03	6.972E-02
2.0000	27.212	47.079	263.36	1.523E-01	8.454E-02	2.746E-02	1.269E-02	4.014E-02
3.0000	40.818	60.684	204.31	9.883E-02	7.711E-02	1.490E-02	1.360E-02	2.850E-02
4.0000	54.424	74.290	166.89	6.992E-02	6.824E-02	9.129E-03	1.305E-02	2.217E-02

AG XI 12D EO= 9.8094E-01 (RYD) N*= 11.1063 MU= .8937

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	13.347	928.97	9.865E-01	-1.657E-01	3.134E-01	1.381E-02	3.272E-01
.0500	.680	14.027	883.92	8.891E-01	-1.317E-01	2.787E-01	9.171E-03	2.879E-01
.2000	2.721	16.068	771.65	7.077E-01	-5.807E-02	2.023E-01	2.043E-03	2.043E-01
.3000	4.082	17.428	711.41	6.173E-01	-2.516E-02	1.669E-01	4.161E-04	1.673E-01
.4000	5.442	18.789	659.89	5.439E-01	-7.203E-04	1.397E-01	3.675E-07	1.397E-01
.5000	6.803	20.150	615.33	4.835E-01	1.765E-02	1.184E-01	2.365E-04	1.186E-01
.6000	8.164	21.510	576.41	4.330E-01	3.156E-02	1.014E-01	8.079E-04	1.022E-01
.8000	10.885	24.231	511.68	3.542E-01	5.027E-02	7.640E-02	2.309E-03	7.871E-02
1.0000	13.606	26.953	460.02	2.958E-01	6.118E-02	5.930E-02	3.804E-03	6.310E-02
2.0000	27.212	40.558	305.70	1.479E-01	7.195E-02	2.229E-02	7.917E-03	3.021E-02
3.0000	40.818	54.164	228.91	9.027E-02	6.478E-02	1.109E-02	8.571E-03	1.967E-02
4.0000	54.424	67.770	182.95	6.149E-02	5.640E-02	6.441E-03	8.127E-03	1.457E-02

AG XI 16D EO= 5.3003E-01 (RYD) N*= 15.1092 MU= .8908

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.212	1719.28	1.748E+00	-5.213E-01	5.537E-01	7.388E-02	6.276E-01
.2000	2.721	9.933	1248.26	1.022E+00	-1.937E-01	2.607E-01	1.405E-02	2.747E-01
.3000	4.082	11.293	1097.87	8.237E-01	-1.167E-01	1.926E-01	5.803E-03	1.984E-01
.5000	6.803	14.015	884.70	5.728E-01	-3.140E-02	1.156E-01	5.210E-04	1.161E-01
.6000	8.164	15.375	806.41	4.901E-01	-7.231E-03	9.281E-02	3.031E-05	9.284E-02
.8000	10.885	18.096	685.15	3.723E-01	2.239E-02	6.303E-02	3.420E-04	6.338E-02
1.0000	13.606	20.817	595.59	2.938E-01	3.802E-02	4.516E-02	1.135E-03	4.629E-02
2.0000	27.212	34.423	360.18	1.251E-01	5.274E-02	1.354E-02	3.610E-03	1.715E-02
3.0000	40.818	48.029	258.15	7.083E-02	4.665E-02	6.056E-03	3.940E-03	9.997E-03
4.0000	54.424	61.635	201.16	4.617E-02	3.979E-02	3.303E-03	3.679E-03	6.982E-03

AG XI 20D EO= 3.3132E-01 (RYD) N*= 19.1105 MU= .8895

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.508	2750.45	2.728E+00	-1.007E+00	8.435E-01	1.722E-01	1.016E+00
.1000	1.361	5.868	2112.76	1.755E+00	-5.296E-01	4.542E-01	6.206E-02	5.163E-01
.4000	5.442	9.950	1246.07	7.236E-01	-1.031E-01	1.310E-01	3.991E-03	1.350E-01
.6000	8.164	12.671	978.47	4.817E-01	-2.669E-02	7.392E-02	3.403E-04	7.426E-02
.7000	9.524	14.032	883.60	4.056E-01	-6.229E-03	5.803E-02	2.053E-05	5.806E-02
.8000	10.885	15.393	805.49	3.470E-01	7.914E-03	4.658E-02	3.635E-05	4.662E-02
.9000	12.245	16.753	740.08	3.007E-01	1.785E-02	3.808E-02	2.013E-04	3.829E-02
1.0000	13.606	18.114	684.49	2.635E-01	2.490E-02	3.162E-02	4.234E-04	3.204E-02
2.0000	27.212	31.720	390.88	1.018E-01	3.999E-02	8.264E-03	1.913E-03	1.018E-02
3.0000	40.818	45.326	273.55	5.533E-02	3.500E-02	3.488E-03	2.093E-03	5.581E-03
4.0000	54.424	58.932	210.39	3.526E-02	2.952E-02	1.841E-03	1.936E-03	3.778E-03
6.0000	81.635	86.143	143.93	1.832E-02	2.160E-02	7.270E-04	1.515E-03	2.242E-03

AG XI 4F EO= 9.2481E+00 (RYD) N*= 3.6171 MU= .3829

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	125.829	98.54	4.617E-02	3.386E-01	7.224E-03	5.119E-01	5.191E-01
2.0000	27.212	153.041	81.02	3.331E-02	2.317E-01	4.574E-03	2.951E-01	2.996E-01
8.0000	108.847	234.676	52.83	1.580E-02	9.916E-02	1.578E-03	8.287E-02	8.445E-02
12.0000	163.271	289.100	42.89	1.075E-02	6.454E-02	9.002E-04	4.324E-02	4.414E-02

AG XI 5F EO= 5.6416E+00 (RYD) N*= 4.6312 MU= .3688

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	76.759	161.53	9.231E-02	4.700E-01	1.761E-02	6.088E-01	6.264E-01
2.0000	27.212	103.971	119.25	5.508E-02	2.871E-01	8.494E-03	3.077E-01	3.161E-01
6.0000	81.635	158.394	78.28	2.634E-02	1.375E-01	2.959E-03	1.075E-01	1.105E-01
8.0000	108.847	185.606	66.80	1.978E-02	1.027E-01	1.955E-03	7.035E-02	7.230E-02
12.0000	163.271	240.030	51.65	1.227E-02	6.308E-02	9.736E-04	3.430E-02	3.527E-02

AG XI 6F EO= 3.8167E+00 (RYD) N*= 5.6305 MU= .3695

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	51.930	238.76	1.524E-01	6.034E-01	3.250E-02	6.790E-01	7.115E-01
2.0000	27.212	79.142	156.66	7.413E-02	3.210E-01	1.171E-02	2.928E-01	3.045E-01
4.0000	54.424	106.353	116.58	4.422E-02	1.991E-01	5.600E-03	1.514E-01	1.570E-01
6.0000	81.635	133.565	92.83	2.945E-02	1.353E-01	3.119E-03	8.785E-02	9.097E-02
10.0000	136.059	187.989	65.95	1.574E-02	7.372E-02	1.255E-03	3.668E-02	3.794E-02
12.0000	163.271	215.201	57.61	1.221E-02	5.744E-02	8.643E-04	2.550E-02	2.636E-02

AG XI 8F EO= 2.0793E+00 (RYD) N*= 7.6285 MU= .3715

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	28.290	438.27	3.081E-01	8.733E-01	7.233E-02	7.748E-01	8.471E-01
2.0000	27.212	55.502	223.39	9.755E-02	3.410E-01	1.422E-02	2.318E-01	2.460E-01
4.0000	54.424	82.714	149.90	4.849E-02	1.851E-01	5.238E-03	1.018E-01	1.070E-01
6.0000	81.635	109.926	112.79	2.914E-02	1.168E-01	2.513E-03	5.385E-02	5.636E-02
10.0000	136.059	164.349	75.44	1.390E-02	5.874E-02	8.556E-04	2.036E-02	2.122E-02

AG XI 10F EO= 1.3055E+00 (RYD) N*= 9.6274 MU= .3726

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	17.762	698.04	5.053E-01	1.154E+00	1.221E-01	8.494E-01	9.715E-01
2.0000	27.212	44.974	275.69	1.043E-01	3.260E-01	1.318E-02	1.716E-01	1.848E-01
4.0000	54.424	72.186	171.76	4.558E-02	1.602E-01	4.039E-03	6.656E-02	7.060E-02
8.0000	108.847	126.609	97.93	1.651E-02	6.453E-02	9.293E-04	1.893E-02	1.986E-02
12.0000	163.271	181.033	68.49	8.451E-03	3.473E-02	3.482E-04	7.842E-03	8.190E-03

AG XI 12F EO= 8.9508E-01 (RYD) N*= 11.6269 MU= .3731

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	12.178	1018.09	7.399E-01	1.448E+00	1.796E-01	9.173E-01	1.097E+00
2.0000	27.212	39.390	314.76	1.017E-01	2.975E-01	1.097E-02	1.252E-01	1.362E-01
4.0000	54.424	66.602	186.16	4.059E-02	1.362E-01	2.955E-03	4.438E-02	4.734E-02
8.0000	108.847	121.026	102.45	1.379E-02	5.225E-02	6.196E-04	1.186E-02	1.248E-02
10.0000	136.059	148.238	83.64	9.454E-03	3.703E-02	3.568E-04	7.298E-03	7.655E-03

AG XI 16F EO= 4.9553E-01 (RYD) N*= 15.6263 MU= .3737

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.742	1838.96	1.312E+00	2.081E+00	3.127E-01	1.048E+00	1.361E+00
1.0000	13.606	20.348	609.33	2.075E-01	4.847E-01	2.360E-02	1.716E-01	1.952E-01
2.0000	27.212	33.954	365.16	8.669E-02	2.368E-01	6.872E-03	6.839E-02	7.527E-02
4.0000	54.424	61.166	202.71	3.102E-02	9.933E-02	1.585E-03	2.167E-02	2.325E-02
6.0000	81.635	88.378	140.29	1.604E-02	5.588E-02	6.126E-04	9.909E-03	1.052E-02
10.0000	136.059	142.801	86.82	6.625E-03	2.526E-02	1.688E-04	3.272E-03	3.441E-03

AG XI 20F EO= 3.1414E-01 (RYD) N*= 19.6260 MU= .3740

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.274	2900.85	2.012E+00	2.771E+00	4.660E-01	1.179E+00	1.645E+00
.5000	6.803	11.077	1119.30	4.152E-01	7.928E-01	5.144E-02	2.500E-01	3.015E-01
1.0000	13.606	17.880	693.43	1.861E-01	4.143E-01	1.668E-02	1.102E-01	1.269E-01
2.0000	27.212	31.486	393.78	7.104E-02	1.878E-01	4.279E-03	3.987E-02	4.415E-02
4.0000	54.424	58.698	211.23	2.397E-02	7.505E-02	9.081E-04	1.187E-02	1.278E-02
6.0000	81.635	85.910	144.32	1.212E-02	4.147E-02	3.399E-04	5.305E-03	5.645E-03
10.0000	136.059	140.333	88.35	4.892E-03	1.845E-02	9.045E-05	1.716E-03	1.806E-03

CD XII 5S EO= 1.1356E+01 (RYD) N*= 3.5610 MU= 1.4390

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	154.505	80.25	.000	1.006E-01	.000	9.826E-02	9.826E-02
2.0000	27.212	181.717	68.23	.000	8.154E-02	.000	7.591E-02	7.591E-02
14.0000	190.483	344.988	35.94	.000	3.456E-02	.000	2.590E-02	2.590E-02

CD XII 6S EO= 6.8502E+00 (RYD) N*= 4.5849 MU= 1.4151

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	93.203	133.03	.000	1.487E-01	.000	1.295E-01	1.295E-01
2.0000	27.212	120.415	102.97	.000	1.051E-01	.000	8.358E-02	8.358E-02
8.0000	108.847	202.050	61.36	.000	5.133E-02	.000	3.346E-02	3.346E-02

CD XII 8S EO= 3.3058E+00 (RYD) N*= 6.6000 MU= 1.4000

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	44.979	275.66	.000	2.697E-01	.000	2.056E-01	2.056E-01
2.0000	27.212	72.190	171.75	.000	1.378E-01	.000	8.611E-02	8.611E-02
6.0000	81.635	126.614	97.92	.000	6.116E-02	.000	2.976E-02	2.976E-02
14.0000	190.483	235.461	52.66	.000	2.489E-02	.000	9.167E-03	9.167E-03

CD XII 10S EO= 1.9447E+00 (RYD) N*= 8.6051 MU= 1.3949

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	26.459	468.60	.000	4.202E-01	.000	2.936E-01	2.936E-01
2.0000	27.212	53.671	231.01	.000	1.500E-01	.000	7.592E-02	7.592E-02
6.0000	81.635	108.094	114.70	.000	5.331E-02	.000	1.930E-02	1.930E-02
10.0000	136.059	162.518	76.29	.000	2.920E-02	.000	8.709E-03	8.709E-03

CD XII 12S EO= 1.2798E+00 (RYD) N*= 10.6076 MU= 1.3924

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	17.412	712.06	.000	5.979E-01	.000	3.912E-01	3.912E-01
2.0000	27.212	44.624	277.85	.000	1.486E-01	.000	6.188E-02	6.188E-02
8.0000	108.847	126.260	98.20	.000	3.136E-02	.000	7.802E-03	7.802E-03
16.0000	217.695	235.107	52.74	.000	1.250E-02	.000	2.310E-03	2.310E-03

CD XII 16S EO= 6.7465E-01 (RYD) N*= 14.6098 MU= 1.3902

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.179	1350.73	.000	1.031E+00	.000	6.126E-01	6.126E-01
2.0000	27.212	36.391	340.71	.000	1.289E-01	.000	3.799E-02	3.799E-02
6.0000	81.635	90.815	136.53	.000	3.222E-02	.000	5.926E-03	5.926E-03

CD XII 20S EO= 4.1576E-01 (RYD) N*= 18.6107 MU= 1.3893

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.657	2191.84	.000	1.561E+00	.000	8.661E-01	8.661E-01
1.0000	13.606	19.263	643.66	.000	2.409E-01	.000	7.024E-02	7.024E-02
4.0000	54.424	60.080	206.37	.000	4.227E-02	.000	6.746E-03	6.746E-03
10.0000	136.059	141.716	87.49	.000	1.153E-02	.000	1.185E-03	1.185E-03

CD XII 5P EO= 1.0346E+01 (RYD) N*= 3.7308 MU= 1.2692

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	140.763	88.08	1.122E-01	9.547E-02	3.712E-02	5.374E-02	9.086E-02
1.0000	13.606	154.369	80.32	9.667E-02	8.840E-02	3.022E-02	5.054E-02	8.076E-02
10.0000	136.059	276.823	44.79	3.750E-02	4.916E-02	8.153E-03	2.802E-02	3.618E-02

CD XII 6P EO= 6.3594E+00 (RYD) N*= 4.7585 MU= 1.2415

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	86.526	143.29	1.809E-01	1.198E-01	5.932E-02	5.200E-02	1.113E-01
1.0000	13.606	100.132	123.82	1.423E-01	1.057E-01	4.249E-02	4.689E-02	8.938E-02
8.0000	108.847	195.373	63.46	4.731E-02	5.311E-02	9.158E-03	2.308E-02	3.224E-02

CD XII 8P EO= 3.1354E+00 (RYD) N*= 6.7769 MU= 1.2231

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	42.661	290.63	3.648E-01	1.697E-01	1.189E-01	5.148E-02	1.704E-01
1.0000	13.606	56.267	220.36	2.302E-01	1.327E-01	6.248E-02	4.152E-02	1.040E-01
6.0000	81.635	124.296	99.75	6.118E-02	5.659E-02	9.747E-03	1.667E-02	2.642E-02
10.0000	136.059	178.720	69.37	3.329E-02	3.682E-02	4.149E-03	1.015E-02	1.430E-02

CD XII 10P EO= 1.8665E+00 (RYD) N*= 8.7835 MU= 1.2165

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	25.396	488.22	6.070E-01	2.188E-01	1.960E-01	5.092E-02	2.469E-01
1.0000	13.606	39.002	317.90	2.966E-01	1.477E-01	7.187E-02	3.566E-02	1.075E-01
4.0000	54.424	79.819	155.33	8.902E-02	6.747E-02	1.325E-02	1.522E-02	2.847E-02
6.0000	81.635	107.031	115.84	5.428E-02	4.773E-02	6.605E-03	1.022E-02	1.682E-02
8.0000	108.847	134.243	92.36	3.704E-02	3.632E-02	3.858E-03	7.418E-03	1.128E-02

CD XII 12P EO= 1.2376E+00 (RYD) N*= 10.7866 MU= 1.2134

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	16.839	736.30	9.046E-01	2.662E-01	2.886E-01	4.999E-02	3.386E-01
1.0000	13.606	30.445	407.25	3.360E-01	1.528E-01	7.200E-02	2.979E-02	1.018E-01
4.0000	54.424	71.263	173.98	8.012E-02	5.859E-02	9.583E-03	1.025E-02	1.983E-02
6.0000	81.635	98.475	125.91	4.635E-02	3.970E-02	4.432E-03	6.503E-03	1.094E-02

CD XII 16P EO= 6.5835E-01 (RYD) N*= 14.7894 MU= 1.2106

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.958	1384.16	1.659E+00	3.557E-01	5.161E-01	4.749E-02	5.636E-01
1.0000	13.606	22.563	549.50	3.529E-01	1.452E-01	5.887E-02	1.994E-02	7.880E-02
4.0000	54.424	63.381	195.62	6.156E-02	4.347E-02	5.031E-03	5.018E-03	1.005E-02
10.0000	136.059	145.017	85.50	1.511E-02	1.557E-02	6.931E-04	1.473E-03	2.166E-03

CD XII 20P EO= 4.0783E-01 (RYD) N*= 18.7906 MU= 1.2094

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.549	2234.43	2.616E+00	4.378E-01	7.952E-01	4.456E-02	8.397E-01
1.0000	13.606	19.155	647.29	3.277E-01	1.283E-01	4.310E-02	1.322E-02	5.632E-02
2.0000	27.212	32.761	378.46	1.324E-01	6.869E-02	1.202E-02	6.475E-03	1.850E-02
4.0000	54.424	59.973	206.74	4.746E-02	3.300E-02	2.830E-03	2.736E-03	5.565E-03
8.0000	108.847	114.396	108.38	1.583E-02	1.476E-02	6.006E-04	1.044E-03	1.644E-03
10.0000	136.059	141.608	87.56	1.102E-02	1.127E-02	3.600E-04	7.539E-04	1.114E-03

CD XII 4D EO= 1.6109E+01 (RYD) N*= 2.9899 MU= 1.0101

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	219.171	56.57	5.696E-02	1.219E-01	1.788E-02	1.228E-01	1.407E-01
1.0000	13.606	232.777	53.26	5.159E-02	1.176E-01	1.557E-02	1.214E-01	1.370E-01
6.0000	81.635	300.806	41.22	3.372E-02	9.510E-02	8.597E-03	1.026E-01	1.112E-01
8.0000	108.847	328.018	37.80	2.916E-02	8.700E-02	7.012E-03	9.360E-02	1.006E-01

CD XII 5D EO= 8.6365E+00 (RYD) N*= 4.0833 MU= .9167

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	117.507	105.51	1.070E-01	1.264E-01	3.381E-02	7.079E-02	1.046E-01
.6000	8.164	125.671	98.66	9.566E-02	1.239E-01	2.890E-02	7.268E-02	1.016E-01
1.0000	13.606	131.113	94.56	8.912E-02	1.217E-01	2.617E-02	7.327E-02	9.944E-02
2.0000	27.212	144.719	85.67	7.555E-02	1.157E-01	2.076E-02	7.302E-02	9.378E-02
4.0000	54.424	171.931	72.11	5.657E-02	1.027E-01	1.383E-02	6.839E-02	8.222E-02
6.0000	81.635	199.143	62.26	4.414E-02	9.067E-02	9.754E-03	6.172E-02	7.148E-02

CD XII 6D EO= 5.5153E+00 (RYD) N*= 5.1097 MU= .8903

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	75.041	165.23	1.715E-01	1.286E-01	5.546E-02	4.677E-02	1.022E-01
1.0000	13.606	88.647	139.87	1.295E-01	1.249E-01	3.738E-02	5.212E-02	8.950E-02
1.5000	20.409	95.450	129.90	1.143E-01	1.213E-01	3.136E-02	5.294E-02	8.430E-02
2.0000	27.212	102.252	121.26	1.018E-01	1.172E-01	2.662E-02	5.297E-02	7.960E-02
2.5000	34.015	109.055	113.69	9.127E-02	1.129E-01	2.283E-02	5.245E-02	7.528E-02
6.0000	81.635	156.676	79.14	4.929E-02	8.530E-02	9.569E-03	4.298E-02	5.255E-02

CD XII 8D EO= 2.8344E+00 (RYD) N*= 7.1277 MU= .8723

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	38.565	321.50	3.417E-01	1.148E-01	1.132E-01	1.916E-02	1.324E-01
.2000	2.721	41.286	300.31	3.046E-01	1.196E-01	9.628E-02	2.226E-02	1.185E-01
1.0000	13.606	52.171	237.65	2.050E-01	1.223E-01	5.512E-02	2.941E-02	8.453E-02
1.5000	20.409	58.974	210.24	1.665E-01	1.181E-01	4.111E-02	3.101E-02	7.211E-02
2.0000	27.212	65.777	188.49	1.383E-01	1.125E-01	3.163E-02	3.137E-02	6.300E-02
2.5000	34.015	72.580	170.83	1.170E-01	1.064E-01	2.496E-02	3.100E-02	5.595E-02
6.0000	81.635	120.201	103.15	4.927E-02	7.147E-02	7.334E-03	2.315E-02	3.049E-02

CD XII 10D EO= 1.7259E+00 (RYD) N*= 9.1342 MU= .8658

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	23.483	527.99	5.630E-01	7.562E-02	1.871E-01	5.063E-03	1.922E-01
.4000	5.442	28.925	428.65	3.961E-01	1.046E-01	1.141E-01	1.194E-02	1.260E-01
.6000	8.164	31.646	391.79	3.403E-01	1.100E-01	9.209E-02	1.443E-02	1.065E-01
1.0000	13.606	37.089	334.30	2.601E-01	1.124E-01	6.305E-02	1.768E-02	8.073E-02
1.5000	20.409	43.891	282.48	1.954E-01	1.085E-01	4.211E-02	1.950E-02	6.160E-02
2.0000	27.212	50.694	244.58	1.529E-01	1.020E-01	2.977E-02	1.990E-02	4.967E-02
2.5000	34.015	57.497	215.64	1.233E-01	9.499E-02	2.197E-02	1.956E-02	4.153E-02
6.0000	81.635	105.118	117.95	4.371E-02	5.833E-02	5.047E-03	1.349E-02	1.853E-02

CD XII 12D EO= 1.1609E+00 (RYD) N*= 11.1374 MU= .8626

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	15.795	784.97	8.325E-01	1.208E-02	2.751E-01	8.693E-05	2.752E-01
.2000	2.721	18.516	669.61	6.370E-01	5.825E-02	1.889E-01	2.369E-03	1.912E-01
.6000	8.164	23.959	517.50	4.124E-01	9.337E-02	1.024E-01	7.875E-03	1.103E-01
.8000	10.885	26.680	464.72	3.437E-01	9.866E-02	7.924E-02	9.791E-03	8.903E-02
1.0000	13.606	29.401	421.71	2.916E-01	1.003E-01	6.283E-02	1.116E-02	7.399E-02
1.5000	20.409	36.204	342.47	2.048E-01	9.715E-02	3.815E-02	1.288E-02	5.103E-02
2.0000	27.212	43.007	288.29	1.527E-01	9.031E-02	2.520E-02	1.323E-02	3.843E-02
2.5000	34.015	49.810	248.92	1.188E-01	8.295E-02	1.767E-02	1.292E-02	3.060E-02
4.0000	54.424	70.219	176.57	6.591E-02	6.424E-02	7.667E-03	1.093E-02	1.859E-02
6.0000	81.635	97.431	127.26	3.744E-02	4.775E-02	3.433E-03	8.377E-03	1.181E-02

CD XII 16D EO= 6.2819E-01 (RYD) N*= 15.1404 MU= .8596

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.547	1450.63	1.508E+00	-1.843E-01	4.887E-01	1.094E-02	4.996E-01
.0500	.680	9.227	1343.68	1.326E+00	-1.284E-01	4.080E-01	5.736E-03	4.138E-01
.2000	2.721	11.268	1100.31	9.481E-01	-2.571E-02	2.546E-01	2.807E-04	2.549E-01
.3000	4.082	12.629	981.77	7.826E-01	1.187E-02	1.944E-01	6.712E-05	1.945E-01
.4000	5.442	13.989	886.28	6.587E-01	3.615E-02	1.526E-01	6.895E-04	1.533E-01
.5000	6.803	15.350	807.73	5.633E-01	5.204E-02	1.224E-01	1.567E-03	1.240E-01
.8000	10.885	19.432	638.06	3.782E-01	7.373E-02	6.985E-02	3.983E-03	7.384E-02
1.0000	13.606	22.153	559.68	3.029E-01	7.781E-02	5.109E-02	5.057E-03	5.614E-02
1.5000	20.409	28.956	428.19	1.922E-01	7.609E-02	2.689E-02	6.320E-03	3.321E-02
2.0000	27.212	35.759	346.73	1.341E-01	6.955E-02	1.617E-02	6.522E-03	2.270E-02
2.5000	34.015	42.562	291.31	9.960E-02	6.267E-02	1.061E-02	6.303E-03	1.692E-02
3.0000	40.818	49.365	251.16	7.724E-02	5.646E-02	7.404E-03	5.933E-03	1.334E-02
6.0000	81.635	90.183	137.48	2.731E-02	3.331E-02	1.691E-03	3.772E-03	5.463E-03

CD XII 20D EO= 3.9301E-01 (RYD) N*= 19.1416 MU= .8584

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.347	2318.68	2.358E+00	-4.685E-01	7.473E-01	4.425E-02	7.915E-01
.2000	2.721	8.068	1536.68	1.183E+00	-1.034E-01	2.837E-01	3.253E-03	2.869E-01
.3000	4.082	9.429	1314.94	9.101E-01	-3.666E-02	1.963E-01	4.777E-04	1.968E-01
.4000	5.442	10.790	1149.12	7.254E-01	2.245E-03	1.427E-01	2.051E-06	1.427E-01
.5000	6.803	12.150	1020.44	5.938E-01	2.590E-02	1.077E-01	3.073E-04	1.080E-01
.6000	8.164	13.511	917.68	4.965E-01	4.058E-02	8.371E-02	8.390E-04	8.455E-02
.8000	10.885	16.232	763.84	3.641E-01	5.545E-02	5.409E-02	1.882E-03	5.598E-02
1.0000	13.606	18.953	654.17	2.801E-01	6.077E-02	3.737E-02	2.639E-03	4.001E-02
1.5000	20.409	25.756	481.39	1.664E-01	5.997E-02	1.792E-02	3.493E-03	2.141E-02
2.0000	27.212	32.559	380.80	1.116E-01	5.421E-02	1.019E-02	3.608E-03	1.380E-02
2.5000	34.015	39.362	314.99	8.066E-02	4.828E-02	6.437E-03	3.459E-03	9.896E-03
6.0000	81.635	86.983	142.54	2.056E-02	2.456E-02	9.241E-04	1.979E-03	2.903E-03

CD XII 4F EO= 1.1137E+01 (RYD) N*= 3.5958 MU= .4042

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	151.528	81.82	4.103E-02	2.804E-01	6.872E-03	4.278E-01	4.347E-01
2.0000	27.212	178.740	69.37	3.090E-02	2.041E-01	4.597E-03	2.674E-01	2.720E-01
8.0000	108.847	260.376	47.62	1.579E-02	9.643E-02	1.749E-03	8.694E-02	8.869E-02
14.0000	190.483	342.011	36.25	9.442E-03	5.482E-02	8.212E-04	3.690E-02	3.772E-02

CD XII 5F EO= 6.7446E+00 (RYD) N*= 4.6206 MU= .3794

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	91.769	135.11	8.255E-02	3.931E-01	1.684E-02	5.092E-01	5.261E-01
2.0000	27.212	118.981	104.21	5.260E-02	2.576E-01	8.866E-03	2.835E-01	2.924E-01
6.0000	81.635	173.405	71.50	2.688E-02	1.337E-01	3.376E-03	1.114E-01	1.147E-01
8.0000	108.847	200.617	61.80	2.059E-02	1.025E-01	2.291E-03	7.570E-02	7.799E-02
14.0000	190.483	282.252	43.93	1.082E-02	5.365E-02	8.893E-04	2.918E-02	3.007E-02

CD XII 6F EO= 4.5552E+00 (RYD) N*= 5.6225 MU= .3775

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	61.978	200.05	1.370E-01	5.068E-01	3.132E-02	5.716E-01	6.029E-01
2.0000	27.212	89.189	139.01	7.275E-02	2.937E-01	1.271E-02	2.762E-01	2.890E-01
4.0000	54.424	116.401	106.52	4.538E-02	1.916E-01	6.454E-03	1.535E-01	1.599E-01
6.0000	81.635	143.613	86.33	3.105E-02	1.347E-01	3.729E-03	9.357E-02	9.730E-02
10.0000	136.059	198.037	62.61	1.714E-02	7.658E-02	1.567E-03	4.171E-02	4.328E-02
14.0000	190.483	252.460	49.11	1.080E-02	4.900E-02	7.925E-04	2.176E-02	2.256E-02

CD XII 8F EO= 2.4786E+00 (RYD) N*= 7.6221 MU= .3779

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	33.724	367.65	2.793E-01	7.382E-01	7.083E-02	6.598E-01	7.307E-01
2.0000	27.212	60.936	203.47	1.005E-01	3.233E-01	1.656E-02	2.287E-01	2.453E-01
4.0000	54.424	88.147	140.66	5.225E-02	1.847E-01	6.481E-03	1.080E-01	1.145E-01
6.0000	81.635	115.359	107.48	3.213E-02	1.201E-01	3.207E-03	5.979E-02	6.300E-02
12.0000	163.271	196.995	62.94	1.185E-02	4.825E-02	7.449E-04	1.647E-02	1.722E-02
16.0000	217.695	251.418	49.31	7.397E-03	3.103E-02	3.705E-04	8.691E-03	9.062E-03

CD XII 10F EO= 1.5555E+00 (RYD) N*= 9.6217 MU= .3783

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	21.163	585.85	4.613E-01	9.800E-01	1.213E-01	7.299E-01	8.512E-01
2.0000	27.212	48.375	256.30	1.116E-01	3.180E-01	1.621E-02	1.757E-01	1.919E-01
4.0000	54.424	75.587	164.03	5.072E-02	1.639E-01	5.237E-03	7.287E-02	7.811E-02
8.0000	108.847	130.011	95.37	1.890E-02	6.895E-02	1.251E-03	2.219E-02	2.345E-02
10.0000	136.059	157.223	78.86	1.325E-02	5.006E-02	7.432E-04	1.415E-02	1.489E-02
12.0000	163.271	184.434	67.23	9.788E-03	3.798E-02	4.759E-04	9.556E-03	1.003E-02

CD XII 12F EO= 1.0662E+00 (RYD) N*= 11.6214 MU= .3786

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	14.507	854.68	6.796E-01	1.235E+00	1.804E-01	7.940E-01	9.745E-01
2.0000	27.212	41.719	297.20	1.118E-01	2.967E-01	1.405E-02	1.319E-01	1.459E-01
4.0000	54.424	68.930	179.87	4.614E-02	1.416E-01	3.952E-03	4.965E-02	5.360E-02
8.0000	108.847	123.354	100.51	1.601E-02	5.642E-02	8.511E-04	1.410E-02	1.495E-02
10.0000	136.059	150.566	82.35	1.103E-02	4.044E-02	4.931E-04	8.842E-03	9.335E-03
16.0000	217.695	232.201	53.40	4.803E-03	1.895E-02	1.442E-04	2.994E-03	3.138E-03

CD XII 16F EO= 5.9012E-01 (RYD) N*= 15.6211 MU= .3789

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.029	1544.22	1.217E+00	1.784E+00	3.203E-01	9.175E-01	1.238E+00
1.0000	13.606	21.635	573.08	2.289E-01	4.798E-01	3.052E-02	1.789E-01	2.094E-01
2.0000	27.212	35.241	351.83	9.889E-02	2.431E-01	9.282E-03	7.481E-02	8.409E-02
4.0000	54.424	62.453	198.53	3.615E-02	1.053E-01	2.198E-03	2.486E-02	2.706E-02
6.0000	81.635	89.665	138.28	1.883E-02	6.028E-02	8.565E-04	1.170E-02	1.256E-02
8.0000	108.847	116.876	106.08	1.157E-02	3.940E-02	4.213E-04	6.514E-03	6.935E-03
14.0000	190.483	198.512	62.46	4.245E-03	1.604E-02	9.634E-05	1.835E-03	1.931E-03

CD XII 20F EO= 3.7404E-01 (RYD) N*= 19.6210 MU= .3790

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.089	2436.27	1.880E+00	2.386E+00	4.844E-01	1.041E+00	1.525E+00
.5000	6.803	11.892	1042.59	4.547E-01	7.767E-01	6.621E-02	2.576E-01	3.238E-01
1.0000	13.606	18.695	663.20	2.115E-01	4.203E-01	2.253E-02	1.186E-01	1.411E-01
2.0000	27.212	32.301	383.85	8.278E-02	1.961E-01	5.960E-03	4.459E-02	5.055E-02
6.0000	81.635	86.725	142.97	1.435E-02	4.506E-02	4.812E-04	6.323E-03	6.804E-03
12.0000	163.271	168.360	73.64	4.169E-03	1.516E-02	7.882E-05	1.389E-03	1.468E-03
14.0000	190.483	195.572	63.40	3.126E-03	1.169E-02	5.148E-05	9.592E-04	1.011E-03

IN XIII 5S EO= 1.2902E+01 (RYD) N*= 3.6192 MU= 1.3808

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	175.548	70.63	.000	9.029E-02	.000	8.993E-02	8.993E-02
2.0000	27.212	202.760	61.15	.000	7.479E-02	.000	7.127E-02	7.127E-02
16.0000	217.695	393.243	31.53	.000	3.062E-02	.000	2.317E-02	2.317E-02

IN XIII 6S EO= 7.8428E+00 (RYD) N*= 4.6420 MU= 1.3580

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	106.709	116.19	.000	1.329E-01	.000	1.184E-01	1.184E-01
2.0000	27.212	133.920	92.58	.000	9.748E-02	.000	7.998E-02	7.998E-02
10.0000	136.059	242.768	51.07	.000	4.258E-02	.000	2.766E-02	2.766E-02

IN XIII 8S EO= 3.8139E+00 (RYD) N*= 6.6567 MU= 1.3433

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	51.892	238.93	.000	2.398E-01	.000	1.875E-01	1.875E-01
2.0000	27.212	79.104	156.74	.000	1.315E-01	.000	8.591E-02	8.591E-02
6.0000	81.635	133.528	92.85	.000	6.155E-02	.000	3.179E-02	3.179E-02
16.0000	217.695	269.587	45.99	.000	2.216E-02	.000	8.321E-03	8.321E-03

IN XIII 10S EO= 2.2526E+00 (RYD) N*= 8.6617 MU= 1.3383

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	30.648	404.55	.000	3.727E-01	.000	2.675E-01	2.675E-01
2.0000	27.212	57.860	214.29	.000	1.473E-01	.000	7.888E-02	7.888E-02
6.0000	81.635	112.284	110.42	.000	5.515E-02	.000	2.146E-02	2.146E-02
10.0000	136.059	166.707	74.37	.000	3.071E-02	.000	9.878E-03	9.878E-03
16.0000	217.695	248.343	49.93	.000	1.707E-02	.000	4.549E-03	4.549E-03

IN XIII 12S EO= 1.4861E+00 (RYD) N*= 10.6641 MU= 1.3359

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	20.219	613.21	.000	5.297E-01	.000	3.565E-01	3.565E-01
2.0000	27.212	47.431	261.40	.000	1.494E-01	.000	6.655E-02	6.655E-02
6.0000	81.635	101.855	121.73	.000	4.746E-02	.000	1.442E-02	1.442E-02
8.0000	108.847	129.066	96.06	.000	3.329E-02	.000	8.990E-03	8.990E-03
14.0000	190.483	210.702	58.84	.000	1.605E-02	.000	3.411E-03	3.411E-03

IN XIII 16S EO= 7.8568E-01 (RYD) N*= 14.6663 MU= 1.3337

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.690	1159.84	.000	9.118E-01	.000	5.585E-01	5.585E-01
2.0000	27.212	37.902	327.13	.000	1.343E-01	.000	4.294E-02	4.294E-02
6.0000	81.635	92.325	134.29	.000	3.468E-02	.000	6.977E-03	6.977E-03
12.0000	163.271	173.961	71.27	.000	1.335E-02	.000	1.949E-03	1.949E-03

IN XIII 20S EO= 4.8499E-01 (RYD) N*= 18.6672 MU= 1.3328

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.599	1878.96	.000	1.380E+00	.000	7.902E-01	7.902E-01
2.0000	27.212	33.811	366.71	.000	1.131E-01	.000	2.718E-02	2.718E-02
4.0000	54.424	61.022	203.18	.000	4.575E-02	.000	8.025E-03	8.025E-03
8.0000	108.847	115.446	107.40	.000	1.732E-02	.000	2.177E-03	2.177E-03

IN XIII 5P EO= [illegible].1812E+01 (RYD) N*= 3.7826 MU= 1.2174

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	160.707	77.15	9.751E-02	9.054E-02	3.201E-02	5.519E-02	8.719E-02
2.0000	27.212	187.919	65.98	7.571E-02	7.828E-02	2.256E-02	4.824E-02	7.080E-02
10.0000	136.059	296.766	41.78	3.603E-02	4.821E-02	8.070E-03	2.889E-02	3.696E-02

IN XIII 6P EO= 7.3069E+00 (RYD) N*= 4.8093 MU= 1.1907

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	99.417	124.71	1.565E-01	1.153E-01	5.100E-02	5.534E-02	1.053E-01
2.0000	27.212	126.628	97.91	1.051E-01	9.136E-02	2.932E-02	4.428E-02	7.359E-02
8.0000	108.847	208.264	59.53	4.625E-02	5.312E-02	9.330E-03	2.462E-02	3.395E-02
16.0000	217.695	317.111	39.10	2.306E-02	3.220E-02	3.532E-03	1.378E-02	1.731E-02

IN XIII 8P EO= 3.6259E+00 (RYD) N*= 6.8271 MU= 1.1729

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	49.333	251.32	3.140E-01	1.879E-01	1.019E-01	5.830E-02	1.602E-01
2.0000	27.212	76.545	161.98	1.511E-01	1.077E-01	3.660E-02	3.718E-02	7.378E-02
8.0000	108.847	158.180	78.38	4.478E-02	4.653E-02	6.644E-03	1.435E-02	2.099E-02
12.0000	163.271	212.604	58.32	2.726E-02	3.239E-02	3.310E-03	9.343E-03	1.265E-02

IN XIII 10P EO= 2.1658E+00 (RYD) N*= 8.8335 MU= 1.1665

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	29.468	420.75	5.211E-01	2.225E-01	1.676E-01	6.112E-02	2.287E-01
2.0000	27.212	56.679	218.75	1.745E-01	1.120E-01	3.615E-02	2.978E-02	6.593E-02
6.0000	81.635	111.103	111.60	5.614E-02	5.049E-02	7.336E-03	1.187E-02	1.920E-02
8.0000	108.847	138.315	89.64	3.878E-02	3.854E-02	4.357E-03	8.609E-03	1.297E-02
16.0000	217.695	247.162	50.16	1.455E-02	1.854E-02	1.097E-03	3.561E-03	4.657E-03

IN XIII 12P EO= 1.4391E+00 (RYD) N*= 10.8366 MU= 1.1634

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	19.581	633.21	7.753E-01	2.782E-01	2.465E-01	6.349E-02	3.100E-01
2.0000	27.212	46.792	264.97	1.801E-01	1.087E-01	3.178E-02	2.318E-02	5.496E-02
6.0000	81.635	101.216	122.50	4.888E-02	4.271E-02	5.065E-03	7.733E-03	1.280E-02
14.0000	190.483	210.063	59.02	1.419E-02	1.696E-02	8.856E-04	2.532E-03	3.417E-03

IN XIII 16P EO= 7.6745E-01 (RYD) N*= 14.8394 MU= 1.1606

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.442	1187.39	1.419E+00	3.922E-01	4.404E-01	6.727E-02	5.077E-01
2.0000	27.212	37.654	329.28	1.648E-01	9.339E-02	2.141E-02	1.376E-02	3.517E-02
4.0000	54.424	64.866	191.14	6.559E-02	4.778E-02	5.845E-03	6.203E-03	1.205E-02
10.0000	136.059	146.501	84.63	1.643E-02	1.700E-02	8.282E-04	1.774E-03	2.603E-03
16.0000	217.695	228.137	54.35	7.745E-03	9.601E-03	2.866E-04	8.810E-04	1.168E-03

IN XIII 20P EO= 4.7610E-01 (RYD) N*= 18.8406 MU= 1.1594

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.478	1914.03	2.236E+00	5.088E-01	6.782E-01	7.026E-02	7.485E-01
2.0000	27.212	33.690	368.03	1.401E-01	7.706E-02	1.385E-02	8.382E-03	2.223E-02
4.0000	54.424	60.901	203.59	5.132E-02	3.674E-02	3.359E-03	3.444E-03	6.804E-03
8.0000	108.847	115.325	107.51	1.732E-02	1.628E-02	7.243E-04	1.280E-03	2.004E-03
10.0000	136.059	142.537	86.99	1.207E-02	1.239E-02	4.352E-04	9.170E-04	1.352E-03

IN XIII 4D EO= 1.8414E+01 (RYD) N*= 3.0295 MU= .9705

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	250.535	49.49	4.918E-02	1.155E-01	1.523E-02	1.260E-01	1.412E-01
1.0000	13.606	264.141	46.94	4.506E-02	1.110E-01	1.348E-02	1.226E-01	1.361E-01
4.0000	54.424	304.958	40.66	3.547E-02	9.773E-02	9.646E-03	1.098E-01	1.195E-01
8.0000	108.847	359.382	34.50	2.692E-02	8.226E-02	6.546E-03	9.168E-02	9.823E-02

IN XIII 5D EO= 9.9642E+00 (RYD) N*= 4.1183 MU= .8817

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	135.572	91.45	9.261E-02	1.276E-01	2.923E-02	8.324E-02	1.125E-01
1.0000	13.606	149.178	83.11	7.888E-02	1.209E-01	2.333E-02	8.221E-02	1.055E-01
6.0000	81.635	217.208	57.08	4.181E-02	8.884E-02	9.542E-03	6.464E-02	7.418E-02
12.0000	163.271	298.843	41.49	2.421E-02	6.294E-02	4.403E-03	4.463E-02	4.903E-02

IN XIII 6D EO= 6.3866E+00 (RYD) N*= 5.1441 MU= .8559

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	86.895	142.68	1.485E-01	1.386E-01	4.819E-02	6.289E-02	1.111E-01
.5000	6.803	93.698	132.32	1.308E-01	1.343E-01	4.028E-02	6.368E-02	1.040E-01
.6000	8.164	95.059	130.43	1.276E-01	1.333E-01	3.892E-02	6.371E-02	1.026E-01
.7000	9.524	96.420	128.59	1.246E-01	1.324E-01	3.762E-02	6.371E-02	1.013E-01
1.0000	13.606	100.501	123.37	1.161E-01	1.295E-01	3.408E-02	6.351E-02	9.759E-02
6.0000	81.635	168.531	73.57	4.814E-02	8.587E-02	9.817E-03	4.686E-02	5.667E-02

IN XIII 8D EO= 3.2950E+00 (RYD) N*= 7.1617 MU= .8383

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	44.831	276.56	2.963E-01	1.487E-01	9.894E-02	3.739E-02	1.363E-01
.9000	12.245	57.077	217.23	1.968E-01	1.389E-01	5.555E-02	4.151E-02	9.706E-02
1.0000	13.606	58.437	212.17	1.890E-01	1.373E-01	5.250E-02	4.156E-02	9.405E-02
2.0000	27.212	72.043	172.10	1.323E-01	1.213E-01	3.172E-02	3.994E-02	7.166E-02
3.0000	40.818	85.649	144.76	9.845E-02	1.065E-01	2.087E-02	3.664E-02	5.751E-02
6.0000	81.635	126.467	98.04	5.034E-02	7.476E-02	8.055E-03	2.665E-02	3.471E-02

IN XIII 10D EO= 2.0106E+00 (RYD) N*= 9.1682 MU= .8318

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	27.356	453.24	4.887E-01	1.420E-01	1.642E-01	2.078E-02	1.850E-01
.6000	8.164	35.519	349.07	3.141E-01	1.427E-01	8.810E-02	2.729E-02	1.154E-01
1.0000	13.606	40.962	302.69	2.466E-01	1.357E-01	6.262E-02	2.845E-02	9.106E-02
1.5000	20.409	47.765	259.58	1.898E-01	1.252E-01	4.327E-02	2.822E-02	7.149E-02
2.0000	27.212	54.568	227.22	1.512E-01	1.148E-01	3.138E-02	2.711E-02	5.848E-02
5.0000	68.030	95.385	129.98	5.791E-02	7.138E-02	8.040E-03	1.833E-02	2.637E-02

IN XIII 12D EO= 1.3542E+00 (RYD) N*= 11.1713 MU= .8287

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	18.425	672.93	7.231E-01	1.188E-01	2.421E-01	9.805E-03	2.519E-01
.2000	2.721	21.146	586.33	5.732E-01	1.325E-01	1.746E-01	1.399E-02	1.886E-01
.6000	8.164	26.588	466.32	3.891E-01	1.361E-01	1.012E-01	1.858E-02	1.198E-01
1.0000	13.606	32.031	387.08	2.837E-01	1.289E-01	6.481E-02	2.006E-02	8.487E-02
1.5000	20.409	38.834	319.27	2.044E-01	1.167E-01	4.079E-02	1.994E-02	6.073E-02
2.0000	27.212	45.637	271.68	1.552E-01	1.049E-01	2.763E-02	1.892E-02	4.655E-02
4.0000	54.424	72.849	170.20	6.950E-02	7.103E-02	8.846E-03	1.386E-02	2.270E-02

IN XIII 16D EO= 7.3396E-01 (RYD) N*= 15.1742 MU= .8258

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.986	1241.57	1.312E+00	2.593E-02	4.319E-01	2.531E-04	4.321E-01
.2000	2.721	12.707	975.70	8.745E-01	9.039E-02	2.443E-01	3.915E-03	2.482E-01
.6000	8.164	18.150	683.13	4.792E-01	1.160E-01	1.047E-01	9.205E-03	1.139E-01
1.0000	13.606	23.592	525.54	3.072E-01	1.100E-01	5.598E-02	1.077E-02	6.675E-02
1.5000	20.409	30.395	407.92	1.997E-01	9.663E-02	3.046E-02	1.070E-02	4.116E-02
2.0000	27.212	37.198	333.31	1.414E-01	8.418E-02	1.870E-02	9.939E-03	2.864E-02
3.0000	40.818	50.804	244.05	8.287E-02	6.532E-02	8.770E-03	8.174E-03	1.694E-02
5.0000	68.030	78.016	158.92	3.952E-02	4.353E-02	3.062E-03	5.575E-03	8.637E-03

IN XIII 20D EO= 4.5962E-01 (RYD) N*= 19.1755 MU= .8245

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.253	1982.68	2.053E+00	-1.260E-01	6.622E-01	3.745E-03	6.660E-01
.0600	.816	7.070	1753.74	1.671E+00	-4.888E-02	4.960E-01	6.369E-04	4.966E-01
.1000	1.361	7.614	1628.38	1.475E+00	-1.351E-02	4.164E-01	5.241E-05	4.165E-01
.2000	2.721	8.975	1381.51	1.119E+00	4.185E-02	2.824E-01	5.928E-04	2.830E-01
.6000	8.164	14.417	860.00	5.032E-01	9.581E-02	9.175E-02	4.989E-03	9.674E-02
1.0000	13.606	19.859	624.32	2.925E-01	9.172E-02	4.271E-02	6.298E-03	4.901E-02
1.5000	20.409	26.662	465.02	1.772E-01	7.877E-02	2.106E-02	6.238E-03	2.729E-02
2.0000	27.212	33.465	370.49	1.203E-01	6.720E-02	1.216E-02	5.698E-03	1.786E-02
3.0000	40.818	47.071	263.40	6.699E-02	5.063E-02	5.309E-03	4.550E-03	9.860E-03

IN XIII 4F EO= 1.3072E+01 (RYD) N*= 3.5956 MU= .4044

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	177.853	69.71	3.577E-02	2.368E-01	6.127E-03	3.580E-01	3.642E-01
2.0000	27.212	205.065	60.46	2.786E-02	1.798E-01	4.287E-03	2.381E-01	2.424E-01
8.0000	108.847	286.701	43.25	1.517E-02	9.213E-02	1.776E-03	8.739E-02	8.916E-02
14.0000	190.483	368.336	33.66	9.410E-03	5.490E-02	8.784E-04	3.987E-02	4.075E-02

IN XIII 5F EO= 7.9081E+00 (RYD) N*= 4.6228 MU= .3772

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	107.597	115.23	7.289E-02	3.346E-01	1.539E-02	4.326E-01	4.480E-01
2.0000	27.212	134.809	91.97	4.898E-02	2.316E-01	8.709E-03	2.596E-01	2.683E-01
6.0000	81.635	189.232	65.52	2.654E-02	1.286E-01	3.591E-03	1.124E-01	1.160E-01
8.0000	108.847	216.444	57.28	2.070E-02	1.008E-01	2.498E-03	7.905E-02	8.154E-02
16.0000	217.695	325.291	38.12	9.501E-03	4.665E-02	7.907E-04	2.542E-02	2.621E-02

IN XIII 6F EO= 5.3404E+00 (RYD) N*= 5.6254 MU= .3746

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	72.661	170.64	1.217E-01	4.331E-01	2.897E-02	4.895E-01	5.184E-01
2.0000	27.212	99.873	124.14	6.950E-02	2.686E-01	1.299E-02	2.587E-01	2.717E-01
4.0000	54.424	127.085	97.56	4.512E-02	1.829E-01	6.967E-03	1.526E-01	1.596E-01
6.0000	81.635	154.297	80.36	3.167E-02	1.324E-01	4.168E-03	9.715E-02	1.013E-01
10.0000	136.059	208.720	59.40	1.803E-02	7.831E-02	1.827E-03	4.596E-02	4.779E-02
14.0000	190.483	263.144	47.12	1.157E-02	5.140E-02	9.484E-04	2.496E-02	2.591E-02

IN XIII 8F EO= 2.9063E+00 (RYD) N*= 7.6256 MU= .3744

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	39.543	313.55	2.500E-01	6.344E-01	6.657E-02	5.714E-01	6.380E-01
2.0000	27.212	66.755	185.73	1.003E-01	3.051E-01	1.808E-02	2.231E-01	2.412E-01
4.0000	54.424	93.967	131.95	5.447E-02	1.823E-01	7.507E-03	1.121E-01	1.197E-01
6.0000	81.635	121.179	102.32	3.428E-02	1.219E-01	3.835E-03	6.470E-02	6.854E-02
12.0000	163.271	202.814	61.13	1.305E-02	5.128E-02	9.305E-04	1.915E-02	2.008E-02

IN XIII 10F EO= 1.8241E+00 (RYD) N*= 9.6253 MU= .3747

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	24.819	499.56	4.153E-01	8.456E-01	1.153E-01	6.373E-01	7.526E-01
2.0000	27.212	52.031	238.29	1.153E-01	3.080E-01	1.864E-02	1.773E-01	1.959E-01
4.0000	54.424	79.243	156.46	5.459E-02	1.657E-01	6.360E-03	7.808E-02	8.444E-02
8.0000	108.847	133.666	92.76	2.096E-02	7.264E-02	1.582E-03	2.533E-02	2.691E-02
10.0000	136.059	160.878	77.07	1.480E-02	5.340E-02	9.495E-04	1.647E-02	1.742E-02
14.0000	190.483	215.302	57.59	8.474E-03	3.235E-02	4.163E-04	8.089E-03	8.506E-03

IN XIII 12F EO= 1.2505E+00 (RYD) N*= 11.6251 MU= .3749

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	17.015	728.71	6.147E-01	1.069E+00	1.731E-01	6.978E-01	8.709E-01
2.0000	27.212	44.226	280.34	1.188E-01	2.934E-01	1.680E-02	1.367E-01	1.536E-01
4.0000	54.424	71.438	173.56	5.075E-02	1.456E-01	4.956E-03	5.437E-02	5.932E-02
10.0000	136.059	153.074	81.00	1.248E-02	4.355E-02	6.423E-04	1.042E-02	1.107E-02
12.0000	163.271	180.285	68.77	9.143E-03	3.303E-02	4.058E-04	7.064E-03	7.469E-03

IN XIII 16F EO= 6.9223E-01 (RYD) N*= 15.6249 MU= .3751

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.418	1316.42	1.108E+00	1.552E+00	3.116E-01	8.145E-01	1.126E+00
2.0000	27.212	36.630	338.48	1.089E-01	2.475E-01	1.170E-02	8.055E-02	9.225E-02
4.0000	54.424	63.842	194.21	4.080E-02	1.104E-01	2.862E-03	2.795E-02	3.081E-02
8.0000	108.847	118.266	104.84	1.324E-02	4.248E-02	5.584E-04	7.664E-03	8.223E-03
14.0000	190.483	199.901	62.02	4.888E-03	1.769E-02	1.287E-04	2.247E-03	2.375E-03
16.0000	217.695	227.113	54.59	3.812E-03	1.415E-02	8.888E-05	1.633E-03	1.722E-03

IN XIII 20F EO= 4.3881E-01 (RYD) N*= 19.6248 MU= .3752

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.970	2076.68	1.721E+00	2.084E+00	4.764E-01	9.310E-01	1.407E+00
2.0000	27.212	33.182	373.65	9.311E-02	2.030E-01	7.748E-03	4.911E-02	5.686E-02
4.0000	54.424	60.394	205.30	3.236E-02	8.519E-02	1.703E-03	1.574E-02	1.744E-02
6.0000	81.635	87.606	141.53	1.651E-02	4.841E-02	6.434E-04	7.372E-03	8.016E-03
12.0000	163.271	169.241	73.26	4.822E-03	1.668E-02	1.060E-04	1.691E-03	1.797E-03
14.0000	190.483	196.453	63.11	3.618E-03	1.293E-02	6.926E-05	1.179E-03	1.248E-03

SN XIV 5S EO= 1.4527E+01 (RYD) N*= 3.6732 MU= 1.3268

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	197.647	62.73	.000	8.185E-02	.000	8.320E-02	8.320E-02
2.0000	27.212	224.859	55.14	.000	6.904E-02	.000	6.736E-02	6.736E-02
20.0000	272.118	469.765	26.39	.000	2.536E-02	.000	1.898E-02	1.898E-02

SN XIV 6S EO= 8.8913E+00 (RYD) N*= 4.6951 MU= 1.3049

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	120.974	102.49	.000	1.200E-01	.000	1.094E-01	1.094E-01
2.0000	27.212	148.186	83.67	.000	9.082E-02	.000	7.680E-02	7.680E-02
12.0000	163.271	284.245	43.62	.000	3.648E-02	.000	2.377E-02	2.377E-02

SN XIV 8S EO= 4.3541E+00 (RYD) N*= 6.7093 MU= 1.2907

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	59.242	209.29	.000	2.156E-01	.000	1.730E-01	1.730E-01
2.0000	27.212	86.453	143.41	.000	1.254E-01	.000	8.550E-02	8.550E-02
6.0000	81.635	140.877	88.01	.000	6.169E-02	.000	3.369E-02	3.369E-02
16.0000	217.695	276.936	44.77	.000	2.300E-02	.000	9.209E-03	9.209E-03

SN XIV 10S EO= 2.5810E+00 (RYD) N*= 8.7143 MU= 1.2857

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	35.117	353.06	.000	3.343E-01	.000	2.466E-01	2.466E-01
2.0000	27.212	62.329	198.92	.000	1.441E-01	.000	8.139E-02	8.139E-02
6.0000	81.635	116.753	106.20	.000	5.674E-02	.000	2.362E-02	2.362E-02
12.0000	163.271	198.388	62.50	.000	2.581E-02	.000	8.305E-03	8.305E-03

SN XIV 12S EO= 1.7066E+00 (RYD) N*= 10.7166 MU= 1.2834

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	23.220	533.96	.000	4.746E-01	.000	3.286E-01	3.286E-01
2.0000	27.212	50.432	245.85	.000	1.496E-01	.000	7.088E-02	7.088E-02
6.0000	81.635	104.856	118.24	.000	4.972E-02	.000	1.629E-02	1.629E-02
10.0000	136.059	159.279	77.84	.000	2.654E-02	.000	7.051E-03	7.051E-03

SN XIV 16S EO= 9.0472E-01 (RYD) N*= 14.7188 MU= 1.2812

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	12.310	1007.24	.000	8.160E-01	.000	5.151E-01	5.151E-01
2.0000	27.212	39.521	313.72	.000	1.390E-01	.000	4.796E-02	4.796E-02
6.0000	81.635	93.945	131.98	.000	3.710E-02	.000	8.127E-03	8.127E-03
12.0000	163.271	175.581	70.62	.000	1.440E-02	.000	2.289E-03	2.289E-03

SN XIV 20S EO= 5.5932E-01 (RYD) N*= 18.7197 MU= 1.2803

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.610	1629.24	.000	1.235E+00	.000	7.292E-01	7.292E-01
2.0000	27.212	34.822	356.06	.000	1.196E-01	.000	3.128E-02	3.128E-02
4.0000	54.424	62.034	199.87	.000	4.921E-02	.000	9.441E-03	9.441E-03
8.0000	108.847	116.457	106.46	.000	1.879E-02	.000	2.583E-03	2.583E-03

SN XIV 5P EO= 1.3362E+01 (RYD) N*= 3.8300 MU= 1.1700

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	181.799	68.20	8.545E-02	8.554E-02	2.781E-02	5.573E-02	8.354E-02
2.0000	27.212	209.011	59.32	6.816E-02	7.454E-02	2.034E-02	4.866E-02	6.900E-02
8.0000	108.847	290.647	42.66	3.987E-02	5.222E-02	9.679E-03	3.321E-02	4.289E-02
18.0000	244.906	426.706	29.06	2.128E-02	3.319E-02	4.046E-03	1.969E-02	2.373E-02

SN XIV 6P EO= 8.3132E+00 (RYD) N*= 4.8556 MU= 1.1444

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	113.108	109.62	1.366E-01	1.101E-01	4.422E-02	5.744E-02	1.017E-01
2.0000	27.212	140.320	88.36	9.581E-02	8.841E-02	2.698E-02	4.595E-02	7.293E-02
8.0000	108.847	221.955	55.86	4.491E-02	5.286E-02	9.378E-03	2.598E-02	3.536E-02
16.0000	217.695	330.803	37.48	2.318E-02	3.263E-02	3.722E-03	1.476E-02	1.848E-02

SN XIV 8P EO= 4.1492E+00 (RYD) N*= 6.8730 MU= 1.1270

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	56.453	219.63	2.729E-01	1.636E-01	8.808E-02	6.333E-02	1.514E-01
2.0000	27.212	83.665	148.19	1.417E-01	1.074E-01	3.520E-02	4.043E-02	7.563E-02
8.0000	108.847	165.301	75.01	4.526E-02	4.793E-02	7.092E-03	1.591E-02	2.300E-02
14.0000	190.483	246.936	50.21	2.305E-02	2.902E-02	2.748E-03	8.710E-03	1.146E-02

SN XIV 10P EO= 2.4860E+00 (RYD) N*= 8.8793 MU= 1.1207

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	33.824	366.56	4.519E-01	2.209E-01	1.447E-01	6.915E-02	2.138E-01
2.0000	27.212	61.036	203.14	1.684E-01	1.148E-01	3.625E-02	3.368E-02	6.993E-02
6.0000	81.635	115.460	107.38	5.751E-02	5.295E-02	8.000E-03	1.356E-02	2.156E-02
8.0000	108.847	142.672	86.90	4.022E-02	4.060E-02	4.833E-03	9.853E-03	1.469E-02
16.0000	217.695	251.519	49.30	1.541E-02	1.965E-02	1.252E-03	4.070E-03	5.322E-03
18.0000	244.906	278.731	44.48	1.296E-02	1.720E-02	9.803E-04	3.455E-03	4.435E-03

SN XIV 12P EO= 1.6551E+00 (RYD) N*= 10.8823 MU= 1.1177

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	22.519	550.59	6.715E-01	2.812E-01	2.127E-01	7.457E-02	2.872E-01
2.0000	27.212	49.730	249.32	1.780E-01	1.140E-01	3.302E-02	2.706E-02	6.008E-02
6.0000	81.635	104.154	119.04	5.102E-02	4.554E-02	5.680E-03	9.049E-03	1.473E-02
12.0000	163.271	185.790	66.73	1.911E-02	2.168E-02	1.422E-03	3.657E-03	5.079E-03
16.0000	217.695	240.213	51.62	1.236E-02	1.552E-02	7.689E-04	2.424E-03	3.193E-03

SN XIV 16P EO= 8.8462E-01 (RYD) N*= 14.8851 MU= 1.1149

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	12.036	1030.13	1.227E+00	4.095E-01	3.797E-01	8.457E-02	4.643E-01
2.0000	27.212	39.248	315.91	1.688E-01	1.011E-01	2.342E-02	1.682E-02	4.023E-02
4.0000	54.424	66.460	186.56	6.917E-02	5.196E-02	6.661E-03	7.516E-03	1.418E-02
8.0000	108.847	120.883	102.57	2.502E-02	2.403E-02	1.585E-03	2.923E-03	4.508E-03
10.0000	136.059	148.095	83.72	1.771E-02	1.845E-02	9.726E-04	2.111E-03	3.084E-03
14.0000	190.483	202.519	61.22	1.039E-02	1.225E-02	4.584E-04	1.273E-03	1.731E-03
18.0000	244.906	256.942	48.25	6.935E-03	8.955E-03	2.588E-04	8.631E-04	1.122E-03

SN XIV 20P EO= 5.4950E-01 (RYD) N*= 18.8862 MU= 1.1138

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.476	1658.37	1.932E+00	5.475E-01	5.845E-01	9.388E-02	6.784E-01
1.0000	13.606	21.082	588.11	3.401E-01	1.595E-01	5.107E-02	2.247E-02	7.354E-02
4.0000	54.424	61.900	200.30	5.494E-02	4.050E-02	3.914E-03	4.254E-03	8.168E-03
8.0000	108.847	116.324	106.59	1.877E-02	1.783E-02	8.584E-04	1.549E-03	2.407E-03
12.0000	163.271	170.747	72.61	9.757E-03	1.078E-02	3.405E-04	8.310E-04	1.172E-03

SN XIV 4D EO= 2.0853E+01 (RYD) N*= 3.0658 MU= .9342

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	283.730	43.70	4.283E-02	1.074E-01	1.308E-02	1.234E-01	1.365E-01
2.0000	27.212	310.942	39.87	3.676E-02	9.897E-02	1.058E-02	1.148E-01	1.254E-01
4.0000	54.424	338.154	36.67	3.193E-02	9.107E-02	8.668E-03	1.057E-01	1.144E-01
6.0000	81.635	365.365	33.93	2.803E-02	8.383E-02	7.214E-03	9.680E-02	1.040E-01

SN XIV 5D EO= 1.1379E+01 (RYD) N*= 4.1503 MU= .8497

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	154.820	80.08	8.082E-02	1.235E-01	2.542E-02	8.906E-02	1.145E-01
2.0000	27.212	182.032	68.11	6.149E-02	1.095E-01	1.730E-02	8.225E-02	9.955E-02
6.0000	81.635	236.456	52.44	3.941E-02	8.580E-02	9.233E-03	6.563E-02	7.486E-02
14.0000	190.483	345.303	35.91	2.053E-02	5.579E-02	3.658E-03	4.053E-02	4.419E-02

SN XIV 6D EO= 7.3177E+00 (RYD) N*= 5.1754 MU= .8246

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	99.564	124.53	1.297E-01	1.391E-01	4.211E-02	7.267E-02	1.148E-01
2.0000	27.212	126.776	97.80	8.603E-02	1.178E-01	2.359E-02	6.630E-02	8.989E-02
6.0000	81.635	181.199	68.43	4.666E-02	8.489E-02	9.916E-03	4.923E-02	5.915E-02
12.0000	163.271	262.835	47.17	2.450E-02	5.623E-02	3.965E-03	3.134E-02	3.530E-02

SN XIV 8D EO= 3.7887E+00 (RYD) N*= 7.1926 MU= .8074

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	51.548	240.53	2.590E-01	1.629E-01	8.694E-02	5.157E-02	1.385E-01
.2000	2.721	54.269	228.47	2.374E-01	1.592E-01	7.687E-02	5.186E-02	1.287E-01
.3000	4.082	55.630	222.88	2.276E-01	1.573E-01	7.244E-02	5.188E-02	1.243E-01
.4000	5.442	56.990	217.56	2.184E-01	1.553E-01	6.836E-02	5.183E-02	1.202E-01
1.0000	13.606	65.154	190.30	1.739E-01	1.433E-01	4.955E-02	5.046E-02	1.000E-01
6.0000	81.635	133.184	93.09	5.090E-02	7.850E-02	8.674E-03	2.939E-02	3.807E-02
12.0000	163.271	214.819	57.72	2.211E-02	4.476E-02	2.639E-03	1.623E-02	1.887E-02
20.0000	272.118	323.666	38.31	1.071E-02	2.675E-02	9.339E-04	8.734E-03	9.668E-03

SN XIV 10D EO= 2.3162E+00 (RYD) N*= 9.1990 MU= .8010

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	31.514	393.43	4.275E-01	1.753E-01	1.448E-01	3.652E-02	1.813E-01
.4000	5.442	36.957	335.49	3.264E-01	1.658E-01	9.897E-02	3.829E-02	1.373E-01
.5000	6.803	38.317	323.58	3.070E-01	1.629E-01	9.076E-02	3.835E-02	1.291E-01
.6000	8.164	39.678	312.48	2.893E-01	1.600E-01	8.348E-02	3.831E-02	1.218E-01
1.0000	13.606	45.120	274.79	2.325E-01	1.483E-01	6.130E-02	3.741E-02	9.871E-02
6.0000	81.635	113.150	109.58	4.781E-02	6.545E-02	6.501E-03	1.828E-02	2.478E-02
12.0000	163.271	194.785	63.65	1.848E-02	3.533E-02	1.673E-03	9.169E-03	1.084E-02
16.0000	217.695	249.209	49.75	1.196E-02	2.606E-02	8.958E-04	6.383E-03	7.279E-03

SN XIV 12D EO= 1.5619E+00 (RYD) N*= 11.2021 MU= .7979

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	21.251	583.43	6.331E-01	1.767E-01	2.141E-01	2.502E-02	2.391E-01
.5000	6.803	28.054	441.95	3.957E-01	1.651E-01	1.104E-01	2.884E-02	1.393E-01
.6000	8.164	29.415	421.51	3.652E-01	1.615E-01	9.861E-02	2.892E-02	1.275E-01
.7000	9.524	30.776	402.87	3.382E-01	1.577E-01	8.849E-02	2.887E-02	1.174E-01
1.0000	13.606	34.857	355.70	2.737E-01	1.465E-01	6.563E-02	2.821E-02	9.384E-02
4.0000	54.424	75.675	163.84	7.244E-02	7.599E-02	9.981E-03	1.648E-02	2.646E-02
6.0000	81.635	102.887	120.51	4.252E-02	5.526E-02	4.675E-03	1.185E-02	1.652E-02
8.0000	108.847	130.099	95.30	2.823E-02	4.264E-02	2.606E-03	8.919E-03	1.153E-02
14.0000	190.483	211.734	58.56	1.198E-02	2.392E-02	7.639E-04	4.569E-03	5.333E-03

SN XIV 16D EO= 8.4779E-01 (RYD) N*= 15.2049 MU= .7951

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.535	1074.87	1.150E+00	1.481E-01	3.832E-01	9.534E-03	3.928E-01
.1000	1.361	12.896	961.47	9.529E-01	1.590E-01	2.943E-01	1.229E-02	3.066E-01
.6000	8.164	19.699	629.42	4.659E-01	1.521E-01	1.075E-01	1.718E-02	1.247E-01
.7000	9.524	21.059	588.75	4.161E-01	1.473E-01	9.163E-02	1.723E-02	1.089E-01
.8000	10.885	22.420	553.02	3.741E-01	1.425E-01	7.888E-02	1.715E-02	9.604E-02
1.0000	13.606	25.141	493.17	3.080E-01	1.329E-01	5.994E-02	1.673E-02	7.667E-02
4.0000	54.424	65.959	187.98	5.895E-02	5.753E-02	5.761E-03	8.230E-03	1.399E-02
10.0000	136.059	147.594	84.00	1.446E-02	2.364E-02	7.757E-04	3.111E-03	3.887E-03
16.0000	217.695	229.230	54.09	6.636E-03	1.377E-02	2.538E-04	1.639E-03	1.893E-03

SN XIV 20D EO= 5.3134E-01 (RYD) N*= 19.2061 MU= .7939

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.229	1715.02	1.801E+00	7.957E-02	5.892E-01	1.726E-03	5.909E-01
.2000	2.721	9.951	1246.02	1.052E+00	1.388E-01	2.770E-01	7.226E-03	2.842E-01
.5000	6.803	14.032	883.57	5.893E-01	1.407E-01	1.225E-01	1.047E-02	1.329E-01
.6000	8.164	15.393	805.47	5.039E-01	1.362E-01	9.824E-02	1.076E-02	1.090E-01
.7000	9.524	16.754	740.06	4.366E-01	1.310E-01	8.026E-02	1.084E-02	9.111E-02
.8000	10.885	18.114	684.47	3.824E-01	1.257E-01	6.660E-02	1.079E-02	7.739E-02
1.0000	13.606	20.835	595.08	3.016E-01	1.154E-01	4.763E-02	1.045E-02	5.809E-02
2.0000	27.212	34.441	359.99	1.280E-01	7.771E-02	1.418E-02	7.842E-03	2.202E-02
4.0000	54.424	61.653	201.10	4.698E-02	4.432E-02	3.421E-03	4.566E-03	7.987E-03
8.0000	108.847	116.077	106.81	1.561E-02	2.220E-02	7.108E-04	2.156E-03	2.867E-03
14.0000	190.483	197.712	62.71	6.103E-03	1.172E-02	1.851E-04	1.024E-03	1.209E-03

SN XIV 4F EO= 1.5130E+01 (RYD) N*= 3.5992 MU= .4008

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	205.859	60.23	3.128E-02	2.019E-01	5.423E-03	3.012E-01	3.066E-01
2.0000	27.212	233.071	53.20	2.506E-02	1.585E-01	3.943E-03	2.103E-01	2.142E-01
8.0000	108.847	314.707	39.40	1.443E-02	8.686E-02	1.766E-03	8.526E-02	8.702E-02
14.0000	190.483	396.342	31.28	9.274E-03	5.392E-02	9.180E-04	4.138E-02	4.229E-02

SN XIV 5F EO= 9.1501E+00 (RYD) N*= 4.6282 MU= .3718

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	124.496	99.59	6.434E-02	2.882E-01	1.388E-02	3.714E-01	3.853E-01
2.0000	27.212	151.708	81.73	4.522E-02	2.083E-01	8.356E-03	2.363E-01	2.447E-01
8.0000	108.847	233.343	53.13	2.052E-02	9.787E-02	2.647E-03	8.025E-02	8.290E-02
16.0000	217.695	342.191	36.23	9.839E-03	4.760E-02	8.921E-04	2.784E-02	2.874E-02

SN XIV 6F EO= 6.1803E+00 (RYD) N*= 5.6315 MU= .3685

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	84.089	147.45	1.078E-01	3.750E-01	2.633E-02	4.246E-01	4.510E-01
2.0000	27.212	111.301	111.40	6.554E-02	2.455E-01	1.287E-02	2.408E-01	2.537E-01
4.0000	54.424	138.513	89.51	4.414E-02	1.732E-01	7.268E-03	1.492E-01	1.565E-01
6.0000	81.635	165.724	74.81	3.176E-02	1.287E-01	4.501E-03	9.856E-02	1.031E-01
12.0000	163.271	247.360	50.12	1.493E-02	6.399E-02	1.485E-03	3.637E-02	3.786E-02
16.0000	217.695	301.784	41.08	1.014E-02	4.444E-02	8.364E-04	2.140E-02	2.224E-02

SN XIV 8F EO= 3.3649E+00 (RYD) N*= 7.6321 MU= .3679

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	45.783	270.82	2.227E-01	5.531E-01	6.116E-02	5.030E-01	5.642E-01
2.0000	27.212	72.994	169.86	9.819E-02	2.871E-01	1.895E-02	2.160E-01	2.350E-01
4.0000	54.424	100.206	123.73	5.561E-02	1.784E-01	8.345E-03	1.145E-01	1.229E-01
6.0000	81.635	127.418	97.31	3.585E-02	1.223E-01	4.409E-03	6.844E-02	7.285E-02
14.0000	190.483	236.265	52.48	1.116E-02	4.327E-02	7.923E-04	1.588E-02	1.667E-02
18.0000	244.906	290.689	42.65	7.431E-03	2.983E-02	4.323E-04	9.286E-03	9.719E-03

SN XIV 10F EO= 2.1126E+00 (RYD) N*= 9.6320 MU= .3680

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	28.744	431.34	3.714E-01	7.411E-01	1.068E-01	5.670E-01	6.737E-01
2.0000	27.212	55.956	221.58	1.165E-01	2.972E-01	2.047E-02	1.775E-01	1.979E-01
4.0000	54.424	83.168	149.08	5.745E-02	1.660E-01	7.392E-03	8.227E-02	8.966E-02
8.0000	108.847	137.592	90.11	2.280E-02	7.551E-02	1.927E-03	2.817E-02	3.009E-02
12.0000	163.271	192.015	64.57	1.214E-02	4.339E-02	7.620E-04	1.298E-02	1.374E-02
14.0000	190.483	219.227	56.56	9.401E-03	3.455E-02	5.218E-04	9.395E-03	9.917E-03
20.0000	272.118	300.863	41.21	5.042E-03	1.967E-02	2.059E-04	4.179E-03	4.385E-03

SN XIV 12F EO= 1.4486E+00 (RYD) N*= 11.6319 MU= .3681

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	19.710	629.05	5.514E-01	9.404E-01	1.614E-01	6.260E-01	7.873E-01
2.0000	27.212	46.922	264.24	1.231E-01	2.889E-01	1.914E-02	1.406E-01	1.597E-01
4.0000	54.424	74.134	167.25	5.455E-02	1.483E-01	5.941E-03	5.857E-02	6.451E-02
10.0000	136.059	155.769	79.60	1.388E-02	4.623E-02	8.078E-04	1.196E-02	1.276E-02
12.0000	163.271	182.981	67.76	1.021E-02	3.534E-02	5.141E-04	8.204E-03	8.718E-03
20.0000	272.118	291.828	42.49	4.099E-03	1.563E-02	1.321E-04	2.559E-03	2.691E-03

SN XIV 16F EO= 8.0212E-01 (RYD) N*= 15.6317 MU= .3663

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.914	1136.07	9.990E-01	1.374E+00	2.933E-01	7.400E-01	1.033E+00
2.0000	27.212	38.125	325.21	1.169E-01	2.507E-01	1.402E-02	8.603E-02	1.001E-01
4.0000	54.424	65.337	189.76	4.499E-02	1.149E-01	3.562E-03	3.095E-02	3.451E-02
8.0000	108.847	119.761	103.53	1.487E-02	4.526E-02	7.131E-04	8.811E-03	9.524E-03
12.0000	163.271	174.185	71.18	7.332E-03	2.454E-02	2.522E-04	3.768E-03	4.020E-03
18.0000	244.906	255.820	48.47	3.471E-03	1.266E-02	8.298E-05	1.473E-03	1.556E-03

SN XIV 20F EO= 5.0856E-01 (RYD) N*= 19.6317 MU= .3683

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.919	1791.86	1.557E+00	1.854E+00	4.517E-01	8.541E-01	1.306E+00
2.0000	27.212	34.131	363.26	1.021E-01	2.093E-01	9.576E-03	5.371E-02	6.328E-02
4.0000	54.424	61.343	202.12	3.619E-02	8.964E-02	2.164E-03	1.770E-02	1.986E-02
6.0000	81.635	88.555	140.01	1.862E-02	5.150E-02	8.266E-04	8.435E-03	9.262E-03
10.0000	136.059	142.979	86.72	7.642E-03	2.412E-02	2.249E-04	2.988E-03	3.213E-03
14.0000	190.483	197.402	62.81	4.125E-03	1.409E-02	9.045E-05	1.408E-03	1.498E-03

SB XV 5S EO= 1.6295E+01 (RYD) N*= 3.7159 MU= 1.2841

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	221.703	55.92	.000	7.453E-02	.000	7.739E-02	7.739E-02
2.0000	27.212	248.915	49.81	.000	6.391E-02	.000	6.389E-02	6.389E-02
20.0000	272.118	493.821	25.11	.000	2.508E-02	.000	1.953E-02	1.953E-02

SB XV 6S EO= 1.0023E+01 (RYD) N*= 4.7381 MU= 1.2619

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	136.367	90.92	.000	1.088E-01	.000	1.014E-01	1.014E-01
2.0000	27.212	163.578	75.80	.000	8.467E-02	.000	7.368E-02	7.368E-02
14.0000	190.483	326.849	37.93	.000	3.199E-02	.000	2.102E-02	2.102E-02

SB XV 8S EO= 4.9347E+00 (RYD) N*= 6.7525 MU= 1.2475

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	67.141	184.67	.000	1.947E-01	.000	1.600E-01	1.600E-01
2.0000	27.212	94.353	131.41	.000	1.194E-01	.000	8.453E-02	8.453E-02
8.0000	108.847	175.988	70.45	.000	4.810E-02	.000	2.559E-02	2.559E-02
18.0000	244.906	312.047	39.73	.000	2.081E-02	.000	8.493E-03	8.493E-03

SB XV 10S EO= 2.9338E+00 (RYD) N*= 8.7575 MU= 1.2425

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	39.917	310.61	.000	3.015E-01	.000	2.280E-01	2.280E-01
2.0000	27.212	67.128	184.70	.000	1.404E-01	.000	8.311E-02	8.311E-02
6.0000	81.635	121.552	102.00	.000	5.799E-02	.000	2.569E-02	2.569E-02
12.0000	163.271	203.188	61.02	.000	2.697E-02	.000	9.291E-03	9.291E-03
20.0000	272.118	312.035	39.73	.000	1.429E-02	.000	4.006E-03	4.006E-03

SB XV 12S EO= 1.9434E+00 (RYD) N*= 10.7599 MU= 1.2401

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	26.442	468.90	.000	4.277E-01	.000	3.039E-01	3.039E-01
2.0000	27.212	53.654	231.08	.000	1.487E-01	.000	7.454E-02	7.454E-02
6.0000	81.635	108.078	114.72	.000	5.172E-02	.000	1.817E-02	1.817E-02
10.0000	136.059	162.501	76.30	.000	2.799E-02	.000	7.999E-03	7.999E-03
18.0000	244.906	271.349	45.69	.000	1.300E-02	.000	2.884E-03	2.884E-03

SB XV 16S EO= 1.0325E+00 (RYD) N*= 14.7620 MU= 1.2380

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	14.048	882.58	.000	7.360E-01	.000	4.769E-01	4.769E-01
2.0000	27.212	41.260	300.50	.000	1.427E-01	.000	5.277E-02	5.277E-02
6.0000	81.635	95.684	129.58	.000	3.942E-02	.000	9.345E-03	9.345E-03
10.0000	136.059	150.107	82.60	.000	1.988E-02	.000	3.727E-03	3.727E-03

SB XV 20S EO= 6.3912E-01 (RYD) N*= 18.7629 MU= 1.2371

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.696	1425.82	.000	1.112E+00	.000	6.756E-01	6.756E-01
2.0000	27.212	35.908	345.29	.000	1.254E-01	.000	3.546E-02	3.546E-02
6.0000	81.635	90.331	137.26	.000	3.029E-02	.000	5.209E-03	5.209E-03

SB XV 5P EO= 1.5052E+01 (RYD) N*= 3.8662 MU= 1.1338

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	204.801	60.54	7.544E-02	8.023E-02	2.441E-02	5.522E-02	7.964E-02
2.0000	27.212	232.013	53.44	6.163E-02	7.058E-02	1.846E-02	4.839E-02	6.685E-02
8.0000	108.847	313.648	39.53	3.774E-02	5.055E-02	9.355E-03	3.358E-02	4.294E-02
18.0000	244.906	449.707	27.57	2.092E-02	3.286E-02	4.123E-03	2.034E-02	2.446E-02

SB XV 6P EO= 9.4014E+00 (RYD) N*= 4.8921 MU= 1.1079

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	127.914	96.93	1.201E-01	1.040E-01	3.866E-02	5.795E-02	9.661E-02
2.0000	27.212	155.126	79.93	8.746E-02	8.476E-02	2.486E-02	4.668E-02	7.154E-02
8.0000	108.847	236.761	52.37	4.350E-02	5.221E-02	9.383E-03	2.703E-02	3.642E-02
16.0000	217.695	345.609	35.87	2.323E-02	3.287E-02	3.905E-03	1.565E-02	1.955E-02

SB XV 8P EO= 4.7128E+00 (RYD) N*= 6.9096 MU= 1.0904

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	64.121	193.36	2.390E-01	1.567E-01	7.675E-02	6.595E-02	1.427E-01
2.0000	27.212	91.333	135.75	1.326E-01	1.057E-01	3.365E-02	4.273E-02	7.638E-02
8.0000	108.847	172.969	71.68	4.548E-02	4.888E-02	7.496E-03	1.731E-02	2.481E-02
14.0000	190.483	254.604	48.70	2.374E-02	2.997E-02	3.006E-03	9.583E-03	1.259E-02

SB XV 10P EO= 2.8304E+00 (RYD) N*= 8.9159 MU= 1.0841

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	38.510	321.96	3.951E-01	2.143E-01	1.259E-01	7.410E-02	2.000E-01
2.0000	27.212	65.722	188.65	1.616E-01	1.157E-01	3.597E-02	3.686E-02	7.283E-02
6.0000	81.635	120.146	103.20	5.851E-02	5.486E-02	8.615E-03	1.515E-02	2.376E-02
10.0000	136.059	174.569	71.02	3.110E-02	3.403E-02	3.538E-03	8.471E-03	1.201E-02

SB XV 12P EO= 1.8872E+00 (RYD) N*= 10.9190 MU= 1.0810

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	25.677	482.87	5.865E-01	2.761E-01	1.850E-01	8.198E-02	2.670E-01
2.0000	27.212	52.889	234.43	1.748E-01	1.173E-01	3.385E-02	3.050E-02	6.435E-02
6.0000	81.635	107.313	115.54	5.288E-02	4.796E-02	6.286E-03	1.034E-02	1.663E-02
8.0000	108.847	134.524	92.17	3.604E-02	3.581E-02	3.661E-03	7.227E-03	1.089E-02
16.0000	217.695	243.372	50.95	1.317E-02	1.648E-02	8.847E-04	2.770E-03	3.655E-03

SB XV 16P EO= 1.0105E+00 (RYD) N*= 14.9218 MU= 1.0782

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	13.749	901.79	1.071E+00	4.108E-01	3.301E-01	9.719E-02	4.273E-01
2.0000	27.212	40.961	302.70	1.714E-01	1.074E-01	2.522E-02	1.980E-02	4.502E-02
4.0000	54.424	68.173	181.87	7.237E-02	5.568E-02	7.480E-03	8.853E-03	1.633E-02
8.0000	108.847	122.596	101.13	2.669E-02	2.582E-02	1.829E-03	3.423E-03	5.253E-03
12.0000	163.271	177.020	70.04	1.428E-02	1.589E-02	7.557E-04	1.873E-03	2.629E-03
18.0000	244.906	258.655	47.93	7.486E-03	9.803E-03	3.036E-04	9.992E-04	1.303E-03

SB XV 20P EO= 6.2835E-01 (RYD) N*= 18.9230 MU= 1.0770

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.549	1450.24	1.685E+00	5.593E-01	5.082E-01	1.120E-01	6.202E-01
2.0000	27.212	35.761	346.71	1.523E-01	9.232E-02	1.738E-02	1.277E-02	3.015E-02
4.0000	54.424	62.973	196.89	5.836E-02	4.401E-02	4.493E-03	5.109E-03	9.602E-03
10.0000	136.059	144.608	85.74	1.417E-02	1.465E-02	6.078E-04	1.300E-03	1.908E-03
12.0000	163.271	171.820	72.16	1.056E-02	1.165E-02	4.011E-04	9.767E-04	1.378E-03

SB XV 4D EO= 2.3574E+01 (RYD) N*= 3.0894 MU= .9106

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	320.752	38.65	3.763E-02	9.993E-02	1.141E-02	1.208E-01	1.322E-01
2.0000	27.212	347.964	35.63	3.282E-02	9.217E-02	9.422E-03	1.115E-01	1.209E-01
6.0000	81.635	402.388	30.81	2.567E-02	7.855E-02	6.666E-03	9.362E-02	1.003E-01

SB XV 5D EO= 1.2921E+01 (RYD) N*= 4.1730 MU= .8270

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	175.798	70.53	7.116E-02	1.189E-01	2.237E-02	9.375E-02	1.161E-01
2.0000	27.212	203.010	61.07	5.577E-02	1.051E-01	1.587E-02	8.461E-02	1.005E-01
6.0000	81.635	257.433	48.16	3.720E-02	8.292E-02	8.957E-03	6.674E-02	7.570E-02
14.0000	190.483	366.281	33.85	2.024E-02	5.488E-02	3.771E-03	4.159E-02	4.536E-02

SB XV 6D EO= 8.3256E+00 (RYD) N*= 5.1986 MU= .8014

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	113.277	109.45	1.141E-01	1.378E-01	3.709E-02	8.113E-02	1.182E-01
2.0000	27.212	140.489	88.25	7.910E-02	1.157E-01	2.210E-02	7.089E-02	9.299E-02
6.0000	81.635	194.913	63.61	4.510E-02	8.382E-02	9.965E-03	5.164E-02	6.160E-02
12.0000	163.271	276.548	44.83	2.458E-02	5.622E-02	4.200E-03	3.296E-02	3.716E-02

SB XV 8D EO= 4.3210E+00 (RYD) N*= 7.2160 MU= .7840

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	58.791	210.89	2.279E-01	1.716E-01	7.677E-02	6.524E-02	1.420E-01
2.0000	27.212	86.003	144.17	1.191E-01	1.274E-01	3.066E-02	5.262E-02	8.329E-02
6.0000	81.635	140.427	88.29	5.113E-02	7.810E-02	9.229E-03	3.229E-02	4.152E-02
10.0000	136.059	194.850	63.63	2.889E-02	5.384E-02	4.087E-03	2.130E-02	2.538E-02

SB XV 10D EO= 2.6454E+00 (RYD) N*= 9.2225 MU= .7775

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	35.993	344.48	3.764E-01	1.984E-01	1.282E-01	5.342E-02	1.816E-01
2.0000	27.212	63.205	196.17	1.442E-01	1.287E-01	3.303E-02	3.950E-02	7.253E-02
6.0000	81.635	117.628	105.41	4.933E-02	6.835E-02	7.195E-03	2.072E-02	2.791E-02
12.0000	163.271	199.264	62.22	1.960E-02	3.693E-02	1.924E-03	1.025E-02	1.217E-02
14.0000	190.483	226.476	54.75	1.563E-02	3.150E-02	1.392E-03	8.474E-03	9.866E-03

SB XV 12D EO= 1.7855E+00 (RYD) N*= 11.2256 MU= .7744

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	24.294	510.37	5.576E-01	2.184E-01	1.899E-01	4.370E-02	2.336E-01
.0200	.272	24.566	504.71	5.472E-01	2.172E-01	1.849E-01	4.371E-02	2.286E-01
.0400	.544	24.838	499.18	5.371E-01	2.160E-01	1.801E-01	4.371E-02	2.238E-01
.6000	8.164	32.457	382.00	3.413E-01	1.828E-01	9.506E-02	4.088E-02	1.359E-01
1.0000	13.606	37.899	327.15	2.622E-01	1.622E-01	6.550E-02	3.758E-02	1.031E-01
4.0000	54.424	78.717	157.51	7.479E-02	8.100E-02	1.107E-02	1.947E-02	3.054E-02
6.0000	81.635	105.929	117.05	4.468E-02	5.861E-02	5.315E-03	1.372E-02	1.903E-02
10.0000	136.059	160.353	77.32	2.163E-02	3.619E-02	1.885E-03	7.919E-03	9.804E-03

SB XV 16D EO= 9.7022E-01 (RYD) N*= 15.2285 MU= .7715

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	13.201	939.24	1.014E+00	2.390E-01	3.410E-01	2.842E-02	3.694E-01
.1000	1.361	14.561	851.48	8.593E-01	2.314E-01	2.703E-01	2.940E-02	2.997E-01
.2000	2.721	15.922	778.72	7.391E-01	2.223E-01	2.186E-01	2.967E-02	2.483E-01
.6000	8.164	21.364	580.35	4.494E-01	1.852E-01	1.085E-01	2.763E-02	1.361E-01
1.0000	13.606	26.807	462.52	3.057E-01	1.550E-01	6.297E-02	2.428E-02	8.726E-02
4.0000	54.424	67.624	183.35	6.252E-02	6.279E-02	6.644E-03	1.005E-02	1.670E-02
6.0000	81.635	94.836	130.74	3.475E-02	4.313E-02	2.878E-03	6.651E-03	9.529E-03
10.0000	136.059	149.260	83.07	1.570E-02	2.530E-02	9.244E-04	3.602E-03	4.527E-03

SB XV 20D EO= 6.0846E-01 (RYD) N*= 19.2297 MU= .7703

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.279	1497.65	1.589E+00	2.347E-01	5.254E-01	1.719E-02	5.426E-01
.2000	2.721	11.000	1127.16	9.849E-01	2.225E-01	2.682E-01	2.053E-02	2.888E-01
.3000	4.082	12.360	1003.09	8.091E-01	2.106E-01	2.034E-01	2.067E-02	2.241E-01
.4000	5.442	13.721	903.62	6.783E-01	1.984E-01	1.587E-01	2.035E-02	1.790E-01
1.0000	13.606	21.885	566.54	3.075E-01	1.396E-01	5.201E-02	1.608E-02	6.809E-02
4.0000	54.424	62.702	197.74	5.058E-02	4.901E-02	4.032E-03	5.680E-03	9.711E-03
8.0000	108.847	117.126	105.86	1.703E-02	2.402E-02	8.537E-04	2.548E-03	3.402E-03

SB XV 4F EO= 1.7503E+01 (RYD) N*= 3.5853 MU= .4147

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	238.149	52.06	2.764E-02	1.731E-01	4.900E-03	2.563E-01	2.612E-01
2.0000	27.212	265.361	46.72	2.273E-02	1.399E-01	3.691E-03	1.865E-01	1.902E-01
8.0000	108.847	346.996	35.73	1.380E-02	8.139E-02	1.781E-03	8.254E-02	8.432E-02
14.0000	190.483	428.632	28.93	9.179E-03	5.246E-02	9.725E-04	4.236E-02	4.333E-02

SB XV 5F EO= 1.0528E+01 (RYD) N*= 4.6228 MU= .3772

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	143.250	86.55	5.716E-02	2.499E-01	1.260E-02	3.213E-01	3.339E-01
2.0000	27.212	170.462	72.74	4.180E-02	1.874E-01	8.023E-03	2.149E-01	2.229E-01
8.0000	108.847	252.097	49.18	2.030E-02	9.422E-02	2.798E-03	8.037E-02	8.316E-02
16.0000	217.695	360.944	34.35	1.017E-02	4.801E-02	1.006E-03	2.988E-02	3.088E-02
18.0000	244.906	388.156	31.94	8.811E-03	4.169E-02	8.116E-04	2.422E-02	2.503E-02

SB XV 6F EO= 7.1025E+00 (RYD) N*= 5.6284 MU= .3716

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	96.637	128.30	9.599E-02	3.270E-01	2.398E-02	3.711E-01	3.950E-01
2.0000	27.212	123.848	100.11	6.159E-02	2.242E-01	1.265E-02	2.235E-01	2.361E-01
4.0000	54.424	151.060	82.08	4.294E-02	1.633E-01	7.500E-03	1.446E-01	1.521E-01
6.0000	81.635	178.272	69.55	3.164E-02	1.242E-01	4.807E-03	9.869E-02	1.035E-01
12.0000	163.271	259.908	47.70	1.553E-02	6.450E-02	1.688E-03	3.883E-02	4.052E-02
16.0000	217.695	314.331	39.44	1.073E-02	4.561E-02	9.751E-04	2.348E-02	2.446E-02

SB XV 8F EO= 3.8644E+00 (RYD) N*= 7.6305 MU= .3695

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	52.578	235.81	1.991E-01	4.863E-01	5.611E-02	4.465E-01	5.026E-01
2.0000	27.212	79.790	155.39	9.534E-02	2.895E-01	1.953E-02	2.080E-01	2.276E-01
4.0000	54.424	107.002	115.87	5.620E-02	1.735E-01	9.102E-03	1.156E-01	1.247E-01
6.0000	81.635	134.214	92.38	3.711E-02	1.217E-01	4.978E-03	7.134E-02	7.632E-02

SB XV 10F EO= 2.4258E+00 (RYD) N*= 9.6309 MU= .3691

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	33.005	375.66	3.331E-01	6.554E-01	9.864E-02	5.091E-01	6.077E-01
2.0000	27.212	60.216	205.90	1.165E-01	2.856E-01	2.199E-02	1.764E-01	1.984E-01
4.0000	54.424	87.428	141.81	5.975E-02	1.652E-01	8.406E-03	8.564E-02	9.405E-02
8.0000	108.847	141.852	87.41	2.456E-02	7.777E-02	2.304E-03	3.081E-02	3.311E-02
12.0000	163.271	196.276	63.17	1.329E-02	4.553E-02	9.338E-04	1.461E-02	1.555E-02

SB XV 12F EO= 1.6632E+00 (RYD) N*= 11.6311 MU= .3689

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	22.629	547.90	4.960E-01	8.355E-01	1.499E-01	5.672E-01	7.171E-01
2.0000	27.212	49.841	248.76	1.259E-01	2.831E-01	2.129E-02	1.435E-01	1.648E-01
4.0000	54.424	77.053	160.91	5.791E-02	1.501E-01	6.960E-03	6.236E-02	6.932E-02
8.0000	108.847	131.477	94.30	2.175E-02	6.588E-02	1.676E-03	2.049E-02	2.217E-02
10.0000	136.059	158.688	78.13	1.528E-02	4.862E-02	9.983E-04	1.347E-02	1.447E-02
12.0000	163.271	185.900	66.70	1.131E-02	3.742E-02	6.407E-04	9.346E-03	9.987E-03

SB XV 20F EO= 5.8383E-01 (RYD) N*= 19.6312 MU= .3688

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.944	1560.84	1.412E+00	1.667E+00	4.284E-01	7.930E-01	1.219E+00
2.0000	27.212	35.155	352.68	1.104E-01	2.149E-01	1.154E-02	5.832E-02	6.986E-02
4.0000	54.424	62.367	198.80	4.000E-02	9.378E-02	2.688E-03	1.970E-02	2.238E-02

TE XVI 5S EO= 1.8067E+01 (RYD) N*= 3.7642 MU= 1.2358

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	245.818	50.44	.000	6.801E-02	.000	7.145E-02	7.145E-02
2.0000	27.212	273.030	45.41	.000	5.910E-02	.000	5.993E-02	5.993E-02
20.0000	272.118	517.937	23.94	.000	2.457E-02	.000	1.965E-02	1.965E-02

TE XVI 6S EO= 1.1181E+01 (RYD) N*= 4.7849 MU= 1.2151

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	152.133	81.50	.000	9.901E-02	.000	9.371E-02	9.371E-02
2.0000	27.212	179.345	69.13	.000	7.882E-02	.000	7.002E-02	7.002E-02
16.0000	217.695	369.828	33.53	.000	2.837E-02	.000	1.870E-02	1.870E-02

TE XVI 8S EO= 5.5387E+00 (RYD) N*= 6.7985 MU= 1.2015

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	75.359	164.53	.000	1.765E-01	.000	1.476E-01	1.476E-01
2.0000	27.212	102.571	120.88	.000	1.132E-01	.000	8.257E-02	8.257E-02
8.0000	108.847	184.207	67.31	.000	4.809E-02	.000	2.677E-02	2.677E-02
18.0000	244.906	320.266	38.71	.000	2.136E-02	.000	9.179E-03	9.179E-03

TE XVI 10S EO= 3.3033E+00 (RYD) N*= 8.8034 MU= 1.1966

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	44.944	275.87	.000	2.728E-01	.000	2.102E-01	2.102E-01
2.0000	27.212	72.156	171.83	.000	1.357E-01	.000	8.355E-02	8.355E-02
6.0000	81.635	126.579	97.95	.000	5.870E-02	.000	2.741E-02	2.741E-02
14.0000	190.483	235.427	52.66	.000	2.324E-02	.000	7.991E-03	7.991E-03

TE XVI 12S EO= 2.1925E+00 (RYD) N*= 10.8057 MU= 1.1943

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	29.831	415.63	.000	3.865E-01	.000	2.800E-01	2.800E-01
2.0000	27.212	57.043	217.36	.000	1.465E-01	.000	7.696E-02	7.696E-02
6.0000	81.635	111.466	111.23	.000	5.326E-02	.000	1.987E-02	1.987E-02
10.0000	136.059	165.890	74.74	.000	2.922E-02	.000	8.901E-03	8.901E-03
18.0000	244.906	274.737	45.13	.000	1.370E-02	.000	3.242E-03	3.242E-03

TE XVI 16S EO= 1.1675E+00 (RYD) N*= 14.8077 MU= 1.1923

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	15.885	780.52	.000	6.633E-01	.000	4.392E-01	4.392E-01
2.0000	27.212	43.097	287.69	.000	1.449E-01	.000	5.685E-02	5.685E-02
8.0000	108.847	124.732	99.40	.000	2.848E-02	.000	6.356E-03	6.356E-03
20.0000	272.118	288.003	43.05	.000	8.023E-03	.000	1.165E-03	1.165E-03

TE XVI 20S EO= 7.2365E-01 (RYD) N*= 18.8086 MU= 1.1914

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.846	1259.27	.000	1.003E+00	.000	6.223E-01	6.223E-01
2.0000	27.212	37.058	334.58	.000	1.300E-01	.000	3.934E-02	3.934E-02
6.0000	81.635	91.481	135.53	.000	3.224E-02	.000	5.973E-03	5.973E-03

TE XVI 5P EO= 1.6747E+01 (RYD) N*= 3.9097 MU= 1.0903

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	227.862	54.41	6.721E-02	7.522E-02	2.156E-02	5.402E-02	7.557E-02
2.0000	27.212	255.074	48.61	5.596E-02	6.669E-02	1.673E-02	4.752E-02	6.426E-02
8.0000	108.847	336.710	36.82	3.559E-02	4.870E-02	8.934E-03	3.346E-02	4.239E-02
20.0000	272.118	499.981	24.80	1.861E-02	3.011E-02	3.627E-03	1.898E-02	2.261E-02

TE XVI 6P EO= 1.0516E+01 (RYD) N*= 4.9340 MU= 1.0660

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	143.074	86.66	1.067E-01	9.813E-02	3.413E-02	5.772E-02	9.185E-02
2.0000	27.212	170.286	72.81	8.011E-02	8.106E-02	2.289E-02	4.688E-02	6.977E-02
8.0000	108.847	251.921	49.22	4.191E-02	5.127E-02	9.269E-03	2.774E-02	3.701E-02
16.0000	217.695	360.769	34.37	2.308E-02	3.287E-02	4.026E-03	1.633E-02	2.036E-02

TE XVI 8P EO= 5.2988E+00 (RYD) N*= 6.9508 MU= 1.0492

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	72.095	171.98	2.116E-01	1.494E-01	6.761E-02	6.741E-02	1.350E-01
2.0000	27.212	99.307	124.85	1.241E-01	1.034E-01	3.205E-02	4.448E-02	7.653E-02
8.0000	108.847	180.942	68.52	4.538E-02	4.949E-02	7.807E-03	1.857E-02	2.638E-02
16.0000	217.695	289.789	42.78	2.053E-02	2.704E-02	2.559E-03	8.876E-03	1.143E-02

TE XVI 10P EO= 3.1910E+00 (RYD) N*= 8.9568 MU= 1.0432

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	43.417	285.57	3.490E-01	2.062E-01	1.108E-01	7.735E-02	1.881E-01
2.0000	27.212	70.629	175.55	1.547E-01	1.157E-01	3.541E-02	3.960E-02	7.500E-02
6.0000	81.635	125.052	99.15	5.909E-02	5.639E-02	9.145E-03	1.666E-02	2.581E-02
10.0000	136.059	179.476	69.08	3.206E-02	3.534E-02	3.864E-03	9.388E-03	1.325E-02
18.0000	244.906	288.323	43.00	1.435E-02	1.894E-02	1.244E-03	4.333E-03	5.577E-03

TE XVI 12P EO= 2.1313E+00 (RYD) N*= 10.9598 MU= 1.0402

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	28.998	427.57	5.175E-01	2.678E-01	1.626E-01	8.715E-02	2.498E-01
2.0000	27.212	56.210	220.58	1.708E-01	1.196E-01	3.434E-02	3.367E-02	6.800E-02
6.0000	81.635	110.633	112.07	5.438E-02	5.011E-02	6.854E-03	1.164E-02	1.849E-02
8.0000	108.847	137.845	89.95	3.745E-02	3.757E-02	4.049E-03	8.151E-03	1.220E-02
16.0000	217.695	246.692	50.26	1.392E-02	1.738E-02	1.002E-03	3.123E-03	4.125E-03
18.0000	244.906	273.904	45.27	1.165E-02	1.512E-02	7.791E-04	2.623E-03	3.402E-03

TE XVI 16P EO= 1.1435E+00 (RYD) N*= 14.9625 MU= 1.0375

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	15.558	796.92	9.433E-01	4.044E-01	2.900E-01	1.066E-01	3.966E-01
2.0000	27.212	42.770	289.89	1.729E-01	1.128E-01	2.679E-02	2.278E-02	4.957E-02
4.0000	54.424	69.982	177.17	7.515E-02	5.912E-02	8.279E-03	1.025E-02	1.853E-02
6.0000	81.635	97.194	127.57	4.301E-02	3.826E-02	3.767E-03	5.961E-03	9.728E-03
12.0000	163.271	178.829	69.33	1.522E-02	1.696E-02	8.677E-04	2.154E-03	3.022E-03
18.0000	244.906	260.465	47.60	8.014E-03	1.023E-02	3.504E-04	1.142E-03	1.493E-03
20.0000	272.118	287.677	43.10	6.766E-03	8.949E-03	2.758E-04	9.651E-04	1.241E-03

TE XVI 20P EO= 7.1186E-01 (RYD) N*= 18.9636 MU= 1.0364

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.686	1280.12	1.483E+00	5.573E-01	4.462E-01	1.260E-01	5.723E-01
2.0000	27.212	36.897	336.03	1.570E-01	9.884E-02	1.905E-02	1.510E-02	3.415E-02
4.0000	54.424	64.109	193.40	6.155E-02	4.738E-02	5.087E-03	6.030E-03	1.112E-02
10.0000	136.059	145.745	85.07	1.519E-02	1.575E-02	7.041E-04	1.515E-03	2.219E-03
14.0000	190.483	200.168	61.94	8.833E-03	1.027E-02	3.272E-04	8.849E-04	1.212E-03

TE XVI 4D EO= 2.6199E+01 (RYD) N*= 3.1259 MU= .8741

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	356.457	34.78	3.330E-02	9.235E-02	9.934E-03	1.146E-01	1.246E-01
2.0000	27.212	383.669	32.32	2.941E-02	8.544E-02	8.343E-03	1.056E-01	1.139E-01
4.0000	54.424	410.881	30.18	2.619E-02	7.912E-02	7.084E-03	9.699E-02	1.041E-01

TE XVI 5D EO= 1.4483E+01 (RYD) N*= 4.2043 MU= .7957

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	197.048	62.92	6.298E-02	1.125E-01	1.965E-02	9.398E-02	1.136E-01
2.0000	27.212	224.260	55.29	5.055E-02	9.972E-02	1.440E-02	8.408E-02	9.848E-02
6.0000	81.635	278.684	44.49	3.485E-02	7.942E-02	8.506E-03	6.627E-02	7.478E-02
16.0000	217.695	414.743	29.89	1.748E-02	4.904E-02	3.184E-03	3.760E-02	4.079E-02

TE XVI 6D EO= 9.3642E+00 (RYD) N*= 5.2286 MU= .7714

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	127.409	97.31	1.011E-01	1.329E-01	3.274E-02	8.490E-02	1.176E-01
2.0000	27.212	154.621	80.19	7.264E-02	1.118E-01	2.051E-02	7.289E-02	9.340E-02
6.0000	81.635	209.044	59.31	4.322E-02	8.192E-02	9.813E-03	5.290E-02	6.271E-02
12.0000	163.271	290.680	42.65	2.435E-02	5.574E-02	4.331E-03	3.405E-02	3.838E-02

TE XVI 8D EO= 4.8766E+00 (RYD) N*= 7.2454 MU= .7546

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	66.351	186.86	2.021E-01	1.718E-01	6.811E-02	7.385E-02	1.420E-01
2.0000	27.212	93.563	132.52	1.123E-01	1.271E-01	2.965E-02	5.702E-02	8.667E-02
6.0000	81.635	147.987	83.78	5.083E-02	7.874E-02	9.611E-03	3.460E-02	4.421E-02
10.0000	136.059	202.410	61.25	2.941E-02	5.471E-02	4.400E-03	2.285E-02	2.725E-02

TE XVI 10D EO= 2.9910E+00 (RYD) N*= 9.2515 MU= .7485

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	40.695	304.67	3.339E-01	2.067E-01	1.140E-01	6.554E-02	1.796E-01
2.0000	27.212	67.907	182.58	1.393E-01	1.319E-01	3.314E-02	4.458E-02	7.771E-02
6.0000	81.635	122.330	101.35	5.034E-02	7.044E-02	7.793E-03	2.289E-02	3.068E-02
12.0000	163.271	203.966	60.79	2.053E-02	3.828E-02	2.160E-03	1.127E-02	1.343E-02
14.0000	190.483	231.178	53.63	1.645E-02	3.269E-02	1.572E-03	9.315E-03	1.089E-02
18.0000	244.906	285.601	43.41	1.129E-02	2.486E-02	9.153E-04	6.657E-03	7.573E-03

TE XVI 12D EO= 2.0211E+00 (RYD) N*= 11.2546 MU= .7454

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	27.498	450.88	4.949E-01	2.375E-01	1.693E-01	5.848E-02	2.278E-01
2.0000	27.212	54.710	226.62	1.533E-01	1.297E-01	3.231E-02	3.471E-02	6.702E-02
6.0000	81.635	109.134	113.61	4.643E-02	6.133E-02	5.913E-03	1.548E-02	2.139E-02
10.0000	136.059	163.558	75.81	2.284E-02	3.790E-02	2.145E-03	8.856E-03	1.100E-02
16.0000	217.695	245.193	50.57	1.115E-02	2.274E-02	7.660E-04	4.779E-03	5.545E-03

TE XVI 16D EO= 1.0997E+00 (RYD) N*= 15.2574 MU= .7426

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	14.963	828.64	9.002E-01	2.876E-01	3.048E-01	4.665E-02	3.514E-01
2.0000	27.212	42.174	293.98	1.547E-01	1.154E-01	2.538E-02	2.117E-02	4.654E-02
4.0000	54.424	69.386	178.69	6.561E-02	6.724E-02	7.508E-03	1.183E-02	1.933E-02
6.0000	81.635	96.598	128.35	3.691E-02	4.598E-02	3.308E-03	7.699E-03	1.101E-02
12.0000	163.271	178.234	69.56	1.257E-02	2.183E-02	7.081E-04	3.203E-03	3.911E-03

TE XVI 20D EO= 6.9022E-01 (RYD) N*= 19.2586 MU= .7414

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.391	1320.25	1.412E+00	3.228E-01	4.705E-01	3.690E-02	5.074E-01
2.0000	27.212	36.603	338.73	1.404E-01	9.815E-02	1.814E-02	1.330E-02	3.144E-02
4.0000	54.424	63.815	194.29	5.389E-02	5.318E-02	4.658E-03	6.805E-03	1.146E-02
10.0000	136.059	145.450	85.24	1.277E-02	1.996E-02	5.959E-04	2.185E-03	2.781E-03
18.0000	244.906	254.298	48.76	4.728E-03	9.758E-03	1.429E-04	9.129E-04	1.056E-03

TE XVI 4F EO= 1.9751E+01 (RYD) N*= 3.6002 MU= .3998

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	268.725	46.14	2.421E-02	1.514E-01	4.243E-03	2.211E-01	2.253E-01
2.0000	27.212	295.937	41.90	2.029E-02	1.251E-01	3.282E-03	1.664E-01	1.697E-01
6.0000	81.635	350.360	35.39	1.481E-02	8.914E-02	2.089E-03	9.997E-02	1.020E-01
14.0000	190.483	459.208	27.00	8.783E-03	5.101E-02	9.541E-04	4.291E-02	4.387E-02

TE XVI 5F EO= 1.1922E+01 (RYD) N*= 4.6339 MU= .3661

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	162.207	76.44	5.060E-02	2.199E-01	1.119E-02	2.817E-01	2.928E-01
2.0000	27.212	189.419	65.46	3.818E-02	1.699E-01	7.436E-03	1.964E-01	2.039E-01
8.0000	108.847	271.055	45.74	1.960E-02	9.068E-02	2.804E-03	8.004E-02	8.285E-02
18.0000	244.906	407.114	30.45	8.893E-03	4.227E-02	8.672E-04	2.612E-02	2.699E-02

TE XVI 6F EO= 8.0514E+00 (RYD) N*= 5.6388 MU= .3612

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	109.547	113.18	8.537E-02	2.885E-01	2.150E-02	3.274E-01	3.489E-01
2.0000	27.212	136.759	90.66	5.724E-02	2.056E-01	1.207E-02	2.076E-01	2.197E-01
4.0000	54.424	163.970	75.62	4.108E-02	1.540E-01	7.451E-03	1.397E-01	1.471E-01
6.0000	81.635	191.182	64.85	3.090E-02	1.196E-01	4.917E-03	9.823E-02	1.031E-01
12.0000	163.271	272.818	45.45	1.574E-02	6.480E-02	1.820E-03	4.113E-02	4.295E-02
18.0000	244.906	354.453	34.98	9.430E-03	4.027E-02	8.489E-04	2.064E-02	2.149E-02

TE XVI 8F EO= 4.3853E+00 (RYD) N*= 7.6404 MU= .3596

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	59.667	207.80	1.779E-01	4.305E-01	5.085E-02	3.971E-01	4.480E-01
2.0000	27.212	86.878	142.71	9.135E-02	2.526E-01	1.953E-02	1.991E-01	2.186E-01
4.0000	54.424	114.090	108.67	5.581E-02	1.680E-01	9.572E-03	1.157E-01	1.252E-01
6.0000	81.635	141.302	87.75	3.767E-02	1.205E-01	5.400E-03	7.364E-02	7.904E-02
14.0000	190.483	250.149	49.56	1.276E-02	4.680E-02	1.097E-03	1.967E-02	2.077E-02
16.0000	217.695	277.361	44.70	1.043E-02	3.908E-02	8.130E-04	1.521E-02	1.602E-02
20.0000	272.118	331.785	37.37	7.320E-03	2.839E-02	4.787E-04	9.600E-03	1.008E-02

TE XVI 10F EO= 2.7543E+00 (RYD) N*= 9.6408 MU= .3592

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	37.475	330.85	2.986E-01	5.816E-01	8.999E-02	4.553E-01	5.452E-01
2.0000	27.212	64.687	191.67	1.146E-01	2.732E-01	2.287E-02	1.733E-01	1.962E-01
4.0000	54.424	91.899	134.92	6.101E-02	1.634E-01	9.213E-03	8.810E-02	9.731E-02
8.0000	108.847	146.323	84.73	2.592E-02	7.965E-02	2.647E-03	3.334E-02	3.598E-02
14.0000	190.483	227.958	54.39	1.115E-02	3.838E-02	7.629E-04	1.206E-02	1.282E-02
16.0000	217.695	255.170	48.59	8.950E-03	3.163E-02	5.505E-04	9.169E-03	9.719E-03

TE XVI 12F EO= 1.8892E+00 (RYD) N*= 11.6409 MU= .3591

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	25.704	482.36	4.456E-01	7.429E-01	1.375E-01	5.094E-01	6.468E-01
2.0000	27.212	52.916	234.31	1.267E-01	2.755E-01	2.287E-02	1.442E-01	1.671E-01
4.0000	54.424	80.128	154.74	6.037E-02	1.509E-01	7.865E-03	6.551E-02	7.337E-02
8.0000	108.847	134.551	92.15	2.332E-02	6.828E-02	1.971E-03	2.252E-02	2.450E-02
12.0000	163.271	188.975	65.61	1.227E-02	3.943E-02	7.668E-04	1.055E-02	1.132E-02
14.0000	190.483	216.187	57.35	9.475E-03	3.151E-02	5.227E-04	7.706E-03	8.228E-03

TE XVI 16F EO= 1.0464E+00 (RYD) N*= 15.6409 MU= .3591

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	14.238	870.82	8.139E-01	1.096E+00	2.540E-01	6.145E-01	8.685E-01
2.0000	27.212	41.450	299.13	1.286E-01	2.525E-01	1.847E-02	9.492E-02	1.134E-01
4.0000	54.424	68.661	180.58	5.246E-02	1.218E-01	5.088E-03	3.661E-02	4.170E-02
10.0000	136.059	150.297	82.49	1.240E-02	3.661E-02	6.228E-04	7.234E-03	7.856E-03
18.0000	244.906	259.144	47.84	4.341E-03	1.479E-02	1.315E-04	2.035E-03	2.166E-03
20.0000	272.118	286.356	43.30	3.563E-03	1.243E-02	9.788E-05	1.589E-03	1.686E-03

TE XVI 20F EO= 6.6361E-01 (RYD) N*= 19.6409 MU= .3591

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.029	1373.19	1.276E+00	1.490E+00	3.958E-01	7.200E-01	1.116E+00
2.0000	27.212	36.241	342.12	1.173E-01	2.185E-01	1.342E-02	6.213E-02	7.555E-02
4.0000	54.424	63.453	195.40	4.344E-02	9.738E-02	3.225E-03	2.161E-02	2.483E-02
8.0000	108.847	117.876	105.18	1.402E-02	3.815E-02	6.241E-04	6.161E-03	6.785E-03
16.0000	217.695	226.724	54.69	4.038E-03	1.318E-02	9.958E-05	1.415E-03	1.515E-03

I XVII 5S EO= 1.9859E+01 (RYD) N*= 3.8147 MU= 1.1853

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	270.206	45.89	.000	6.241E-02	.000	6.613E-02	6.613E-02
2.0000	27.212	297.418	41.69	.000	5.485E-02	.000	5.622E-02	5.622E-02
20.0000	272.118	542.325	22.86	.000	2.399E-02	.000	1.962E-02	1.962E-02

I XVII 6S EO= 1.2370E+01 (RYD) N*= 4.8336 MU= 1.1664

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	168.299	73.67	.000	9.061E-02	.000	8.682E-02	8.682E-02
2.0000	27.212	195.511	63.42	.000	7.354E-02	.000	6.645E-02	6.645E-02
20.0000	272.118	440.417	28.15	.000	2.323E-02	.000	1.494E-02	1.494E-02

I XVII 8S EO= 6.1657E+00 (RYD) N*= 6.8463 MU= 1.1537

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	83.890	147.80	.000	1.609E-01	.000	1.365E-01	1.365E-01
2.0000	27.212	111.102	111.60	.000	1.072E-01	.000	8.024E-02	8.024E-02
8.0000	108.847	192.737	64.33	.000	4.784E-02	.000	2.772E-02	2.772E-02
18.0000	244.906	328.796	37.71	.000	2.179E-02	.000	9.813E-03	9.813E-03

I XVII 10S EO= 3.6891E+00 (RYD) N*= 8.8509 MU= 1.1491

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	50.194	247.01	.000	2.481E-01	.000	1.942E-01	1.942E-01
2.0000	27.212	77.406	160.18	.000	1.308E-01	.000	8.327E-02	8.327E-02
6.0000	81.635	131.829	94.05	.000	5.907E-02	.000	2.891E-02	2.891E-02
14.0000	190.483	240.677	51.52	.000	2.399E-02	.000	8.704E-03	8.704E-03

I XVII 12S EO= 2.4535E+00 (RYD) N*= 10.8531 MU= 1.1469

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	33.383	371.41	.000	3.510E-01	.000	2.585E-01	2.585E-01
2.0000	27.212	60.594	204.62	.000	1.437E-01	.000	7.859E-02	7.859E-02
6.0000	81.635	115.018	107.80	.000	5.449E-02	.000	2.146E-02	2.146E-02
10.0000	136.059	169.442	73.17	.000	3.032E-02	.000	9.786E-03	9.786E-03
16.0000	217.695	251.077	49.38	.000	1.676E-02	.000	4.431E-03	4.431E-03

I XVII 16S EO= 1.3096E+00 (RYD) N*= 14.8551 MU= 1.1449

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	17.819	695.82	.000	6.016E-01	.000	4.053E-01	4.053E-01
2.0000	27.212	45.031	275.34	.000	1.461E-01	.000	6.043E-02	6.043E-02
8.0000	108.847	126.666	97.88	.000	2.992E-02	.000	7.125E-03	7.125E-03
16.0000	217.695	235.513	52.65	.000	1.164E-02	.000	2.005E-03	2.005E-03

I XVII 20S EO= 8.1284E-01 (RYD) N*= 18.8559 MU= 1.1441

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.059	1121.10	.000	9.089E-01	.000	5.741E-01	5.741E-01
2.0000	27.212	38.271	323.97	.000	1.337E-01	.000	4.301E-02	4.301E-02
6.0000	81.635	92.695	133.76	.000	3.407E-02	.000	6.763E-03	6.763E-03
14.0000	190.483	201.542	61.52	.000	1.036E-02	.000	1.359E-03	1.359E-03

I XVII 5P EO= 1.8465E+01 (RYD) N*= 3.9562 MU= 1.0438

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	251.232	49.35	6.042E-02	7.041E-02	1.921E-02	5.218E-02	7.139E-02
2.0000	27.212	278.444	44.53	5.111E-02	6.289E-02	1.524E-02	4.614E-02	6.138E-02
8.0000	108.847	360.079	34.43	3.359E-02	4.676E-02	8.508E-03	3.298E-02	4.149E-02

I XVII 6P EO= 1.1660E+01 (RYD) N*= 4.9786 MU= 1.0214

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	158.640	78.16	9.565E-02	9.226E-02	3.040E-02	5.657E-02	8.698E-02
2.0000	27.212	185.852	66.71	7.367E-02	7.719E-02	2.113E-02	4.640E-02	6.753E-02
8.0000	108.847	267.488	46.35	4.030E-02	5.008E-02	9.101E-03	2.810E-02	3.720E-02
18.0000	244.906	403.547	30.72	2.033E-02	2.989E-02	3.492E-03	1.511E-02	1.860E-02

I XVII 8P EO= 5.9076E+00 (RYD) N*= 6.9943 MU= 1.0057

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	80.379	154.25	1.890E-01	1.414E-01	6.011E-02	6.735E-02	1.275E-01
2.0000	27.212	107.591	115.24	1.162E-01	1.004E-01	3.044E-02	4.541E-02	7.585E-02
8.0000	108.847	189.226	65.52	4.507E-02	4.972E-02	8.051E-03	1.960E-02	2.765E-02
16.0000	217.695	298.073	41.60	2.094E-02	2.760E-02	2.738E-03	9.511E-03	1.225E-02

I XVII 10P EO= 3.5679E+00 (RYD) N*= 9.0000 MU= 1.0000

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	48.544	255.41	3.110E-01	1.964E-01	9.835E-02	7.843E-02	1.768E-01
2.0000	27.212	75.756	163.67	1.478E-01	1.144E-01	3.464E-02	4.155E-02	7.619E-02
6.0000	81.635	130.180	95.24	5.934E-02	5.742E-02	9.602E-03	1.798E-02	2.759E-02
10.0000	136.059	184.603	67.16	3.284E-02	3.638E-02	4.171E-03	1.024E-02	1.441E-02
12.0000	163.271	211.815	58.54	2.601E-02	3.034E-02	3.001E-03	8.170E-03	1.117E-02

I XVII 12P EO= 2.3872E+00 (RYD) N*= 11.0029 MU= .9971

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	32.480	381.73	4.604E-01	2.565E-01	1.442E-01	8.952E-02	2.338E-01
2.0000	27.212	59.692	207.71	1.662E-01	1.203E-01	3.452E-02	3.620E-02	7.072E-02
6.0000	81.635	114.115	108.65	5.559E-02	5.182E-02	7.386E-03	1.284E-02	2.022E-02
8.0000	108.847	141.327	87.73	3.866E-02	3.905E-02	4.425E-03	9.031E-03	1.346E-02
16.0000	217.695	250.175	49.56	1.463E-02	1.821E-02	1.121E-03	3.475E-03	4.596E-03
18.0000	244.906	277.386	44.70	1.227E-02	1.584E-02	8.744E-04	2.917E-03	3.792E-03

I XVII 16P EO= 1.2835E+00 (RYD) N*= 15.0054 MU= .9946

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	17.463	709.98	8.381E-01	3.910E-01	2.569E-01	1.118E-01	3.687E-01
1.0000	13.606	31.069	399.06	3.196E-01	1.877E-01	6.646E-02	4.583E-02	1.123E-01
4.0000	54.424	71.887	172.47	7.754E-02	6.203E-02	9.053E-03	1.159E-02	2.064E-02
6.0000	81.635	99.099	125.11	4.494E-02	4.036E-02	4.193E-03	6.762E-03	1.095E-02
12.0000	163.271	180.734	68.60	1.613E-02	1.795E-02	9.853E-04	2.440E-03	3.426E-03
18.0000	244.906	262.370	47.26	8.534E-03	1.083E-02	4.003E-04	1.289E-03	1.690E-03

I XVII 20P EO= 8.0000E-01 (RYD) N*= 19.0065 MU= .9935

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.885	1139.08	1.316E+00	5.432E-01	3.951E-01	1.346E-01	5.297E-01
1.0000	13.606	24.491	506.26	3.385E-01	1.882E-01	5.879E-02	3.632E-02	9.511E-02
4.0000	54.424	65.308	189.85	6.448E-02	5.042E-02	5.688E-03	6.954E-03	1.264E-02
10.0000	136.059	146.944	84.38	1.619E-02	1.680E-02	8.068E-04	1.737E-03	2.544E-03
16.0000	217.695	228.579	54.24	7.605E-03	9.209E-03	2.769E-04	8.121E-04	1.089E-03

I XVII 5D EO= 1.6070E+01 (RYD) N*= 4.2408 MU= .7592

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	218.645	56.71	5.627E-02	1.059E-01	1.740E-02	9.239E-02	1.098E-01
2.0000	27.212	245.857	50.43	4.605E-02	9.427E-02	1.311E-02	8.238E-02	9.549E-02
6.0000	81.635	300.280	41.29	3.266E-02	7.584E-02	8.050E-03	6.512E-02	7.317E-02
18.0000	244.906	463.551	26.75	1.531E-02	4.413E-02	2.732E-03	3.403E-02	3.676E-02

I XVII 6D EO= 1.0433E+01 (RYD) N*= 5.2632 MU= .7368

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	141.947	87.35	9.036E-02	1.270E-01	2.914E-02	8.628E-02	1.154E-01
2.0000	27.212	169.159	73.30	6.690E-02	1.074E-01	1.903E-02	7.352E-02	9.255E-02
6.0000	81.635	223.583	55.45	4.131E-02	7.965E-02	9.593E-03	5.348E-02	6.307E-02
12.0000	163.271	305.218	40.62	2.399E-02	5.499E-02	4.416E-03	3.479E-02	3.921E-02

I XVII 8D EO= 5.4546E+00 (RYD) N*= 7.2789 MU= .7211

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	74.215	167.06	1.806E-01	1.685E-01	6.083E-02	7.941E-02	1.402E-01
2.0000	27.212	101.427	122.24	1.057E-01	1.254E-01	2.850E-02	6.012E-02	8.862E-02
6.0000	81.635	155.850	79.55	5.025E-02	7.877E-02	9.890E-03	3.646E-02	4.635E-02
10.0000	136.059	210.274	58.96	2.974E-02	5.523E-02	4.674E-03	2.418E-02	2.886E-02

I XVII 10D EO= 3.3524E+00 (RYD) N*= 9.2848 MU= .7152

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	45.612	271.83	2.983E-01	2.079E-01	1.020E-01	7.436E-02	1.764E-01
2.0000	27.212	72.824	170.25	1.341E-01	1.332E-01	3.291E-02	4.869E-02	8.159E-02
6.0000	81.635	127.248	97.44	5.101E-02	7.194E-02	8.322E-03	2.483E-02	3.315E-02
12.0000	163.271	208.883	59.36	2.134E-02	3.941E-02	2.392E-03	1.223E-02	1.462E-02
16.0000	217.695	263.307	47.09	1.415E-02	2.927E-02	1.324E-03	8.506E-03	9.830E-03
20.0000	272.118	317.730	39.02	1.011E-02	2.281E-02	8.162E-04	6.235E-03	7.051E-03

I XVII 12D EO= 2.2682E+00 (RYD) N*= 11.2877 MU= .7123

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	30.861	401.75	4.421E-01	2.453E-01	1.516E-01	7.004E-02	2.217E-01
2.0000	27.212	58.073	213.50	1.504E-01	1.335E-01	3.302E-02	3.901E-02	7.203E-02
6.0000	81.635	112.497	110.21	4.788E-02	6.357E-02	6.482E-03	1.714E-02	2.362E-02
10.0000	136.059	166.921	74.28	2.395E-02	3.940E-02	2.407E-03	9.769E-03	1.218E-02
16.0000	217.695	248.556	49.88	1.182E-02	2.369E-02	8.722E-04	5.261E-03	6.133E-03

I XVII 16D EO= 1.2361E+00 (RYD) N*= 15.2903 MU= .7097

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	16.819	737.20	8.043E-01	3.142E-01	2.735E-01	6.259E-02	3.361E-01
2.0000	27.212	44.030	281.59	1.566E-01	1.222E-01	2.712E-02	2.481E-02	5.193E-02
4.0000	54.424	71.242	174.03	6.829E-02	7.109E-02	8.351E-03	1.357E-02	2.192E-02
6.0000	81.635	98.454	125.93	3.890E-02	4.854E-02	3.744E-03	8.746E-03	1.249E-02
12.0000	163.271	180.090	68.85	1.344E-02	2.299E-02	8.175E-04	3.589E-03	4.407E-03
18.0000	244.906	261.725	47.37	6.899E-03	1.412E-02	3.131E-04	1.967E-03	2.280E-03

I XVII 20D EO= 7.7654E-01 (RYD) N*= 19.2915 MU= .7085

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.566	1173.49	1.262E+00	3.754E-01	4.228E-01	5.613E-02	4.789E-01
2.0000	27.212	37.777	328.20	1.451E-01	1.061E-01	1.999E-02	1.602E-02	3.601E-02
4.0000	54.424	64.989	190.78	5.696E-02	5.698E-02	5.299E-03	7.956E-03	1.325E-02
10.0000	136.059	146.625	84.56	1.372E-02	2.119E-02	6.938E-04	2.481E-03	3.175E-03
18.0000	244.906	255.472	48.53	5.107E-03	1.031E-02	1.675E-04	1.025E-03	1.192E-03

I XVII 4F EO= 2.1996E+01 (RYD) N*= 3.6248 MU= .3752

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	299.271	41.43	2.139E-02	1.330E-01	3.689E-03	1.901E-01	1.937E-01
2.0000	27.212	326.483	37.98	1.821E-02	1.119E-01	2.915E-03	1.468E-01	1.498E-01
6.0000	81.635	380.907	32.55	1.362E-02	8.205E-02	1.903E-03	9.208E-02	9.398E-02
14.0000	190.483	489.754	25.32	8.356E-03	4.885E-02	9.210E-04	4.196E-02	4.288E-02

I XVII 5F EO= 1.3351E+01 (RYD) N*= 4.6526 MU= .3474

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	181.647	68.26	4.511E-02	1.950E-01	9.954E-03	2.481E-01	2.580E-01
2.0000	27.212	208.859	59.36	3.493E-02	1.544E-01	6.862E-03	1.787E-01	1.856E-01
8.0000	108.847	290.494	42.68	1.882E-02	8.648E-02	2.770E-03	7.801E-02	8.078E-02
18.0000	244.906	426.554	29.07	8.889E-03	4.214E-02	9.078E-04	2.720E-02	2.811E-02

I XVII 6F EO= 9.0331E+00 (RYD) N*= 5.6563 MU= .3437

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	122.904	100.88	7.638E-02	2.571E-01	1.931E-02	2.916E-01	3.109E-01
2.0000	27.212	150.115	82.59	5.314E-02	1.890E-01	1.142E-02	1.925E-01	2.039E-01
4.0000	54.424	177.327	69.92	3.912E-02	1.448E-01	7.307E-03	1.335E-01	1.409E-01
6.0000	81.635	204.539	60.62	2.998E-02	1.145E-01	4.951E-03	9.627E-02	1.012E-01
12.0000	163.271	286.175	43.33	1.581E-02	6.426E-02	1.926E-03	4.244E-02	4.436E-02
18.0000	244.906	367.810	33.71	9.659E-03	4.082E-02	9.241E-04	2.201E-02	2.294E-02

I XVII 8F EO= 4.9289E+00 (RYD) N*= 7.6572 MU= .3428

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	67.063	184.88	1.597E-01	3.858E-01	4.607E-02	3.584E-01	4.045E-01
2.0000	27.212	94.274	131.52	8.707E-02	2.371E-01	1.925E-02	1.904E-01	2.096E-01
4.0000	54.424	121.486	102.06	5.496E-02	1.622E-01	9.883E-03	1.147E-01	1.246E-01
6.0000	81.635	148.698	83.38	3.786E-02	1.185E-01	5.742E-03	7.493E-02	8.067E-02
14.0000	190.483	257.545	48.14	1.334E-02	4.792E-02	1.235E-03	2.123E-02	2.247E-02
16.0000	217.695	284.757	43.54	1.096E-02	4.026E-02	9.219E-04	1.658E-02	1.750E-02

I XVII 10F EO= 3.0987E+00 (RYD) N*= 9.6573 MU= .3427

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	42.161	294.08	2.687E-01	5.233E-01	8.195E-02	4.146E-01	4.965E-01
2.0000	27.212	69.373	178.72	1.118E-01	2.614E-01	2.336E-02	1.702E-01	1.936E-01
4.0000	54.424	96.585	128.37	6.166E-02	1.610E-01	9.888E-03	8.986E-02	9.975E-02
8.0000	108.847	151.008	82.11	2.705E-02	8.086E-02	2.976E-03	3.546E-02	3.843E-02
14.0000	190.483	232.644	53.29	1.188E-02	3.986E-02	8.838E-04	1.327E-02	1.416E-02
18.0000	244.906	287.068	43.19	7.872E-03	2.780E-02	4.790E-04	7.965E-03	8.444E-03

I XVII 12F EO= 2.1267E+00 (RYD) N*= 11.6573 MU= .3427

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	28.935	428.49	4.016E-01	6.704E-01	1.257E-01	4.670E-01	5.927E-01
2.0000	27.212	56.147	220.82	1.262E-01	2.681E-01	2.407E-02	1.449E-01	1.690E-01
4.0000	54.424	83.359	148.74	6.222E-02	1.510E-01	8.690E-03	6.827E-02	7.696E-02
8.0000	108.847	137.783	89.99	2.472E-02	7.017E-02	2.268E-03	2.436E-02	2.663E-02
12.0000	163.271	192.206	64.51	1.318E-02	4.111E-02	8.989E-04	1.166E-02	1.256E-02
14.0000	190.483	219.418	56.51	1.021E-02	3.301E-02	6.164E-04	8.584E-03	9.200E-03

I XVII 16F EO= 1.1789E+00 (RYD) N*= 15.6573 MU= .3427

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	16.040	773.00	7.352E-01	9.940E-01	2.335E-01	5.691E-01	8.026E-01
2.0000	27.212	43.251	286.66	1.321E-01	2.522E-01	2.034E-02	9.878E-02	1.191E-01
4.0000	54.424	70.463	175.96	5.547E-02	1.246E-01	5.838E-03	3.926E-02	4.510E-02
10.0000	136.059	152.099	81.52	1.346E-02	3.840E-02	7.420E-04	8.053E-03	8.795E-03
16.0000	217.695	233.734	53.05	5.904E-03	1.899E-02	2.194E-04	3.026E-03	3.245E-03

I XVII 20F EO= 7.4792E-01 (RYD) N*= 19.6572 MU= .3428

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.176	1218.41	1.155E+00	1.356E+00	3.653E-01	6.720E-01	1.037E+00
2.0000	27.212	37.388	331.62	1.230E-01	2.221E-01	1.523E-02	6.623E-02	8.146E-02
4.0000	54.424	64.600	191.93	4.663E-02	1.008E-01	3.782E-03	2.356E-02	2.735E-02
8.0000	108.847	119.023	104.17	1.528E-02	4.009E-02	7.484E-04	6.868E-03	7.617E-03
14.0000	190.483	200.659	61.79	5.687E-03	1.738E-02	1.748E-04	2.176E-03	2.351E-03
18.0000	244.906	255.083	48.61	3.564E-03	1.162E-02	8.724E-05	1.236E-03	1.324E-03
20.0000	272.118	282.294	43.92	2.916E-03	9.761E-03	6.467E-05	9.659E-04	1.031E-03

XE XVIII 5S EO= 2.1871E+01 (RYD) N*= 3.8489 MU= 1.1511

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	297.580	41.66	.000	5.755E-02	.000	6.193E-02	6.193E-02
2.0000	27.212	324.792	38.17	.000	5.112E-02	.000	5.335E-02	5.335E-02
20.0000	272.118	569.698	21.76	.000	2.353E-02	.000	1.982E-02	1.982E-02

XE XVIII 6S EO= 1.3674E+01 (RYD) N*= 4.8678 MU= 1.1322

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	186.044	66.64	.000	8.331E-02	.000	8.115E-02	8.115E-02
2.0000	27.212	213.255	58.14	.000	6.885E-02	.000	6.352E-02	6.352E-02
20.0000	272.118	458.162	27.06	.000	2.320E-02	.000	1.550E-02	1.550E-02

XE XVIII 8S EO= 6.8439E+00 (RYD) N*= 6.8805 MU= 1.1195

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	93.118	133.15	.000	1.475E-01	.000	1.274E-01	1.274E-01
2.0000	27.212	120.329	103.04	.000	1.017E-01	.000	7.825E-02	7.825E-02
10.0000	136.059	229.177	54.10	.000	3.949E-02	.000	2.246E-02	2.246E-02
20.0000	272.118	365.236	33.95	.000	1.986E-02	.000	9.052E-03	9.052E-03

XE XVIII 10S EO= 4.1041E+00 (RYD) N*= 8.8851 MU= 1.1149

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	55.841	222.04	.000	2.272E-01	.000	1.811E-01	1.811E-01
2.0000	27.212	83.053	149.29	.000	1.262E-01	.000	8.311E-02	8.311E-02
6.0000	81.635	137.476	90.19	.000	5.937E-02	.000	3.046E-02	3.046E-02
14.0000	190.483	246.324	50.33	.000	2.475E-02	.000	9.486E-03	9.486E-03

XE XVIII 12S EO= 2.7334E+00 (RYD) N*= 10.8873 MU= 1.1127

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	37.191	333.38	.000	3.212E-01	.000	2.411E-01	2.411E-01
2.0000	27.212	64.403	192.52	.000	1.408E-01	.000	8.023E-02	8.023E-02
6.0000	81.635	118.826	104.34	.000	5.566E-02	.000	2.314E-02	2.314E-02
12.0000	163.271	200.462	61.85	.000	2.520E-02	.000	7.997E-03	7.997E-03

XE XVIII 16S EO= 1.4615E+00 (RYD) N*= 14.8893 MU= 1.1107

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	19.885	623.52	.000	5.501E-01	.000	3.781E-01	3.781E-01
2.0000	27.212	47.097	263.26	.000	1.472E-01	.000	6.409E-02	6.409E-02
6.0000	81.635	101.521	122.13	.000	4.519E-02	.000	1.303E-02	1.303E-02
8.0000	108.847	128.732	96.31	.000	3.139E-02	.000	7.972E-03	7.972E-03
14.0000	190.483	210.368	58.94	.000	1.482E-02	.000	2.904E-03	2.904E-03

XE XVIII 20S EO= 9.0798E-01 (RYD) N*= 18.8901 MU= 1.1099

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	12.354	1003.62	.000	8.308E-01	.000	5.359E-01	5.359E-01
2.0000	27.212	39.566	313.37	.000	1.373E-01	.000	4.689E-02	4.689E-02
6.0000	81.635	93.989	131.92	.000	3.596E-02	.000	7.638E-03	7.638E-03
12.0000	163.271	175.625	70.60	.000	1.374E-02	.000	2.084E-03	2.084E-03

XE XVIII 5P EO= 2.0402E+01 (RYD) N*= 3.9851 MU= 1.0149

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	277.583	44.67	5.437E-02	6.578E-02	1.719E-02	5.032E-02	6.751E-02
2.0000	27.212	304.795	40.68	4.670E-02	5.923E-02	1.392E-02	4.479E-02	5.871E-02
6.0000	81.635	359.219	34.52	3.571E-02	4.895E-02	9.596E-03	3.606E-02	4.565E-02
18.0000	244.906	522.490	23.73	1.931E-02	3.093E-02	4.079E-03	2.094E-02	2.501E-02

XE XVIII 6P EO= 1.2921E+01 (RYD) N*= 5.0075 MU= .9925

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	175.805	70.52	8.584E-02	8.646E-02	2.714E-02	5.505E-02	8.219E-02
2.0000	27.212	203.017	61.07	6.770E-02	7.327E-02	1.949E-02	4.566E-02	6.516E-02
8.0000	108.847	284.652	43.56	3.868E-02	4.878E-02	8.921E-03	2.838E-02	3.730E-02
18.0000	244.906	420.712	29.47	2.018E-02	2.977E-02	3.590E-03	1.562E-02	1.921E-02

XE XVIII 8P EO= 6.5687E+00 (RYD) N*= 7.0232 MU= .9768

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	89.373	138.73	1.691E-01	1.333E-01	5.352E-02	6.654E-02	1.201E-01
2.0000	27.212	116.585	106.35	1.086E-01	9.694E-02	2.879E-02	4.589E-02	7.469E-02
8.0000	108.847	198.220	62.55	4.458E-02	4.972E-02	8.250E-03	2.053E-02	2.878E-02
16.0000	217.695	307.068	40.38	2.131E-02	2.809E-02	2.920E-03	1.015E-02	1.307E-02
18.0000	244.906	334.280	37.09	1.846E-02	2.511E-02	2.386E-03	8.827E-03	1.121E-02

XE XVIII 10P EO= 3.9744E+00 (RYD) N*= 9.0289 MU= .9711

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	54.075	229.28	2.779E-01	1.861E-01	8.749E-02	7.850E-02	1.660E-01
2.0000	27.212	81.287	152.53	1.406E-01	1.125E-01	3.366E-02	4.307E-02	7.673E-02
6.0000	81.635	135.711	91.36	5.930E-02	5.814E-02	9.995E-03	1.922E-02	2.921E-02
10.0000	136.059	190.135	65.21	3.350E-02	3.729E-02	4.470E-03	1.108E-02	1.555E-02
12.0000	163.271	217.346	57.05	2.670E-02	3.121E-02	3.246E-03	8.871E-03	1.212E-02

XE XVIII 12P EO= 2.6623E+00 (RYD) N*= 11.0317 MU= .9683

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	36.223	342.29	4.112E-01	2.443E-01	1.283E-01	9.058E-02	2.189E-01
2.0000	27.212	63.435	195.45	1.609E-01	1.202E-01	3.440E-02	3.841E-02	7.280E-02
6.0000	81.635	117.858	105.20	5.651E-02	5.328E-02	7.884E-03	1.401E-02	2.190E-02
8.0000	108.847	145.070	85.47	3.972E-02	4.038E-02	4.794E-03	9.911E-03	1.471E-02
14.0000	190.483	226.706	54.69	1.858E-02	2.216E-02	1.640E-03	4.662E-03	6.302E-03
18.0000	244.906	281.129	44.10	1.288E-02	1.656E-02	9.765E-04	3.229E-03	4.205E-03

XE XVIII 16P EO= 1.4334E+00 (RYD) N*= 15.0343 MU= .9657

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	19.503	635.72	7.477E-01	3.755E-01	2.284E-01	1.152E-01	3.436E-01
2.0000	27.212	46.715	265.41	1.728E-01	1.197E-01	2.922E-02	2.803E-02	5.726E-02
4.0000	54.424	73.927	167.71	7.952E-02	6.464E-02	9.792E-03	1.294E-02	2.273E-02
6.0000	81.635	101.139	122.59	4.670E-02	4.231E-02	4.621E-03	7.586E-03	1.221E-02
14.0000	190.483	209.986	59.05	1.343E-02	1.566E-02	7.938E-04	2.158E-03	2.952E-03

XE XVIII 20P EO= 8.9417E-01 (RYD) N*= 19.0354 MU= .9646

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	12.166	1019.12	1.174E+00	5.253E-01	3.512E-01	1.406E-01	4.918E-01
2.0000	27.212	39.378	314.86	1.635E-01	1.090E-01	2.205E-02	1.960E-02	4.165E-02
4.0000	54.424	66.590	186.19	6.717E-02	5.328E-02	6.293E-03	7.919E-03	1.421E-02
8.0000	108.847	121.013	102.46	2.429E-02	2.354E-02	1.496E-03	2.809E-03	4.305E-03
10.0000	136.059	148.225	83.65	1.718E-02	1.783E-02	9.164E-04	1.974E-03	2.890E-03
16.0000	217.695	229.861	53.94	8.111E-03	9.769E-03	3.168E-04	9.190E-04	1.236E-03

XE XVIII 5D EO= 1.7853E+01 (RYD) N*= 4.2601 MU= .7399

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	242.906	51.04	5.050E-02	9.947E-02	1.557E-02	9.061E-02	1.062E-01
2.0000	27.212	270.118	45.90	4.211E-02	8.902E-02	1.204E-02	8.072E-02	9.276E-02
4.0000	54.424	297.330	41.70	3.571E-02	8.008E-02	9.528E-03	7.189E-02	8.141E-02
12.0000	163.271	406.177	30.53	2.078E-02	5.497E-02	4.410E-03	4.627E-02	5.068E-02

XE XVIII 6D EO= 1.1610E+01 (RYD) N*= 5.2826 MU= .7174

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	157.969	78.49	8.103E-02	1.207E-01	2.607E-02	8.681E-02	1.129E-01
2.0000	27.212	185.181	66.95	6.168E-02	1.028E-01	1.771E-02	7.374E-02	9.145E-02
6.0000	81.635	239.604	51.75	3.950E-02	7.725E-02	9.398E-03	5.391E-02	6.331E-02
14.0000	190.483	348.452	35.58	2.051E-02	4.881E-02	3.684E-03	3.130E-02	3.498E-02

XE XVIII 8D EO= 6.0826E+00 (RYD) N*= 7.2984 MU= .7016

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	82.759	149.82	1.619E-01	1.638E-01	5.450E-02	8.367E-02	1.382E-01
2.0000	27.212	109.971	112.74	9.940E-02	1.230E-01	2.731E-02	6.272E-02	9.004E-02
8.0000	108.847	191.607	64.71	3.789E-02	6.537E-02	6.916E-03	3.087E-02	3.779E-02
18.0000	244.906	327.666	37.84	1.468E-02	3.305E-02	1.774E-03	1.349E-02	1.527E-02

XE XVIII 10D EO= 3.7427E+00 (RYD) N*= 9.3043 MU= .6957

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	50.922	243.48	2.674E-01	2.064E-01	9.155E-02	8.182E-02	1.734E-01
2.0000	27.212	78.134	158.68	1.286E-01	1.335E-01	3.247E-02	5.249E-02	8.496E-02
6.0000	81.635	132.558	93.53	5.147E-02	7.312E-02	8.827E-03	2.672E-02	3.555E-02
10.0000	136.059	186.981	66.31	2.815E-02	4.802E-02	3.725E-03	1.626E-02	1.998E-02
16.0000	217.695	268.617	46.16	1.481E-02	3.015E-02	1.482E-03	9.205E-03	1.069E-02
20.0000	272.118	323.041	38.38	1.065E-02	2.357E-02	9.212E-04	6.764E-03	7.686E-03

XE XVIII 12D EO= 2.5342E+00 (RYD) N*= 11.3072 MU= .6928

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	34.480	359.59	3.965E-01	2.486E-01	1.362E-01	8.035E-02	2.166E-01
2.0000	27.212	61.692	200.98	1.469E-01	1.363E-01	3.347E-02	4.321E-02	7.668E-02
6.0000	81.635	116.115	106.78	4.915E-02	6.557E-02	7.051E-03	1.882E-02	2.587E-02
12.0000	163.271	197.751	62.70	1.927E-02	3.379E-02	1.846E-03	8.514E-03	1.036E-02
16.0000	217.695	252.175	49.17	1.251E-02	2.462E-02	9.916E-04	5.763E-03	6.754E-03

XE XVIII 16D EO= 1.3823E+00 (RYD) N*= 15.3098 MU= .6902

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	18.808	659.24	7.217E-01	3.314E-01	2.462E-01	7.788E-02	3.241E-01
2.0000	27.212	46.019	269.42	1.575E-01	1.285E-01	2.868E-02	2.863E-02	5.731E-02
4.0000	54.424	73.231	169.31	7.069E-02	7.473E-02	9.199E-03	1.542E-02	2.462E-02
6.0000	81.635	100.443	123.44	4.080E-02	5.100E-02	4.204E-03	9.850E-03	1.405E-02
12.0000	163.271	182.079	68.09	1.433E-02	2.413E-02	9.396E-04	3.997E-03	4.936E-03
18.0000	244.906	263.714	47.02	7.403E-03	1.481E-02	3.633E-04	2.182E-03	2.545E-03

XE XVIII 20D EO= 8.6883E-01 (RYD) N*= 19.3110 MU= .6890

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.621	1048.84	1.133E+00	4.122E-01	3.811E-01	7.574E-02	4.569E-01
2.0000	27.212	39.033	317.64	1.490E-01	1.136E-01	2.177E-02	1.900E-02	4.077E-02
4.0000	54.424	66.245	187.16	5.987E-02	6.071E-02	5.968E-03	9.206E-03	1.517E-02
8.0000	108.847	120.669	102.75	2.103E-02	2.899E-02	1.341E-03	3.823E-03	5.164E-03
10.0000	136.059	147.880	83.84	1.470E-02	2.239E-02	8.032E-04	2.796E-03	3.599E-03
16.0000	217.695	229.516	54.02	6.731E-03	1.263E-02	2.614E-04	1.380E-03	1.641E-03
20.0000	272.118	283.940	43.67	4.597E-03	9.484E-03	1.508E-04	9.630E-04	1.114E-03

XE XVIII 4F EO= 2.4727E+01 (RYD) N*= 3.6198 MU= .3802

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	336.429	36.85	1.911E-02	1.170E-01	3.309E-03	1.653E-01	1.686E-01
2.0000	27.212	363.641	34.10	1.653E-02	1.001E-01	2.675E-03	1.308E-01	1.335E-01
6.0000	81.635	418.064	29.66	1.269E-02	7.543E-02	1.812E-03	8.541E-02	8.722E-02
14.0000	190.483	526.912	23.53	8.075E-03	4.667E-02	9.254E-04	4.120E-02	4.213E-02

XE XVIII 5F EO= 1.4968E+01 (RYD) N*= 4.6525 MU= .3475

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	203.657	60.88	4.044E-02	1.732E-01	8.970E-03	2.194E-01	2.284E-01
2.0000	27.212	230.869	53.70	3.210E-02	1.402E-01	6.407E-03	1.629E-01	1.693E-01
6.0000	81.635	285.293	43.46	2.160E-02	9.686E-02	3.585E-03	9.612E-02	9.970E-02
14.0000	190.483	394.140	31.46	1.159E-02	5.351E-02	1.425E-03	4.053E-02	4.196E-02
18.0000	244.906	448.564	27.64	8.970E-03	4.181E-02	9.720E-04	2.816E-02	2.913E-02

XE XVIII 6F EO= 1.0122E+01 (RYD) N*= 5.6576 MU= .3424

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	137.723	90.03	6.855E-02	2.295E-01	1.743E-02	2.604E-01	2.778E-01
2.0000	27.212	164.935	75.17	4.937E-02	1.735E-01	1.083E-02	1.783E-01	1.892E-01
4.0000	54.424	192.147	64.53	3.725E-02	1.358E-01	7.180E-03	1.273E-01	1.345E-01
6.0000	81.635	219.358	56.52	2.909E-02	1.092E-01	4.999E-03	9.393E-02	9.893E-02
12.0000	163.271	300.994	41.19	1.592E-02	6.343E-02	2.054E-03	4.348E-02	4.554E-02
20.0000	272.118	409.841	30.25	8.672E-03	3.625E-02	8.301E-04	1.934E-02	2.017E-02

XE XVIII 8F EO= 5.5225E+00 (RYD) N*= 7.6596 MU= .3404

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	75.139	165.01	1.437E-01	3.467E-01	4.178E-02	3.243E-01	3.661E-01
2.0000	27.212	102.351	121.14	8.272E-02	2.222E-01	1.886E-02	1.815E-01	2.003E-01
6.0000	81.635	156.775	79.09	3.792E-02	1.160E-01	6.071E-03	7.574E-02	8.181E-02
14.0000	190.483	265.622	46.68	1.395E-02	4.880E-02	1.391E-03	2.272E-02	2.411E-02
18.0000	244.906	320.046	38.74	9.685E-03	3.531E-02	8.084E-04	1.433E-02	1.514E-02

XE XVIII 10F EO= 3.4721E+00 (RYD) N*= 9.6600 MU= .3400

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	47.241	262.45	2.422E-01	4.725E-01	7.464E-02	3.787E-01	4.534E-01
2.0000	27.212	74.453	166.53	1.085E-01	2.495E-01	2.362E-02	1.665E-01	1.901E-01
4.0000	54.424	101.665	121.96	6.194E-02	1.580E-01	1.051E-02	9.109E-02	1.016E-01
6.0000	81.635	128.877	96.21	4.012E-02	1.102E-01	5.588E-03	5.618E-02	6.177E-02
16.0000	217.695	264.936	46.80	1.024E-02	3.428E-02	7.480E-04	1.118E-02	1.193E-02
18.0000	244.906	292.148	42.44	8.454E-03	2.898E-02	5.623E-04	8.811E-03	9.374E-03

XE XVIII 12F EO= 2.3831E+00 (RYD) N*= 11.6601 MU= .3399

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	32.424	382.39	3.627E-01	6.076E-01	1.148E-01	4.298E-01	5.446E-01
2.0000	27.212	59.636	207.91	1.248E-01	2.602E-01	2.503E-02	1.449E-01	1.700E-01
4.0000	54.424	86.848	142.76	6.369E-02	1.506E-01	9.488E-03	7.069E-02	8.017E-02
8.0000	108.847	141.271	87.76	2.608E-02	7.177E-02	2.588E-03	2.613E-02	2.872E-02
14.0000	190.483	222.907	55.62	1.099E-02	3.440E-02	7.249E-04	9.473E-03	1.020E-02

XE XVIII 16F EO= 1.3211E+00 (RYD) N*= 15.6603 MU= .3397

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	17.975	689.76	6.657E-01	9.058E-01	2.146E-01	5.296E-01	7.441E-01
2.0000	27.212	45.187	274.38	1.347E-01	2.511E-01	2.209E-02	1.023E-01	1.244E-01
4.0000	54.424	72.399	171.25	5.824E-02	1.268E-01	6.614E-03	4.183E-02	4.844E-02
8.0000	108.847	126.823	97.76	2.091E-02	5.439E-02	1.494E-03	1.347E-02	1.496E-02
10.0000	136.059	154.034	80.49	1.454E-02	4.009E-02	8.772E-04	8.888E-03	9.765E-03
14.0000	190.483	208.458	59.48	8.177E-03	2.458E-02	3.753E-04	4.523E-03	4.899E-03

XE XVIII 20F EO= 8.3823E-01 (RYD) N*= 19.6603 MU= .3397

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.405	1087.13	1.048E+00	1.241E+00	3.370E-01	6.303E-01	9.674E-01
2.0000	27.212	38.617	321.07	1.280E-01	2.250E-01	1.704E-02	7.022E-02	8.726E-02
4.0000	54.424	65.829	188.35	4.970E-02	1.039E-01	4.379E-03	2.554E-02	2.992E-02
8.0000	108.847	120.252	103.11	1.657E-02	4.194E-02	8.890E-04	7.596E-03	8.485E-03
12.0000	163.271	174.676	70.98	8.220E-03	2.326E-02	3.179E-04	3.395E-03	3.713E-03
20.0000	272.118	283.523	43.73	3.216E-03	1.040E-02	7.895E-05	1.101E-03	1.180E-03

Appendice 3 : Séquence de Cu

CU I 4S EO= 5.6696E-01 (RYD) N*= 1.3281 MU= 2.6719

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.714	1607.29	.000	-1.051E-01	.000	5.350E-03	5.350E-03
.0100	.136	7.850	1579.43	.000	-5.185E-02	.000	1.326E-03	1.326E-03
.0200	.272	7.986	1552.52	.000	-2.838E-03	.000	4.041E-06	4.041E-06
.0300	.408	8.122	1526.52	.000	4.231E-02	.000	9.139E-04	9.139E-04
.0400	.544	8.258	1501.37	.000	8.391E-02	.000	3.654E-03	3.654E-03
.0600	.816	8.530	1453.47	.000	1.575E-01	.000	1.330E-02	1.330E-02
.2000	2.721	10.435	1188.16	.000	4.351E-01	.000	1.241E-01	1.241E-01
.4000	5.442	13.156	942.41	.000	5.038E-01	.000	2.099E-01	2.099E-01
.6000	8.164	15.878	780.89	.000	4.597E-01	.000	2.109E-01	2.109E-01
.8000	10.885	18.599	666.64	.000	3.928E-01	.000	1.803E-01	1.803E-01
1.0000	13.606	21.320	581.55	.000	3.285E-01	.000	1.446E-01	1.446E-01
2.0000	27.212	34.926	355.00	.000	1.418E-01	.000	4.412E-02	4.412E-02
8.0000	108.847	116.561	106.37	.000	3.262E-02	.000	7.794E-03	7.794E-03

CU I 5S EO= 1.7851E-01 (RYD) N*= 2.3669 MU= 2.6331

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.429	5104.95	.000	-3.058E+00	.000	1.427E+00	1.427E+00
.0200	.272	2.701	4590.62	.000	-2.149E+00	.000	7.839E-01	7.839E-01
.0600	.816	3.245	3820.72	.000	-1.041E+00	.000	2.209E-01	2.209E-01
.1000	1.361	3.789	3271.98	.000	-4.350E-01	.000	4.506E-02	4.506E-02
.2000	2.721	5.150	2407.54	.000	2.055E-01	.000	1.367E-02	1.367E-02
.4000	5.442	7.871	1575.21	.000	4.454E-01	.000	9.811E-02	9.811E-02
.6000	8.164	10.592	1170.53	.000	4.172E-01	.000	1.159E-01	1.159E-01
.8000	10.885	13.313	931.28	.000	3.522E-01	.000	1.038E-01	1.038E-01
1.0000	13.606	16.035	773.24	.000	2.895E-01	.000	8.443E-02	8.443E-02
2.0000	27.212	29.641	418.30	.000	1.084E-01	.000	2.188E-02	2.188E-02
4.0000	54.424	56.852	218.08	.000	2.959E-02	.000	3.127E-03	3.127E-03

CU I 6S EO= 8.7682E-02 (RYD) N*= 3.3771 MU= 2.6229

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.193	10392.91	.000	-7.366E+00	.000	4.068E+00	4.068E+00
.0400	.544	1.737	7137.03	.000	-2.780E+00	.000	8.438E-01	8.438E-01
.0800	1.088	2.281	5434.51	.000	-1.179E+00	.000	1.994E-01	1.994E-01
.1000	1.361	2.554	4855.39	.000	-7.616E-01	.000	9.307E-02	9.307E-02
.1500	2.041	3.234	3833.98	.000	-1.854E-01	.000	6.982E-03	6.982E-03
.2000	2.721	3.914	3167.63	.000	7.713E-02	.000	1.463E-03	1.463E-03
.2500	3.401	4.594	2698.60	.000	2.060E-01	.000	1.225E-02	1.225E-02
.4000	5.442	6.635	1868.57	.000	3.133E-01	.000	4.092E-02	4.092E-02
.6000	8.164	9.357	1325.13	.000	2.907E-01	.000	4.970E-02	4.970E-02
.8000	10.885	12.078	1026.57	.000	2.424E-01	.000	4.460E-02	4.460E-02
1.0000	13.606	14.799	837.81	.000	1.976E-01	.000	3.630E-02	3.630E-02
2.0000	27.212	28.405	436.50	.000	7.245E-02	.000	9.368E-03	9.368E-03
4.0000	54.424	55.617	222.93	.000	1.827E-02	.000	1.166E-03	1.166E-03
6.0000	81.635	82.828	149.69	.000	1.099E-02	.000	6.282E-04	6.282E-04

CU I 8S EO= 3.4515E-02 (RYD) N*= 5.3826 MU= 2.6174

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.470	26401.90	.000	-1.979E+01	.000	1.156E+01	1.156E+01
.0200	.272	.742	16715.84	.000	-7.566E+00	.000	2.668E+00	2.668E+00
.0400	.544	1.014	12229.28	.000	-3.742E+00	.000	8.922E-01	8.922E-01
.0600	.816	1.286	9641.49	.000	-2.092E+00	.000	3.537E-01	3.537E-01
.1000	1.361	1.830	6774.46	.000	-7.611E-01	.000	6.662E-02	6.662E-02
.1500	2.041	2.510	4938.71	.000	-1.985E-01	.000	6.218E-03	6.218E-03
.2000	2.721	3.191	3885.75	.000	1.527E-02	.000	4.676E-05	4.676E-05
.2500	3.401	3.871	3202.88	.000	1.086E-01	.000	2.867E-03	2.867E-03
.4000	5.442	5.912	2097.21	.000	1.767E-01	.000	1.160E-02	1.160E-02
.6000	8.164	8.633	1436.16	.000	1.611E-01	.000	1.408E-02	1.408E-02
.8000	10.885	11.354	1091.97	.000	1.327E-01	.000	1.256E-02	1.256E-02
1.0000	13.606	14.076	880.86	.000	1.074E-01	.000	1.020E-02	1.020E-02
2.0000	27.212	27.681	447.90	.000	3.885E-02	.000	2.625E-03	2.625E-03
3.0000	40.818	41.287	300.30	.000	1.683E-02	.000	7.351E-04	7.351E-04

CU I 10S EO= 1.8340E-02 (RYD) N*= 7.3842 MU= 2.6158

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.250	49688.23	.000	-3.724E+01	.000	2.175E+01	2.175E+01
.0100	.136	.386	32155.15	.000	-1.594E+01	.000	6.159E+00	6.159E+00
.0400	.544	.794	15620.03	.000	-3.570E+00	.000	6.358E-01	6.358E-01
.0800	1.088	1.338	9266.53	.000	-1.021E+00	.000	8.767E-02	8.767E-02
.1000	1.361	1.610	7700.44	.000	-6.026E-01	.000	3.674E-02	3.674E-02
.1500	2.041	2.290	5413.27	.000	-1.537E-01	.000	3.398E-03	3.398E-03
.2000	2.721	2.971	4173.62	.000	3.880E-03	.000	2.810E-06	2.810E-06
.2500	3.401	3.651	3395.95	.000	6.939E-02	.000	1.105E-03	1.105E-03
.4000	5.442	5.692	2178.30	.000	1.148E-01	.000	4.716E-03	4.716E-03
.6000	8.164	8.413	1473.73	.000	1.039E-01	.000	5.703E-03	5.703E-03
.8000	10.885	11.134	1113.56	.000	8.513E-02	.000	5.071E-03	5.071E-03
1.0000	13.606	13.855	894.86	.000	6.870E-02	.000	4.109E-03	4.109E-03

CU I 12S EO= 1.1354E-02 (RYD) N*= 9.3849 MU= 2.6151

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.154	80260.52	.000	-5.953E+01	.000	3.440E+01	3.440E+01
.0100	.136	.291	42674.59	.000	-1.807E+01	.000	5.962E+00	5.962E+00
.0400	.544	.699	17744.87	.000	-3.099E+00	.000	4.216E-01	4.216E-01
.0800	1.088	1.243	9975.14	.000	-8.112E-01	.000	5.139E-02	5.139E-02
.1500	2.041	2.195	5647.64	.000	-1.178E-01	.000	1.916E-03	1.916E-03
.2000	2.721	2.876	4311.57	.000	9.050E-04	.000	1.480E-07	1.480E-07
.2500	3.401	3.556	3486.72	.000	4.911E-02	.000	5.389E-04	5.389E-04
.3000	4.082	4.236	2926.79	.000	7.011E-02	.000	1.308E-03	1.308E-03
.4000	5.442	5.597	2215.29	.000	8.174E-02	.000	2.350E-03	2.350E-03
.6000	8.164	8.318	1490.57	.000	7.360E-02	.000	2.831E-03	2.831E-03
.8000	10.885	11.039	1123.14	.000	6.020E-02	.000	2.514E-03	2.514E-03
1.0000	13.606	13.760	901.04	.000	4.854E-02	.000	2.037E-03	2.037E-03
2.0000	27.212	27.366	453.06	.000	1.744E-02	.000	5.232E-04	5.232E-04

CU I 16S EO= 5.5813E-03 (RYD) N*= 13.3854 MU= 2.6146

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.076	163270.92	.000	-1.180E+02	.000	6.641E+01	6.641E+01
.0050	.068	.144	86120.40	.000	-3.698E+01	.000	1.237E+01	1.237E+01
.0100	.136	.212	58484.62	.000	-1.810E+01	.000	4.364E+00	4.364E+00
.0400	.544	.620	19992.13	.000	-2.225E+00	.000	1.929E-01	1.929E-01
.0600	.816	.892	13895.23	.000	-1.008E+00	.000	5.702E-02	5.702E-02
.1000	1.361	1.437	8630.96	.000	-3.031E-01	.000	8.293E-03	8.293E-03
.1500	2.041	2.117	5857.18	.000	-7.475E-02	.000	7.433E-04	7.433E-04
.2000	2.721	2.797	4432.64	.000	-3.764E-04	.000	2.490E-08	2.490E-08
.2500	3.401	3.477	3565.47	.000	2.925E-02	.000	1.869E-04	1.869E-04
.4000	5.442	5.518	2246.82	.000	4.879E-02	.000	8.254E-04	8.254E-04
.6000	8.164	8.239	1504.78	.000	4.377E-02	.000	9.919E-04	9.919E-04
.8000	10.885	10.961	1131.19	.000	3.578E-02	.000	8.816E-04	8.816E-04
1.0000	13.606	13.682	906.21	.000	2.879E-02	.000	7.128E-04	7.128E-04

CU I 20S EO= 3.3084E-03 (RYD) N*= 17.3856 MU= 2.6144

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.045	275439.33	.000	-1.941E+02	.000	1.065E+02	1.065E+02
.0025	.034	.079	156887.50	.000	-7.140E+01	.000	2.532E+01	2.532E+01
.0075	.102	.147	84310.95	.000	-2.333E+01	.000	5.029E+00	5.029E+00
.0200	.272	.317	39096.08	.000	-5.584E+00	.000	6.214E-01	6.214E-01
.0400	.544	.589	21041.36	.000	-1.638E+00	.000	9.932E-02	9.932E-02
.0600	.816	.861	14394.10	.000	-7.233E-01	.000	2.832E-02	2.832E-02
.1000	1.361	1.406	8820.85	.000	-2.127E-01	.000	3.997E-03	3.997E-03
.1500	2.041	2.086	5944.02	.000	-5.204E-02	.000	3.550E-04	3.550E-04
.2000	2.721	2.766	4482.19	.000	-4.144E-04	.000	2.985E-08	2.985E-08
.2500	3.401	3.446	3597.46	.000	2.020E-02	.000	8.836E-05	8.836E-05
.3000	4.082	4.127	3004.43	.000	2.846E-02	.000	2.101E-04	2.101E-04
.4000	5.442	5.487	2259.48	.000	3.317E-02	.000	3.793E-04	3.793E-04
.6000	8.164	8.209	1510.45	.000	2.978E-02	.000	4.574E-04	4.574E-04
.8000	10.885	10.930	1134.39	.000	2.420E-02	.000	4.022E-04	4.022E-04
1.0000	13.606	13.651	908.26	.000	1.960E-02	.000	3.294E-04	3.294E-04

CU I 4P EO= 2.8918E-01 (RYD) N*= 1.8596 MU= 2.1404

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.935	3151.25	2.907E+00	-8.381E+00	6.963E-01	1.158E+01	1.228E+01
.0200	.272	4.207	2947.41	2.589E+00	-7.073E+00	5.904E-01	8.817E+00	9.408E+00
.1000	1.361	5.295	2341.53	1.729E+00	-4.025E+00	3.317E-01	3.593E+00	3.925E+00
.4000	5.442	9.377	1322.26	5.891E-01	-7.127E-01	6.816E-02	1.995E-01	2.677E-01
.6000	8.164	12.098	1024.85	3.428E-01	-2.337E-01	2.978E-02	2.769E-02	5.747E-02
.8000	10.885	14.819	836.66	2.151E-01	-5.351E-02	1.436E-02	1.778E-03	1.613E-02
1.0000	13.606	17.540	706.86	1.430E-01	1.501E-02	7.511E-03	1.657E-04	7.677E-03
1.5000	20.409	24.343	509.32	6.497E-02	3.927E-02	2.152E-03	1.573E-03	3.725E-03
2.0000	27.212	31.146	398.08	4.081E-02	2.288E-02	1.087E-03	6.832E-04	1.770E-03
4.0000	54.424	58.358	212.46	2.596E-02	6.485E-03	8.237E-04	1.028E-04	9.265E-04
6.0000	81.635	85.570	144.89	1.877E-02	1.355E-02	6.313E-04	6.579E-04	1.289E-03
8.0000	108.847	112.782	109.93	1.308E-02	1.464E-02	4.042E-04	1.013E-03	1.417E-03
9.0000	122.453	126.388	98.10	1.107E-02	1.411E-02	3.246E-04	1.055E-03	1.379E-03
10.0000	136.059	139.994	88.57	9.502E-03	1.337E-02	2.648E-04	1.048E-03	1.313E-03

CU I 5P EO= 1.1875E-01 (RYD) N*= 2.9018 MU= 2.0982

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.616	7673.54	6.936E+00	-1.886E+01	1.628E+00	2.407E+01	2.570E+01
.0400	.544	2.160	5740.11	4.325E+00	-1.113E+01	8.465E-01	1.121E+01	1.205E+01
.0600	.816	2.432	5097.87	3.570E+00	-8.928E+00	6.493E-01	8.122E+00	8.772E+00
.2000	2.721	4.337	2858.84	1.390E+00	-2.733E+00	1.755E-01	1.357E+00	1.532E+00
.4000	5.442	7.058	1756.65	6.015E-01	-8.078E-01	5.350E-02	1.930E-01	2.465E-01
.6000	8.164	9.779	1267.84	3.264E-01	-2.792E-01	2.182E-02	3.194E-02	5.376E-02
.8000	10.885	12.500	991.85	1.976E-01	-8.853E-02	1.022E-02	4.104E-03	1.433E-02
1.0000	13.606	15.222	814.54	1.279E-01	-1.231E-02	5.218E-03	9.663E-05	5.314E-03
1.5000	20.409	22.025	562.94	5.283E-02	2.964E-02	1.287E-03	8.108E-04	2.098E-03
2.0000	27.212	28.828	430.10	2.807E-02	2.320E-02	4.758E-04	6.502E-04	1.126E-03
4.0000	54.424	56.039	221.25	1.293E-02	4.639E-03	1.962E-04	5.053E-05	2.467E-04
6.0000	81.635	83.251	148.93	9.763E-03	6.831E-03	1.662E-04	1.627E-04	3.289E-04
8.0000	108.847	110.463	112.24	6.934E-03	7.569E-03	1.113E-04	2.652E-04	3.764E-04
9.0000	122.453	124.069	99.93	5.869E-03	7.341E-03	8.952E-05	2.801E-04	3.697E-04
10.0000	136.059	137.675	90.06	5.023E-03	6.969E-03	7.277E-05	2.801E-04	3.529E-04

CU I 6P EO= 6.5352E-02 (RYD) N*= 3.9117 MU= 2.0883

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.889	13943.90	1.195E+01	-3.092E+01	2.658E+00	3.562E+01	3.828E+01
.0400	.544	1.433	8649.71	5.505E+00	-1.396E+01	9.099E-01	1.170E+01	1.261E+01
.0600	.816	1.706	7269.65	4.165E+00	-1.032E+01	6.198E-01	7.612E+00	8.232E+00
.2000	2.721	3.610	3434.18	1.248E+00	-2.472E+00	1.179E-01	9.244E-01	1.042E+00
.4000	5.442	6.332	1958.23	4.867E-01	-6.702E-01	3.141E-02	1.192E-01	1.506E-01
.6000	8.164	9.053	1369.60	2.542E-01	-2.294E-01	1.225E-02	1.996E-02	3.222E-02
.8000	10.885	11.774	1053.06	1.512E-01	-7.621E-02	5.636E-03	2.865E-03	8.501E-03
1.0000	13.606	14.495	855.37	9.688E-02	-1.523E-02	2.850E-03	1.408E-04	2.991E-03
1.5000	20.409	21.298	582.15	3.917E-02	2.030E-02	6.843E-04	3.678E-04	1.052E-03
2.0000	27.212	28.101	441.22	2.009E-02	1.716E-02	2.375E-04	3.467E-04	5.843E-04
4.0000	54.424	55.313	224.15	8.263E-03	3.350E-03	7.911E-05	2.601E-05	1.051E-04
6.0000	81.635	82.525	150.24	6.290E-03	4.376E-03	6.839E-05	6.619E-05	1.346E-04
8.0000	108.847	109.736	112.99	4.500E-03	4.874E-03	4.654E-05	1.092E-04	1.557E-04

CU I 8P EO= 2.8556E-02 (RYD) N*= 5.9176 MU= 2.0824

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.389	31911.30	2.500E+01	-6.079E+01	5.086E+00	6.014E+01	6.523E+01
.0400	.544	.933	13292.26	6.020E+00	-1.507E+01	7.081E-01	8.876E+00	9.584E+00
.0800	1.088	1.477	8394.43	2.889E+00	-6.939E+00	2.581E-01	2.980E+00	3.238E+00
.2000	2.721	3.110	3987.06	8.793E-01	-1.746E+00	5.037E-02	3.973E-01	4.476E-01
.4000	5.442	5.831	2126.37	3.108E-01	-4.346E-01	1.180E-02	4.613E-02	5.793E-02
.6000	8.164	8.552	1449.78	1.571E-01	-1.465E-01	4.421E-03	7.694E-03	1.212E-02
.8000	10.885	11.273	1099.83	9.203E-02	-4.977E-02	2.000E-03	1.170E-03	3.170E-03
1.0000	13.606	13.994	885.97	5.851E-02	-1.157E-02	1.004E-03	7.850E-05	1.082E-03
1.5000	20.409	20.797	596.16	2.334E-02	1.132E-02	2.372E-04	1.116E-04	3.488E-04
2.0000	27.212	27.600	449.22	1.172E-02	1.009E-02	7.935E-05	1.178E-04	1.972E-04
4.0000	54.424	54.812	226.20	4.447E-03	1.964E-03	2.271E-05	8.860E-06	3.157E-05
6.0000	81.635	82.024	151.16	3.403E-03	2.358E-03	1.990E-05	1.910E-05	3.900E-05
8.0000	108.847	109.236	113.50	2.441E-03	2.633E-03	1.363E-05	3.173E-05	4.536E-05
10.0000	136.059	136.448	90.87	1.775E-03	2.441E-03	9.006E-06	3.405E-05	4.306E-05

CU I 10P EO= 1.5944E-02 (RYD) N*= 7.9195 MU= 2.0805

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.217	57153.57	4.182E+01	-9.809E+01	7.948E+00	8.744E+01	9.539E+01
.0200	.272	.489	25352.29	1.106E+01	-2.768E+01	1.253E+00	1.570E+01	1.695E+01
.0400	.544	.761	16288.87	5.426E+00	-1.354E+01	4.694E-01	5.843E+00	6.313E+00
.1000	1.361	1.578	7859.54	1.697E+00	-3.958E+00	9.514E-02	1.035E+00	1.130E+00
.2000	2.721	2.938	4219.92	6.287E-01	-1.249E+00	2.433E-02	1.921E-01	2.165E-01
.4000	5.442	5.659	2190.84	2.135E-01	-2.999E-01	5.403E-03	2.132E-02	2.673E-02
.6000	8.164	8.380	1479.46	1.065E-01	-1.004E-01	1.993E-03	3.542E-03	5.535E-03
.8000	10.885	11.102	1116.83	6.206E-02	-3.433E-02	8.955E-04	5.480E-04	1.444E-03
1.0000	13.606	13.823	896.97	3.933E-02	-8.313E-03	4.480E-04	4.002E-05	4.880E-04
1.5000	20.409	20.626	601.12	1.561E-02	7.397E-03	1.052E-04	4.728E-05	1.525E-04
2.0000	27.212	27.429	452.03	7.788E-03	6.704E-03	3.485E-05	5.164E-05	8.649E-05

CU I 12P EO= 1.0161E-02 (RYD) N*= 9.9203 MU= 2.0797

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.138	89680.87	6.217E+01	-1.425E+02	1.119E+01	1.175E+02	1.287E+02
.0050	.068	.206	60105.14	3.211E+01	-7.692E+01	4.456E+00	5.113E+01	5.559E+01
.0200	.272	.410	30213.22	1.048E+01	-2.618E+01	9.443E-01	1.178E+01	1.273E+01
.0400	.544	.682	18166.78	4.625E+00	-1.153E+01	3.058E-01	3.799E+00	4.105E+00
.0800	1.088	1.227	10107.09	1.814E+00	-4.346E+00	8.459E-02	9.709E-01	1.055E+00
.2000	2.721	2.859	4336.04	4.707E-01	-9.355E-01	1.327E-02	1.048E-01	1.181E-01
.4000	5.442	5.581	2221.73	1.567E-01	-2.206E-01	2.871E-03	1.137E-02	1.425E-02
.6000	8.164	8.302	1493.49	7.774E-02	-7.362E-02	1.051E-03	1.885E-03	2.936E-03
.8000	10.885	11.023	1124.80	4.513E-02	-2.521E-02	4.703E-04	2.935E-04	7.638E-04
1.0000	13.606	13.744	902.10	2.858E-02	-6.232E-03	2.351E-04	2.236E-05	2.575E-04
1.5000	20.409	20.547	603.42	1.131E-02	5.296E-03	5.506E-05	2.414E-05	7.920E-05
2.0000	27.212	27.350	453.33	5.632E-03	4.861E-03	1.817E-05	2.707E-05	4.524E-05

CU I 16P EO= 5.1601E-03 (RYD) N*= 13.9210 MU= 2.0790

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.070	176599.67	1.128E+02	-2.513E+02	1.871E+01	1.857E+02	2.044E+02
.0025	.034	.104	118963.28	5.864E+01	-1.362E+02	7.508E+00	8.101E+01	8.852E+01
.0075	.102	.172	71979.65	2.574E+01	-6.225E+01	2.391E+00	2.797E+01	3.036E+01
.0200	.272	.342	36218.80	8.450E+00	-2.110E+01	5.121E-01	6.386E+00	6.898E+00
.0600	.816	.887	13985.06	1.838E+00	-4.501E+00	6.274E-02	7.523E-01	8.151E-01
.1000	1.361	1.431	8665.53	8.580E-01	-1.999E+00	2.206E-02	2.395E-01	2.616E-01
.2000	2.721	2.791	4441.74	2.955E-01	-5.875E-01	5.106E-03	4.036E-02	4.546E-02
.4000	5.442	5.513	2249.15	9.867E-02	-1.363E-01	1.079E-03	4.292E-03	5.371E-03
.6000	8.164	8.234	1505.83	4.764E-02	-4.532E-02	3.914E-04	7.085E-04	1.100E-03
.8000	10.885	10.955	1131.78	2.767E-02	-1.558E-02	1.756E-04	1.115E-04	2.871E-04
1.0000	13.606	13.676	906.59	1.746E-02	-3.890E-03	8.731E-05	8.669E-06	9.598E-05
1.5000	20.409	20.479	605.43	6.889E-03	3.215E-03	2.036E-05	8.865E-06	2.923E-05
2.0000	27.212	27.282	454.46	3.438E-03	2.920E-03	6.756E-06	9.743E-06	1.650E-05

CU I 20P EO= 3.1136E-03 (RYD) N*= 17.9213 MU= 2.0787

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.042	292676.17	1.759E+02	-3.855E+02	2.747E+01	2.638E+02	2.912E+02
.0025	.034	.076	162333.02	6.634E+01	-1.536E+02	7.040E+00	7.553E+01	8.257E+01
.0062	.085	.127	97320.55	2.872E+01	-6.892E+01	2.201E+00	2.535E+01	2.756E+01
.0200	.272	.314	39425.66	6.632E+00	-1.657E+01	2.897E-01	3.615E+00	3.905E+00
.0400	.544	.587	21136.45	2.439E+00	-6.073E+00	7.312E-02	9.062E-01	9.793E-01
.0600	.816	.859	14438.54	1.328E+00	-3.248E+00	3.174E-02	3.795E-01	4.112E-01
.2000	2.721	2.764	4486.49	2.055E-01	-4.090E-01	2.444E-03	1.937E-02	2.181E-02
.4000	5.442	5.485	2260.57	6.707E-02	-9.456E-02	5.168E-04	2.054E-03	2.571E-03
.6000	8.164	8.206	1510.94	3.292E-02	-3.135E-02	1.863E-04	3.380E-04	5.242E-04
.8000	10.885	10.927	1134.67	1.897E-02	-1.068E-02	8.238E-05	5.224E-05	1.346E-04
1.0000	13.606	13.648	908.44	1.212E-02	-2.787E-03	4.202E-05	4.441E-06	4.647E-05
1.5000	20.409	20.451	606.25	4.771E-03	2.144E-03	9.750E-06	3.937E-06	1.369E-05
2.0000	27.212	27.254	454.93	2.365E-03	2.042E-03	3.193E-06	4.760E-06	7.953E-06

CU I 4D EO= 1.1592E-01 (RYD) N*= 2.9371 MU= 1.0629

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.577	7861.33	-3.082E+00	-1.855E+01	3.765E-01	2.047E+01	2.084E+01
.0600	.816	2.394	5180.08	-1.322E+00	-7.229E+00	1.052E-01	4.716E+00	4.821E+00
.1000	1.361	2.938	4220.44	-8.585E-01	-4.421E+00	5.442E-02	2.165E+00	2.219E+00
.2000	2.721	4.298	2884.51	-3.826E-01	-1.637E+00	1.581E-02	4.344E-01	4.502E-01
.4000	5.442	7.020	1766.30	-1.480E-01	-3.275E-01	3.862E-03	2.839E-02	3.225E-02
.6000	8.164	9.741	1272.87	-8.918E-02	-4.751E-02	1.947E-03	8.289E-04	2.776E-03
.8000	10.885	12.462	994.92	-6.443E-02	2.950E-02	1.300E-03	4.088E-04	1.709E-03
1.0000	13.606	15.183	816.61	-4.980E-02	4.867E-02	9.465E-04	1.356E-03	2.303E-03
2.0000	27.212	28.789	430.67	-1.462E-02	2.054E-02	1.547E-04	4.579E-04	6.126E-04
3.0000	40.818	42.395	292.46	-2.166E-03	2.730E-03	5.000E-06	1.192E-05	1.692E-05
4.0000	54.424	56.001	221.40	1.531E-03	-2.744E-04	3.301E-06	1.590E-07	3.460E-06

CU I 5D EO= 6.4539E-02 (RYD) N*= 3.9363 MU= 1.0637

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.878	14119.68	-7.425E+00	-3.400E+01	1.217E+00	3.827E+01	3.948E+01
.0200	.272	1.150	10779.28	-4.413E+00	-2.051E+01	5.631E-01	1.824E+01	1.880E+01
.0600	.816	1.694	7317.14	-2.020E+00	-9.496E+00	1.738E-01	5.761E+00	5.934E+00
.1000	1.361	2.239	5538.31	-1.124E+00	-5.258E+00	7.105E-02	2.334E+00	2.405E+00
.2000	2.721	3.599	3444.74	-4.013E-01	-1.737E+00	1.457E-02	4.097E-01	4.242E-01
.4000	5.442	6.320	1961.66	-1.261E-01	-3.394E-01	2.528E-03	2.745E-02	2.997E-02
.6000	8.164	9.042	1371.28	-6.977E-02	-6.535E-02	1.106E-03	1.456E-03	2.562E-03
.8000	10.885	11.763	1054.05	-4.884E-02	1.036E-02	7.054E-04	4.762E-05	7.530E-04
1.0000	13.606	14.484	856.02	-3.743E-02	3.154E-02	5.102E-04	5.433E-04	1.053E-03
2.0000	27.212	28.090	441.39	-1.140E-02	1.628E-02	9.179E-05	2.807E-04	3.725E-04
3.0000	40.818	41.696	297.36	-1.991E-03	2.643E-03	4.153E-06	1.099E-05	1.514E-05
4.0000	54.424	55.302	224.20	9.679E-04	-4.233E-05	1.302E-06	3.737E-09	1.306E-06

CU I 6D EO= 4.1044E-02 (RYD) N*= 4.9360 MU= 1.0640

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.558	22202.08	-1.355E+01	-5.079E+01	2.579E+00	5.432E+01	5.690E+01
.0200	.272	.831	14927.99	-6.410E+00	-2.552E+01	8.577E-01	2.039E+01	2.125E+01
.0600	.816	1.375	9018.50	-2.350E+00	-9.979E+00	1.908E-01	5.162E+00	5.352E+00
.1000	1.361	1.919	6460.86	-1.169E+00	-5.108E+00	6.596E-02	1.888E+00	1.954E+00
.2000	2.721	3.280	3780.50	-3.642E-01	-1.556E+00	1.094E-02	2.994E-01	3.103E-01
.4000	5.442	6.001	2066.16	-1.022E-01	-2.950E-01	1.576E-03	1.969E-02	2.126E-02
.6000	8.164	8.722	1421.54	-5.393E-02	-6.102E-02	6.376E-04	1.224E-03	1.862E-03
.8000	10.885	11.443	1083.50	-3.708E-02	3.258E-03	3.954E-04	4.581E-06	4.000E-04
1.0000	13.606	14.164	875.34	-2.826E-02	2.185E-02	2.844E-04	2.551E-04	5.395E-04
2.0000	27.212	27.770	446.47	-8.737E-03	1.256E-02	5.328E-05	1.651E-04	2.184E-04
3.0000	40.818	41.376	299.66	-1.622E-03	2.197E-03	2.737E-06	7.531E-06	1.027E-05
4.0000	54.424	54.982	225.50	6.665E-04	2.844E-05	6.139E-07	1.677E-09	6.156E-07

CU I 8D EO= 2.0788E-02 (RYD) N*= 6.9357 MU= 1.0643

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.283	43835.86	-3.112E+01	-8.938E+01	6.883E+00	8.519E+01	9.207E+01
.0200	.272	.555	22341.47	-8.977E+00	-2.981E+01	1.124E+00	1.859E+01	1.971E+01
.0600	.816	1.099	11279.72	-2.345E+00	-8.918E+00	1.520E-01	3.296E+00	3.448E+00
.1000	1.361	1.643	7544.35	-1.017E+00	-4.126E+00	4.275E-02	1.055E+00	1.098E+00
.2000	2.721	3.004	4127.34	-2.736E-01	-1.144E+00	5.654E-03	1.483E-01	1.540E-01
.4000	5.442	5.725	2165.62	-6.880E-02	-2.091E-01	6.811E-04	9.441E-03	1.012E-02
.6000	8.164	8.446	1467.92	-3.470E-02	-4.523E-02	2.557E-04	6.514E-04	9.070E-04
.8000	10.885	11.168	1110.24	-2.345E-02	-5.974E-04	1.543E-04	1.503E-07	1.545E-04
1.0000	13.606	13.889	892.71	-1.777E-02	1.260E-02	1.102E-04	8.316E-05	1.934E-04
2.0000	27.212	27.495	450.95	-5.558E-03	8.038E-03	2.135E-05	6.698E-05	8.833E-05
3.0000	40.818	41.101	301.67	-1.085E-03	1.493E-03	1.217E-06	3.453E-06	4.670E-06
4.0000	54.424	54.707	226.64	3.862E-04	5.181E-05	2.051E-07	5.536E-09	2.106E-07

CU I 10D EO= 1.2524E-02 (RYD) N*= 8.9356 MU= 1.0644

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.170	72760.46	-5.557E+01	-1.347E+02	1.323E+01	1.166E+02	1.299E+02
.0050	.068	.238	52000.48	-3.052E+01	-7.982E+01	5.583E+00	5.727E+01	6.285E+01
.0600	.816	.987	12565.01	-2.039E+00	-7.355E+00	1.032E-01	2.013E+00	2.116E+00
.1000	1.361	1.531	8098.41	-8.218E-01	-3.218E+00	2.599E-02	5.979E-01	6.239E-01
.2000	2.721	2.892	4287.83	-2.060E-01	-8.518E-01	3.086E-03	7.911E-02	8.219E-02
.4000	5.442	5.613	2209.00	-4.935E-02	-1.528E-01	3.436E-04	4.943E-03	5.286E-03
.6000	8.164	8.334	1487.73	-2.441E-02	-3.355E-02	1.248E-04	3.536E-04	4.784E-04
.8000	10.885	11.055	1121.53	-1.638E-02	-1.176E-03	7.456E-05	5.768E-07	7.513E-05
1.0000	13.606	13.776	900.00	-1.237E-02	8.437E-03	5.299E-05	3.697E-05	8.997E-05
2.0000	27.212	27.382	452.80	-3.877E-03	5.628E-03	1.035E-05	3.270E-05	4.305E-05
3.0000	40.818	40.988	302.49	-7.670E-04	1.064E-03	6.062E-07	1.751E-06	2.357E-06
4.0000	54.424	54.594	227.11	2.486E-04	5.974E-05	8.483E-08	7.347E-09	9.218E-08

CU I 12D EO= 8.3621E-03 (RYD) N*= 10.9356 MU= 1.0644

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.114	108975.47	-8.674E+01	-1.867E+02	2.152E+01	1.495E+02	1.710E+02
.0025	.034	.148	83893.97	-5.473E+01	-1.248E+02	1.113E+01	8.675E+01	9.788E+01
.0037	.051	.165	75235.93	-4.509E+01	-1.054E+02	8.423E+00	6.897E+01	7.739E+01
.0100	.136	.250	49627.55	-2.127E+01	-5.475E+01	2.842E+00	2.823E+01	3.107E+01
.0200	.272	.386	32129.73	-9.503E+00	-2.713E+01	8.760E-01	1.071E+01	1.159E+01
.0600	.816	.930	13330.01	-1.716E+00	-6.014E+00	6.883E-02	1.268E+00	1.337E+00
.1000	1.361	1.474	8409.47	-6.627E-01	-2.548E+00	1.628E-02	3.608E-01	3.771E-01
.2000	2.721	2.835	4373.48	-1.599E-01	-6.571E-01	1.823E-03	4.615E-02	4.797E-02
.4000	5.442	5.556	2231.52	-3.741E-02	-1.167E-01	1.954E-04	2.854E-03	3.050E-03
.6000	8.164	8.277	1497.90	-1.825E-02	-2.580E-02	6.930E-05	2.077E-04	2.770E-04
.8000	10.885	10.999	1127.30	-1.221E-02	-1.192E-03	4.120E-05	5.896E-07	4.179E-05
1.0000	13.606	13.720	903.71	-9.205E-03	6.162E-03	2.922E-05	1.964E-05	4.886E-05
2.0000	27.212	27.326	453.74	-2.911E-03	4.230E-03	5.821E-06	1.844E-05	2.426E-05
3.0000	40.818	40.932	302.91	-5.973E-04	8.096E-04	3.670E-07	1.012E-06	1.379E-06
4.0000	54.424	54.537	227.34	1.875E-04	4.844E-05	4.820E-08	4.824E-09	5.302E-08

CU I 16D EO= 4.4829E-03 (RYD) N*= 14.9355 MU= 1.0645

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.061	203276.33	-1.685E+02	-3.096E+02	4.355E+01	2.204E+02	2.640E+02
.0025	.034	.095	130499.87	-7.780E+01	-1.565E+02	1.446E+01	8.775E+01	1.022E+02
.0037	.051	.112	110686.10	-5.816E+01	-1.213E+02	9.525E+00	6.209E+01	7.162E+01
.0075	.102	.163	76047.34	-2.972E+01	-6.746E+01	3.621E+00	2.798E+01	3.160E+01
.0200	.272	.333	37220.58	-7.996E+00	-2.155E+01	5.354E-01	5.835E+00	6.370E+00
.0600	.816	.877	14131.93	-1.222E+00	-4.164E+00	3.294E-02	5.736E-01	6.065E-01
.1000	1.361	1.422	8721.69	-4.519E-01	-1.706E+00	7.297E-03	1.560E-01	1.633E-01
.2000	2.721	2.782	4456.45	-1.050E-01	-4.288E-01	7.706E-04	1.929E-02	2.006E-02
.4000	5.442	5.503	2252.92	-2.391E-02	-7.550E-02	7.911E-05	1.183E-03	1.262E-03
.6000	8.164	8.225	1507.52	-1.161E-02	-1.673E-02	2.785E-05	8.675E-05	1.146E-04
.8000	10.885	10.946	1132.74	-7.735E-03	-9.303E-04	1.646E-05	3.572E-07	1.682E-05
1.0000	13.606	13.667	907.20	-5.836E-03	3.851E-03	1.170E-05	7.640E-06	1.934E-05
2.0000	27.212	27.273	454.61	-1.835E-03	2.670E-03	2.309E-06	7.332E-06	9.640E-06
3.0000	40.818	40.879	303.30	-3.658E-04	5.062E-04	1.375E-07	3.949E-07	5.324E-07
4.0000	54.424	54.485	227.56	1.198E-04	2.169E-05	1.965E-08	9.666E-10	2.062E-08

CU I 20D EO= 2.7890E-03 (RYD) N*= 18.9355 MU= 1.0645

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.038	326737.97	-2.755E+02	-4.567E+02	7.237E+01	2.984E+02	3.708E+02
.0025	.034	.072	172295.35	-9.070E+01	-1.700E+02	1.488E+01	7.839E+01	9.327E+01
.0037	.051	.089	139359.18	-6.241E+01	-1.223E+02	8.711E+00	5.015E+01	5.886E+01
.0075	.102	.140	88567.31	-2.780E+01	-6.021E+01	2.719E+00	1.913E+01	2.185E+01
.0200	.272	.310	39987.20	-6.462E+00	-1.695E+01	3.254E-01	3.359E+00	3.684E+00
.0600	.816	.854	14513.18	-9.071E-01	-3.052E+00	1.767E-02	3.001E-01	3.177E-01
.1000	1.361	1.399	8865.42	-3.287E-01	-1.231E+00	3.799E-03	7.989E-02	8.368E-02
.2000	2.721	2.759	4493.67	-7.514E-02	-3.058E-01	3.916E-04	9.729E-03	1.012E-02
.4000	5.442	5.480	2262.40	-1.693E-02	-5.353E-02	3.947E-05	5.921E-04	6.316E-04
.6000	8.164	8.201	1511.75	-8.225E-03	-1.203E-02	1.395E-05	4.475E-05	5.869E-05
.8000	10.885	10.923	1135.13	-5.348E-03	-8.094E-04	7.853E-06	2.698E-07	8.123E-06
1.0000	13.606	13.644	908.73	-4.175E-03	2.666E-03	5.978E-06	3.657E-06	9.635E-06
2.0000	27.212	27.250	455.00	-1.245E-03	1.872E-03	1.062E-06	3.600E-06	4.662E-06
3.0000	40.818	40.856	303.47	-2.927E-04	4.039E-04	8.800E-08	2.514E-07	3.394E-07
4.0000	54.424	54.462	227.66	7.398E-05	1.155E-05	7.492E-09	2.737E-10	7.766E-09

CU I 4F EO= 6.2910E-02 (RYD) N*= 3.9870 MU= .0130

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.856	14485.36	-3.820E+00	2.530E+01	3.364E-01	1.968E+01	2.001E+01
.0200	.272	1.128	10991.10	-2.184E+00	1.294E+01	1.449E-01	6.781E+00	6.926E+00
.0600	.816	1.672	7414.13	-8.983E-01	4.751E+00	3.634E-02	1.356E+00	1.392E+00
.1000	1.361	2.217	5593.70	-4.474E-01	2.231E+00	1.195E-02	3.963E-01	4.082E-01
.2000	2.721	3.577	3466.09	-1.317E-01	5.548E-01	1.670E-03	3.954E-02	4.121E-02
.6000	8.164	9.019	1374.65	-1.315E-02	3.647E-03	4.200E-05	4.307E-06	4.631E-05
1.0000	13.606	14.462	857.33	-6.775E-03	-1.223E-02	1.788E-05	7.769E-05	9.557E-05
2.0000	27.212	28.068	441.74	-2.856E-03	-4.690E-03	6.166E-06	2.217E-05	2.834E-05
3.0000	40.818	41.674	297.52	-8.516E-04	-8.651E-04	8.139E-07	1.120E-06	1.934E-06
4.0000	54.424	55.280	224.29	-1.004E-04	1.839E-04	1.500E-08	6.715E-08	8.216E-08
5.0000	68.030	68.886	179.99	7.299E-05	3.057E-04	9.883E-09	2.312E-07	2.411E-07

CU I 5F EO= 4.0234E-02 (RYD) N*= 4.9854 MU= .0146

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.547	22649.27	-8.713E+00	4.612E+01	1.119E+00	4.182E+01	4.294E+01
.0200	.272	.820	15128.83	-3.905E+00	1.958E+01	3.365E-01	1.128E+01	1.162E+01
.0600	.816	1.364	9091.42	-1.279E+00	6.077E+00	6.007E-02	1.808E+00	1.868E+00
.1000	1.361	1.908	6498.20	-5.710E-01	2.643E+00	1.675E-02	4.786E-01	4.954E-01
.2000	2.721	3.269	3793.25	-1.480E-01	6.089E-01	1.929E-03	4.351E-02	4.544E-02
.6000	8.164	8.711	1423.34	-1.267E-02	6.482E-03	3.769E-05	1.314E-05	5.083E-05
1.0000	13.606	14.153	876.02	-6.271E-03	-1.079E-02	1.499E-05	5.921E-05	7.420E-05
2.0000	27.212	27.759	446.65	-2.649E-03	-4.360E-03	5.246E-06	1.895E-05	2.419E-05
3.0000	40.818	41.365	299.74	-8.093E-04	-8.364E-04	7.296E-07	1.039E-06	1.769E-06
4.0000	54.424	54.971	225.55	-1.043E-04	1.519E-04	1.610E-08	4.553E-08	6.163E-08
5.0000	68.030	68.577	180.80	5.951E-05	2.781E-04	6.541E-09	1.905E-07	1.970E-07

CU I 6F EO= 2.7921E-02 (RYD) N*= 5.9846 MU= .0154

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.380	32637.90	-1.531E+01	6.832E+01	2.397E+00	6.368E+01	6.607E+01
.0200	.272	.652	19016.22	-5.304E+00	2.369E+01	4.939E-01	1.314E+01	1.363E+01
.0400	.544	.924	13416.67	-2.564E+00	1.132E+01	1.636E-01	4.253E+00	4.417E+00
.0600	.816	1.196	10364.67	-1.434E+00	6.359E+00	6.629E-02	1.737E+00	1.803E+00
.0800	1.088	1.468	8443.88	-8.852E-01	3.942E+00	3.099E-02	8.194E-01	8.504E-01
.2000	2.721	3.101	3998.18	-1.412E-01	5.710E-01	1.666E-03	3.631E-02	3.798E-02
.4000	5.442	5.822	2129.53	-2.701E-02	7.176E-02	1.144E-04	1.076E-03	1.191E-03
.6000	8.164	8.543	1451.25	-1.106E-02	7.043E-03	2.813E-05	1.522E-05	4.334E-05
.8000	10.885	11.265	1100.67	-6.923E-03	-6.415E-03	1.454E-05	1.665E-05	3.118E-05
1.0000	13.606	13.986	886.52	-5.342E-03	-8.937E-03	1.075E-05	4.012E-05	5.087E-05

CU I 8F EO= 1.5688E-02 (RYD) N*= 7.9838 MU= .0162

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.213	58085.89	-3.365E+01	1.178E+02	6.509E+00	1.063E+02	1.128E+02
.0050	.068	.281	44047.54	-1.996E+01	7.284E+01	3.021E+00	5.364E+01	5.666E+01
.0200	.272	.486	25534.09	-6.912E+00	2.674E+01	6.247E-01	1.247E+01	1.309E+01
.0400	.544	.758	16363.73	-2.772E+00	1.105E+01	1.568E-01	3.323E+00	3.480E+00
.0600	.816	1.030	12039.75	-1.408E+00	5.769E+00	5.500E-02	1.231E+00	1.286E+00
.0800	1.088	1.302	9523.30	-8.192E-01	3.423E+00	2.353E-02	5.476E-01	5.712E-01
.2000	2.721	2.935	4224.93	-1.141E-01	4.524E-01	1.029E-03	2.157E-02	2.260E-02
.4000	5.442	5.656	2192.19	-2.050E-02	5.592E-02	6.401E-05	6.351E-04	6.991E-04
.6000	8.164	8.377	1480.08	-8.137E-03	6.186E-03	1.494E-05	1.151E-05	2.645E-05
.8000	10.885	11.098	1117.18	-5.014E-03	-4.187E-03	7.514E-06	6.988E-06	1.450E-05
1.0000	13.606	13.819	897.19	-3.834E-03	-6.225E-03	5.471E-06	1.923E-05	2.470E-05

CU I 10F EO= 1.0033E-02 (RYD) N*= 9.9835 MU= .0165

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.137	90826.13	-5.880E+01	1.741E+02	1.271E+01	1.487E+02	1.614E+02
.0025	.034	.171	72708.88	-3.898E+01	1.206E+02	6.978E+00	8.907E+01	9.604E+01
.0100	.136	.273	45488.10	-1.606E+01	5.406E+01	1.893E+00	2.861E+01	3.050E+01
.0200	.272	.409	30342.11	-7.301E+00	2.605E+01	5.866E-01	9.960E+00	1.055E+01
.0400	.544	.681	18213.30	-2.578E+00	9.743E+00	1.219E-01	2.320E+00	2.442E+00
.0600	.816	.953	13011.96	-1.236E+00	4.863E+00	3.919E-02	8.093E-01	8.485E-01
.1000	1.361	1.497	8281.76	-4.366E-01	1.782E+00	7.685E-03	1.708E-01	1.785E-01
.2000	2.721	2.858	4338.69	-9.035E-02	3.540E-01	6.282E-04	1.286E-02	1.349E-02
.4000	5.442	5.579	2222.42	-1.568E-02	4.339E-02	3.693E-05	3.772E-04	4.142E-04
.6000	8.164	8.300	1493.80	-6.111E-03	5.046E-03	8.347E-06	7.588E-06	1.593E-05
.8000	10.885	11.021	1124.98	-3.767E-03	-2.993E-03	4.211E-06	3.544E-06	7.756E-06
1.0000	13.606	13.742	902.22	-2.857E-03	-4.581E-03	3.021E-06	1.036E-05	1.338E-05

CU I 12F EO= 6.9638E-03 (RYD) N*= 11.9833 MU= .0167

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.095	130857.46	-9.065E+01	2.375E+02	2.097E+01	1.919E+02	2.128E+02
.0025	.034	.129	96289.64	-5.176E+01	1.446E+02	9.289E+00	9.667E+01	1.060E+02
.0062	.085	.180	68963.24	-2.779E+01	8.317E+01	3.740E+00	4.466E+01	4.840E+01
.0200	.272	.367	33795.95	-7.045E+00	2.394E+01	4.904E-01	7.551E+00	8.041E+00
.0400	.544	.639	19403.61	-2.283E+00	8.361E+00	8.971E-02	1.604E+00	1.694E+00
.0600	.816	.911	13608.36	-1.056E+00	4.057E+00	2.735E-02	5.384E-01	5.657E-01
.1000	1.361	1.455	8519.40	-3.611E-01	1.450E+00	5.111E-03	1.099E-01	1.150E-01
.2000	2.721	2.816	4403.03	-7.230E-02	2.826E-01	3.964E-04	8.078E-03	8.475E-03
.3000	4.082	4.177	2968.65	-2.570E-02	9.057E-02	7.431E-05	1.230E-03	1.304E-03

CU I 16F EO= 3.9145E-03 (RYD) N*= 15.9831 MU= .0169

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.053	232792.07	-1.739E+02	3.842E+02	4.338E+01	2.823E+02	3.257E+02
.0025	.034	.087	142063.42	-7.143E+01	1.753E+02	1.199E+01	9.632E+01	1.083E+02
.0037	.051	.104	118894.40	-5.156E+01	1.316E+02	7.465E+00	6.480E+01	7.227E+01
.0087	.119	.172	71954.42	-2.020E+01	5.749E+01	1.894E+00	2.045E+01	2.234E+01
.0200	.272	.325	38105.22	-5.944E+00	1.914E+01	3.096E-01	4.279E+00	4.589E+00
.0400	.544	.597	20750.95	-1.740E+00	6.158E+00	4.871E-02	8.137E-01	8.624E-01
.0600	.816	.870	14257.60	-7.713E-01	2.895E+00	1.393E-02	2.617E-01	2.756E-01
.0800	1.088	1.142	10859.48	-4.165E-01	1.622E+00	5.333E-03	1.078E-01	1.132E-01
.1000	1.361	1.414	8769.40	-2.544E-01	1.009E+00	2.465E-03	5.164E-02	5.410E-02
.2000	2.721	2.774	4468.87	-4.963E-02	1.928E-01	1.841E-04	3.702E-03	3.886E-03

CU I 20F EO= 2.5043E-03 (RYD) N*= 19.9830 MU= .0170

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.034	363888.19	-2.826E+02	5.569E+02	7.329E+01	3.794E+02	4.527E+02
.0025	.034	.068	182098.70	-8.204E+01	1.866E+02	1.234E+01	8.512E+01	9.746E+01
.0037	.051	.085	145703.72	-5.462E+01	1.305E+02	6.838E+00	5.203E+01	5.887E+01
.0087	.119	.153	80970.98	-1.834E+01	4.992E+01	1.387E+00	1.370E+01	1.509E+01
.0200	.272	.306	40493.14	-4.849E+00	1.520E+01	1.939E-01	2.539E+00	2.733E+00
.0400	.544	.578	21439.45	-1.343E+00	4.683E+00	2.808E-02	4.554E-01	4.834E-01
.0600	.816	.850	14579.29	-5.848E-01	2.167E+00	7.834E-03	1.434E-01	1.513E-01
.0800	1.088	1.123	11045.10	-3.110E-01	1.203E+00	2.925E-03	5.838E-02	6.130E-02
.2000	2.721	2.755	4499.99	-3.644E-02	1.406E-01	9.854E-05	1.957E-03	2.055E-03

ZN II 4S EO= 1.3206E+00 (RYD) N*= 1.7404 MU= 2.2596

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	17.968	690.03	.000	2.720E-01	.000	8.355E-02	8.355E-02
.2000	2.721	20.689	599.28	.000	2.854E-01	.000	1.059E-01	1.059E-01
.4000	5.442	23.410	529.62	.000	2.789E-01	.000	1.145E-01	1.145E-01
.6000	8.164	26.132	474.47	.000	2.650E-01	.000	1.153E-01	1.153E-01
.8000	10.885	28.853	429.72	.000	2.488E-01	.000	1.122E-01	1.122E-01
1.0000	13.606	31.574	392.68	.000	2.325E-01	.000	1.072E-01	1.072E-01
2.0000	27.212	45.180	274.43	.000	1.679E-01	.000	8.000E-02	8.000E-02
8.0000	108.847	126.815	97.77	.000	5.357E-02	.000	2.287E-02	2.287E-02

ZN II 5S EO= 5.2019E-01 (RYD) N*= 2.7730 MU= 2.2270

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.078	1751.78	.000	4.615E-01	.000	9.473E-02	9.473E-02
.0200	.272	7.350	1686.92	.000	4.780E-01	.000	1.055E-01	1.055E-01
.1000	1.361	8.438	1469.33	.000	5.064E-01	.000	1.360E-01	1.360E-01
.2000	2.721	9.799	1265.31	.000	4.968E-01	.000	1.520E-01	1.520E-01
.4000	5.442	12.520	990.30	.000	4.326E-01	.000	1.472E-01	1.472E-01
1.0000	13.606	20.684	599.44	.000	2.588E-01	.000	8.705E-02	8.705E-02
4.0000	54.424	61.501	201.60	.000	6.365E-02	.000	1.566E-02	1.566E-02
6.0000	81.635	88.713	139.76	.000	4.102E-02	.000	9.380E-03	9.380E-03

ZN II 6S EO= 2.7915E-01 (RYD) N*= 3.7854 MU= 2.2146

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.798	3264.44	.000	4.287E-01	.000	4.386E-02	4.386E-02
.0800	1.088	4.887	2537.29	.000	5.697E-01	.000	9.965E-02	9.965E-02
.1000	1.361	5.159	2403.45	.000	5.769E-01	.000	1.079E-01	1.079E-01
.2000	2.721	6.519	1901.84	.000	5.549E-01	.000	1.261E-01	1.261E-01
.4000	5.442	9.240	1341.78	.000	4.443E-01	.000	1.146E-01	1.146E-01
.6000	8.164	11.962	1036.53	.000	3.495E-01	.000	9.180E-02	9.180E-02
1.0000	13.606	17.404	712.40	.000	2.271E-01	.000	5.640E-02	5.640E-02
4.0000	54.424	58.222	212.96	.000	4.327E-02	.000	6.851E-03	6.851E-03

ZN II 8S EO= 1.1919E-01 (RYD) N*= 5.7932 MU= 2.2068

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.622	7645.68	.000	8.514E-02	.000	7.387E-04	7.387E-04
.0200	.272	1.894	6547.07	.000	3.731E-01	.000	1.657E-02	1.657E-02
.1000	1.361	2.982	4157.49	.000	6.074E-01	.000	6.915E-02	6.915E-02
.2000	2.721	4.343	2854.96	.000	5.279E-01	.000	7.605E-02	7.605E-02
.4000	5.442	7.064	1755.18	.000	3.602E-01	.000	5.759E-02	5.759E-02
1.0000	13.606	15.228	814.22	.000	1.541E-01	.000	2.273E-02	2.273E-02
2.0000	27.212	28.833	430.01	.000	6.281E-02	.000	7.149E-03	7.149E-03
4.0000	54.424	56.045	221.23	.000	2.430E-02	.000	2.079E-03	2.079E-03

ZN II 10S EO= 6.5820E-02 (RYD) N*= 7.7956 MU= 2.2044

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.896	13844.79	.000	-5.765E-01	.000	1.870E-02	1.870E-02
.0050	.068	.964	12867.33	.000	-2.912E-01	.000	5.136E-03	5.136E-03
.0100	.136	1.032	12018.79	.000	-7.749E-02	.000	3.892E-04	3.892E-04
.0200	.272	1.168	10618.33	.000	2.078E-01	.000	3.169E-03	3.169E-03
.0400	.544	1.440	8611.47	.000	4.744E-01	.000	2.036E-02	2.036E-02
.0800	1.088	1.984	6249.25	.000	5.838E-01	.000	4.249E-02	4.249E-02
.1000	1.361	2.256	5495.52	.000	5.746E-01	.000	4.680E-02	4.680E-02
.2000	2.721	3.617	3428.14	.000	4.477E-01	.000	4.556E-02	4.556E-02
1.0000	13.606	14.501	854.99	.000	1.080E-01	.000	1.063E-02	1.063E-02
2.0000	27.212	28.107	441.12	.000	4.246E-02	.000	3.184E-03	3.184E-03

ZN II 12S EO= 4.1677E-02 (RYD) N*= 9.7967 MU= 2.2033

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.567	21864.79	.000	-1.555E+00	.000	8.612E-02	8.612E-02
.0050	.068	.635	19522.67	.000	-8.916E-01	.000	3.172E-02	3.172E-02
.0100	.136	.703	17633.77	.000	-4.517E-01	.000	9.014E-03	9.014E-03
.0200	.272	.839	14774.74	.000	5.683E-02	.000	1.703E-04	1.703E-04
.0400	.544	1.111	11156.91	.000	4.371E-01	.000	1.334E-02	1.334E-02
.0800	1.088	1.656	7489.21	.000	5.373E-01	.000	3.004E-02	3.004E-02
.1000	1.361	1.928	6431.99	.000	5.158E-01	.000	3.223E-02	3.223E-02
.2000	2.721	3.288	3770.60	.000	3.695E-01	.000	2.822E-02	2.822E-02
.8000	10.885	11.452	1082.68	.000	1.043E-01	.000	7.830E-03	7.830E-03
1.0000	13.606	14.173	874.81	.000	7.997E-02	.000	5.695E-03	5.695E-03
3.0000	40.818	41.385	299.59	.000	1.694E-02	.000	7.465E-04	7.465E-04

ZN II 16S EO= 2.1011E-02 (RYD) N*= 13.7976 MU= 2.2024

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.286	43370.44	.000	-4.446E+00	.000	3.550E-01	3.550E-01
.0100	.136	.422	29385.06	.000	-1.110E+00	.000	3.267E-02	3.267E-02
.0200	.272	.558	22219.94	.000	-1.334E-01	.000	6.242E-04	6.242E-04
.0400	.544	.830	14936.06	.000	3.688E-01	.000	7.095E-03	7.095E-03
.0600	.816	1.102	11248.66	.000	4.409E-01	.000	1.347E-02	1.347E-02
.0800	1.088	1.374	9021.45	.000	4.273E-01	.000	1.577E-02	1.577E-02
.1000	1.361	1.646	7530.44	.000	3.951E-01	.000	1.615E-02	1.615E-02
.2000	2.721	3.007	4123.17	.000	2.555E-01	.000	1.234E-02	1.234E-02
.4000	5.442	5.728	2164.47	.000	1.379E-01	.000	6.841E-03	6.841E-03
1.0000	13.606	13.892	892.51	.000	4.962E-02	.000	2.149E-03	2.149E-03
2.0000	27.212	27.498	450.90	.000	1.887E-02	.000	6.152E-04	6.152E-04

ZN II 20S EO= 1.2628E-02 (RYD) N*= 17.7980 MU= 2.2020

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.172	72165.14	.000	-8.552E+00	.000	7.896E-01	7.896E-01
.0050	.068	.240	51695.70	.000	-3.427E+00	.000	1.771E-01	1.771E-01
.0100	.136	.308	40272.52	.000	-1.517E+00	.000	4.450E-02	4.450E-02
.0200	.272	.444	27929.41	.000	-2.041E-01	.000	1.162E-03	1.162E-03
.0400	.544	.716	17315.42	.000	3.084E-01	.000	4.279E-03	4.279E-03
.0600	.816	.988	12547.14	.000	3.566E-01	.000	7.897E-03	7.897E-03
.0800	1.088	1.260	9837.98	.000	3.352E-01	.000	8.899E-03	8.899E-03
.1000	1.361	1.532	8090.99	.000	3.031E-01	.000	8.847E-03	8.847E-03
.4000	5.442	5.614	2208.45	.000	9.724E-02	.000	3.336E-03	3.336E-03
1.0000	13.606	13.778	899.90	.000	3.438E-02	.000	1.023E-03	1.023E-03
2.0000	27.212	27.384	452.78	.000	1.299E-02	.000	2.906E-04	2.906E-04

ZN II 4P EO= 8.8302E-01 (RYD) N*= 2.1284 MU= 1.8716

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	12.014	1031.99	1.175E+00	-2.015E+00	3.477E-01	2.044E+00	2.392E+00
.2000	2.721	14.735	841.41	8.407E-01	-1.243E+00	2.182E-01	9.535E-01	1.172E+00
.6000	8.164	20.178	614.47	5.067E-01	-5.682E-01	1.085E-01	2.729E-01	3.814E-01
1.0000	13.606	25.620	483.94	3.483E-01	-2.988E-01	6.512E-02	9.584E-02	1.610E-01
2.0000	27.212	39.226	316.08	1.826E-01	-7.151E-02	2.738E-02	8.404E-03	3.579E-02
3.0000	40.818	52.832	234.68	1.172E-01	-5.981E-03	1.520E-02	7.918E-05	1.528E-02
4.0000	54.424	66.438	186.62	8.317E-02	1.865E-02	9.627E-03	9.679E-04	1.060E-02
5.0000	68.030	80.044	154.90	6.275E-02	2.852E-02	6.601E-03	2.727E-03	9.328E-03

ZN II 5P EO= 4.0039E-01 (RYD) N*= 3.1607 MU= 1.8393

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.448	2275.93	2.745E+00	-4.543E+00	8.597E-01	4.711E+00	5.571E+00
.2000	2.721	8.169	1517.78	1.398E+00	-1.981E+00	3.343E-01	1.343E+00	1.677E+00
.6000	8.164	13.611	910.91	5.893E-01	-6.173E-01	9.900E-02	2.173E-01	3.163E-01
1.0000	13.606	19.054	650.72	3.319E-01	-2.598E-01	4.396E-02	5.387E-02	9.783E-02
2.0000	27.212	32.660	379.63	1.365E-01	-4.879E-02	1.274E-02	3.257E-03	1.599E-02
3.0000	40.818	46.265	267.99	8.000E-02	-4.729E-03	6.203E-03	4.335E-05	6.246E-03
4.0000	54.424	59.871	207.09	5.442E-02	1.071E-02	3.714E-03	2.876E-04	4.001E-03
5.0000	68.030	73.477	168.74	3.993E-02	1.682E-02	2.455E-03	8.711E-04	3.326E-03
6.0000	81.635	87.083	142.38	3.077E-02	1.898E-02	1.728E-03	1.315E-03	3.042E-03
8.0000	108.847	114.295	108.48	2.020E-02	1.895E-02	9.767E-04	1.719E-03	2.695E-03

ZN II 6P EO= 2.2974E-01 (RYD) N*= 4.1726 MU= 1.8274

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.126	3966.49	4.751E+00	-7.708E+00	1.478E+00	7.780E+00	9.258E+00
.0600	.816	3.942	3145.10	3.239E+00	-5.039E+00	8.663E-01	4.193E+00	5.060E+00
.2000	2.721	5.847	2120.50	1.686E+00	-2.363E+00	3.482E-01	1.368E+00	1.716E+00
.6000	8.164	11.289	1098.25	5.566E-01	-5.748E-01	7.326E-02	1.562E-01	2.295E-01
1.0000	13.606	16.732	741.02	2.824E-01	-2.149E-01	2.795E-02	3.238E-02	6.033E-02
2.0000	27.212	30.338	408.69	1.025E-01	-3.430E-02	6.683E-03	1.495E-03	8.178E-03
3.0000	40.818	43.944	282.15	5.720E-02	-3.011E-03	3.012E-03	1.669E-05	3.029E-03
4.0000	54.424	57.550	215.44	3.815E-02	7.272E-03	1.754E-03	1.275E-04	1.882E-03
6.0000	81.635	84.761	146.28	2.120E-02	1.282E-02	7.983E-04	5.832E-04	1.381E-03
10.0000	136.059	139.185	89.08	9.802E-03	1.157E-02	2.801E-04	7.808E-04	1.061E-03

ZN II 8P EO= 1.0470E-01 (RYD) N*= 6.1810 MU= 1.8190

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.425	8703.64	1.005E+01	-1.573E+01	3.011E+00	1.476E+01	1.777E+01
.0200	.272	1.697	7307.70	7.523E+00	-1.168E+01	2.011E+00	9.698E+00	1.171E+01
.1000	1.361	2.785	4451.73	3.317E+00	-4.917E+00	6.420E-01	2.821E+00	3.463E+00
.2000	2.721	4.146	2990.71	1.718E+00	-2.377E+00	2.563E-01	9.813E-01	1.238E+00
.6000	8.164	9.588	1293.13	4.210E-01	-4.314E-01	3.560E-02	7.477E-02	1.104E-01
1.0000	13.606	15.030	824.90	1.937E-01	-1.453E-01	1.182E-02	1.329E-02	2.511E-02
2.0000	27.212	28.636	432.97	6.340E-02	-2.009E-02	2.411E-03	4.840E-04	2.895E-03
3.0000	40.818	42.242	293.51	3.387E-02	-1.512E-03	1.015E-03	4.048E-06	1.019E-03
4.0000	54.424	55.848	222.01	2.219E-02	4.176E-03	5.762E-04	4.080E-05	6.170E-04
5.0000	68.030	69.454	178.52	1.600E-02	6.437E-03	3.723E-04	1.206E-04	4.929E-04
10.0000	136.059	137.484	90.18	5.548E-03	6.503E-03	8.864E-05	2.436E-04	3.322E-04

ZN II 10P EO= 5.9723E-02 (RYD) N*= 8.1839 MU= 1.8161

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.813	15258.22	1.700E+01	-2.593E+01	4.919E+00	2.289E+01	2.780E+01
.0600	.816	1.629	7611.46	5.372E+00	-8.049E+00	9.847E-01	4.421E+00	5.406E+00
.2000	2.721	3.534	3508.61	1.491E+00	-2.049E+00	1.646E-01	6.217E-01	7.863E-01
.6000	8.164	8.976	1381.29	3.129E-01	-3.198E-01	1.841E-02	3.845E-02	5.686E-02
1.0000	13.606	14.419	859.91	1.381E-01	-1.031E-01	5.760E-03	6.422E-03	1.218E-02
2.0000	27.212	28.024	442.42	4.340E-02	-1.348E-02	1.106E-03	2.132E-04	1.319E-03
3.0000	40.818	41.630	297.83	2.279E-02	-9.450E-04	4.530E-04	1.557E-06	4.546E-04
4.0000	54.424	55.236	224.47	1.483E-02	2.783E-03	2.545E-04	1.792E-05	2.724E-04
6.0000	81.635	82.448	150.38	8.097E-03	4.791E-03	1.132E-04	7.930E-05	1.925E-04
8.0000	108.847	109.660	113.06	5.192E-03	4.736E-03	6.191E-05	1.030E-04	1.650E-04

ZN II 12P EO= 3.8558E-02 (RYD) N*= 10.1852 MU= 1.8148

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.525	23633.42	2.554E+01	-3.821E+01	7.167E+00	3.209E+01	3.926E+01
.0600	.816	1.341	9245.96	5.386E+00	-8.002E+00	8.148E-01	3.597E+00	4.412E+00
.2000	2.721	3.246	3819.89	1.246E+00	-1.705E+00	1.055E-01	3.954E-01	5.009E-01
.6000	8.164	8.688	1427.07	2.396E-01	-2.445E-01	1.044E-02	2.176E-02	3.220E-02
1.0000	13.606	14.131	877.44	1.035E-01	-7.716E-02	3.173E-03	3.524E-03	6.697E-03
2.0000	27.212	27.736	447.02	3.190E-02	-9.814E-03	5.912E-04	1.119E-04	7.031E-04
3.0000	40.818	41.342	299.90	1.662E-02	-6.511E-04	2.391E-04	7.343E-07	2.398E-04
4.0000	54.424	54.948	225.64	1.077E-02	2.022E-03	1.335E-04	9.415E-06	1.429E-04
5.0000	68.030	68.554	180.86	7.729E-03	3.084E-03	8.578E-05	2.732E-05	1.131E-04
8.0000	108.847	109.372	113.36	3.759E-03	3.434E-03	3.238E-05	5.403E-05	8.642E-05

ZN II 16P EO= 1.9875E-02 (RYD) N*= 14.1864 MU= 1.8136

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.270	45848.97	4.714E+01	-6.873E+01	1.259E+01	5.351E+01	6.610E+01
.0100	.136	.406	30502.26	2.394E+01	-3.528E+01	4.878E+00	2.119E+01	2.607E+01
.0600	.816	1.087	11408.61	4.681E+00	-6.893E+00	4.987E-01	2.163E+00	2.662E+00
.1000	1.361	1.631	7601.79	2.388E+00	-3.456E+00	1.949E-01	8.163E-01	1.011E+00
.2000	2.721	2.992	4144.47	8.736E-01	-1.191E+00	4.782E-02	1.778E-01	2.256E-01
.6000	8.164	8.434	1470.08	1.541E-01	-1.571E-01	4.193E-03	8.718E-03	1.291E-02
1.0000	13.606	13.876	893.51	6.530E-02	-4.859E-02	1.239E-03	1.372E-03	2.612E-03
2.0000	27.212	27.482	451.15	1.976E-02	-6.022E-03	2.249E-04	4.175E-05	2.666E-04
3.0000	40.818	41.088	301.76	1.021E-02	-3.864E-04	8.971E-05	2.570E-07	8.997E-05
4.0000	54.424	54.694	226.69	6.615E-03	1.240E-03	5.013E-05	3.523E-06	5.365E-05
5.0000	68.030	68.300	181.53	4.732E-03	1.880E-03	3.203E-05	1.011E-05	4.215E-05
10.0000	136.059	136.330	90.95	1.618E-03	1.894E-03	7.477E-06	2.049E-05	2.797E-05

ZN II 20P EO= 1.2093E-02 (RYD) N*= 18.1869 MU= 1.8131

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.165	75353.26	7.449E+01	-1.068E+02	1.913E+01	7.861E+01	9.773E+01
.0100	.136	.301	41246.38	2.734E+01	-3.989E+01	4.705E+00	2.004E+01	2.475E+01
.0200	.272	.437	28394.35	1.470E+01	-2.160E+01	1.976E+00	8.534E+00	1.051E+01
.0600	.816	.981	12640.12	3.836E+00	-5.627E+00	3.024E-01	1.301E+00	1.604E+00
.1000	1.361	1.525	8129.55	1.845E+00	-2.663E+00	1.088E-01	4.529E-01	5.617E-01
.2000	2.721	2.886	4296.54	6.409E-01	-8.721E-01	2.483E-02	9.195E-02	1.168E-01
.6000	8.164	8.328	1488.77	1.087E-01	-1.107E-01	2.060E-03	4.278E-03	6.338E-03
1.0000	13.606	13.770	900.38	4.569E-02	-3.397E-02	6.021E-04	6.656E-04	1.268E-03
2.0000	27.212	27.376	452.90	1.369E-02	-4.148E-03	1.074E-04	1.974E-05	1.272E-04
3.0000	40.818	40.982	302.54	7.076E-03	-2.701E-04	4.298E-05	1.253E-07	4.310E-05
4.0000	54.424	54.588	227.13	4.565E-03	8.393E-04	2.383E-05	1.611E-06	2.544E-05
6.0000	81.635	81.800	151.57	2.480E-03	1.457E-03	1.054E-05	7.279E-06	1.782E-05
8.0000	108.847	109.012	113.74	1.584E-03	1.452E-03	5.731E-06	9.630E-06	1.536E-05

ZN II 4D EO= 4.3590E-01 (RYD) N*= 3.0292 MU= .9708

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.931	2090.52	-1.445E-01	-3.261E+00	3.113E-03	2.379E+00	2.382E+00
.1000	1.361	7.291	1700.43	-7.312E-02	-1.801E+00	9.800E-04	8.922E-01	8.932E-01
.2000	2.721	8.652	1433.03	-3.253E-02	-1.046E+00	2.302E-04	3.566E-01	3.569E-01
.3000	4.082	10.013	1238.30	-7.831E-03	-6.198E-01	1.543E-05	1.450E-01	1.451E-01
.4000	5.442	11.373	1090.16	8.013E-03	-3.654E-01	1.835E-05	5.726E-02	5.728E-02
.5000	6.803	12.734	973.68	1.859E-02	-2.087E-01	1.106E-04	2.051E-02	2.062E-02
.6000	8.164	14.094	879.68	2.584E-02	-1.044E-01	2.366E-04	5.790E-03	6.027E-03
.7000	9.524	15.455	802.24	3.091E-02	-3.682E-02	3.712E-04	7.901E-04	1.161E-03
.8000	10.885	16.816	737.33	3.447E-02	8.626E-03	5.023E-04	4.717E-05	5.495E-04
.9000	12.245	18.176	682.14	3.696E-02	3.961E-02	6.242E-04	1.075E-03	1.700E-03
1.0000	13.606	19.537	634.63	3.867E-02	6.095E-02	7.343E-04	2.736E-03	3.471E-03
2.0000	27.212	33.143	374.10	3.775E-02	1.053E-01	1.187E-03	1.386E-02	1.504E-02
4.0000	54.424	60.355	205.43	2.256E-02	8.655E-02	7.719E-04	1.705E-02	1.782E-02
6.0000	81.635	87.566	141.59	1.434E-02	6.680E-02	4.525E-04	1.473E-02	1.518E-02

ZN II 5D EO= 2.4450E-01 (RYD) N*= 4.0447 MU= .9553

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.327	3727.07	-5.327E-01	-6.952E+00	2.373E-02	6.062E+00	6.086E+00
.1000	1.361	4.687	2645.19	-2.251E-01	-3.195E+00	5.971E-03	1.804E+00	1.810E+00
.2000	2.721	6.048	2050.10	-1.041E-01	-1.681E+00	1.648E-03	6.444E-01	6.461E-01
.3000	4.082	7.408	1673.59	-4.767E-02	-9.499E-01	4.231E-04	2.520E-01	2.525E-01
.4000	5.442	8.769	1413.91	-1.820E-02	-5.555E-01	7.300E-05	1.020E-01	1.021E-01
.5000	6.803	10.130	1224.00	-1.518E-03	-3.286E-01	5.863E-07	4.073E-02	4.073E-02
.6000	8.164	11.490	1079.06	8.522E-03	-1.866E-01	2.098E-05	1.509E-02	1.511E-02
.7000	9.524	12.851	964.82	1.486E-02	-9.786E-02	7.131E-05	4.640E-03	4.712E-03
.8000	10.885	14.211	872.44	1.901E-02	-4.006E-02	1.290E-04	8.597E-04	9.888E-04
.9000	12.245	15.572	796.21	2.179E-02	-1.883E-03	1.858E-04	1.663E-06	1.875E-04
1.0000	13.606	16.933	732.24	2.368E-02	2.411E-02	2.387E-04	3.711E-04	6.097E-04
2.0000	27.212	30.538	406.00	2.586E-02	7.423E-02	5.134E-04	6.344E-03	6.857E-03
4.0000	54.424	57.750	214.69	1.622E-02	5.944E-02	3.817E-04	7.693E-03	8.074E-03
6.0000	81.635	84.962	145.93	1.015E-02	4.580E-02	2.202E-04	6.720E-03	6.940E-03

ZN II 6D EO= 1.5685E-01 (RYD) N*= 5.0500 MU= .9500

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.134	5809.98	-1.178E+00	-1.117E+01	7.439E-02	1.004E+01	1.011E+01
.0200	.272	2.406	5152.91	-9.085E-01	-8.841E+00	4.992E-02	7.091E+00	7.141E+00
.2000	2.721	4.855	2553.68	-1.540E-01	-1.947E+00	2.893E-03	6.941E-01	6.969E-01
.3000	4.082	6.216	1994.70	-6.805E-02	-1.042E+00	7.236E-04	2.546E-01	2.553E-01
.4000	5.442	7.576	1636.48	-2.884E-02	-5.934E-01	1.584E-04	1.006E-01	1.007E-01
.5000	6.803	8.937	1387.34	-8.821E-03	-3.467E-01	1.748E-05	4.050E-02	4.052E-02
.6000	8.164	10.298	1204.03	2.238E-03	-2.015E-01	1.296E-06	1.576E-02	1.576E-02
.7000	9.524	11.658	1063.52	8.722E-03	-1.118E-01	2.229E-05	5.494E-03	5.516E-03
.9000	12.245	14.379	862.25	1.523E-02	-1.706E-02	8.384E-05	1.579E-04	2.417E-04
1.0000	13.606	15.740	787.72	1.688E-02	7.830E-03	1.127E-04	3.638E-05	1.491E-04
2.0000	27.212	29.346	422.50	1.896E-02	5.546E-02	2.653E-04	3.403E-03	3.668E-03
4.0000	54.424	56.558	219.22	1.214E-02	4.366E-02	2.095E-04	4.065E-03	4.274E-03
6.0000	81.635	83.770	148.01	7.566E-03	3.360E-02	1.205E-04	3.585E-03	3.685E-03

ZN II 8D EO= 8.0389E-02 (RYD) N*= 7.0539 MU= .9461

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.094	11335.74	-3.269E+00	-2.119E+01	2.939E-01	1.851E+01	1.880E+01
.0600	.816	1.910	6491.02	-1.032E+00	-7.741E+00	5.115E-02	4.316E+00	4.367E+00
.2000	2.721	3.815	3250.01	-1.921E-01	-1.919E+00	3.540E-03	5.299E-01	5.334E-01
.3000	4.082	5.176	2395.62	-7.727E-02	-9.485E-01	7.767E-04	1.756E-01	1.763E-01
.4000	5.442	6.536	1896.94	-3.250E-02	-5.182E-01	1.735E-04	6.618E-02	6.635E-02
.5000	6.803	7.897	1570.10	-1.203E-02	-2.972E-01	2.871E-05	2.631E-02	2.634E-02
.6000	8.164	9.257	1339.33	-1.657E-03	-1.729E-01	6.392E-07	1.043E-02	1.043E-02
.7000	9.524	10.618	1167.71	3.988E-03	-9.845E-02	4.244E-06	3.880E-03	3.884E-03
.8000	10.885	11.978	1035.07	7.225E-03	-5.194E-02	1.572E-05	1.218E-03	1.234E-03
.9000	12.245	13.339	929.50	9.160E-03	-2.200E-02	2.813E-05	2.433E-04	2.715E-04
1.0000	13.606	14.700	843.46	1.035E-02	-2.323E-03	3.956E-05	2.990E-06	4.255E-05
2.0000	27.212	28.306	438.03	1.173E-02	3.488E-02	9.788E-05	1.298E-03	1.396E-03
4.0000	54.424	55.517	223.33	7.624E-03	2.700E-02	8.111E-05	1.526E-03	1.608E-03
6.0000	81.635	82.729	149.87	4.737E-03	2.074E-02	4.665E-05	1.342E-03	1.389E-03

ZN II 10D EO= 4.8780E-02 (RYD) N*= 9.0554 MU= .9446

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.664	18681.00	-6.427E+00	-3.328E+01	6.891E-01	2.772E+01	2.841E+01
.0600	.816	1.480	8377.13	-1.297E+00	-8.273E+00	6.263E-02	3.819E+00	3.882E+00
.2000	2.721	3.385	3662.94	-1.855E-01	-1.662E+00	2.927E-03	3.525E-01	3.554E-01
.3000	4.082	4.745	2612.73	-7.020E-02	-7.831E-01	5.878E-04	1.097E-01	1.103E-01
.4000	5.442	6.106	2030.54	-2.891E-02	-4.176E-01	1.283E-04	4.015E-02	4.028E-02
.5000	6.803	7.467	1660.53	-1.102E-02	-2.367E-01	2.279E-05	1.578E-02	1.580E-02
.6000	8.164	8.827	1404.59	-2.312E-03	-1.372E-01	1.186E-06	6.269E-03	6.270E-03
.7000	9.524	10.188	1217.00	2.272E-03	-7.861E-02	1.322E-06	2.374E-03	2.375E-03
.8000	10.885	11.548	1073.62	4.822E-03	-4.237E-02	6.749E-06	7.817E-04	7.884E-04
.9000	12.245	12.909	960.46	6.304E-03	-1.922E-02	1.290E-05	1.798E-04	1.927E-04
1.0000	13.606	14.270	868.88	7.188E-03	-4.096E-03	1.853E-05	9.026E-06	2.756E-05
2.0000	27.212	27.876	444.79	8.135E-03	2.436E-02	4.637E-05	6.238E-04	6.702E-04
4.0000	54.424	55.087	225.07	5.317E-03	1.873E-02	3.915E-05	7.283E-04	7.674E-04
6.0000	81.635	82.299	150.65	3.301E-03	1.437E-02	2.254E-05	6.411E-04	6.637E-04

ZN II 12D EO= 3.2723E-02 (RYD) N*= 11.0561 MU= .9439

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.445	27847.68	-1.064E+01	-4.739E+01	1.266E+00	3.770E+01	3.897E+01
.0200	.272	.717	17283.97	-4.329E+00	-2.139E+01	3.379E-01	1.238E+01	1.272E+01
.0600	.816	1.262	9827.82	-1.388E+00	-8.052E+00	6.109E-02	3.084E+00	3.145E+00
.2000	2.721	3.166	3915.67	-1.654E-01	-1.398E+00	2.177E-03	2.332E-01	2.353E-01
.3000	4.082	4.527	2738.82	-6.031E-02	-6.397E-01	4.139E-04	6.984E-02	7.026E-02
.4000	5.442	5.888	2105.89	-2.444E-02	-3.363E-01	8.836E-05	2.511E-02	2.520E-02
.5000	6.803	7.248	1710.58	-9.411E-03	-1.893E-01	1.614E-05	9.793E-03	9.809E-03
.6000	8.164	8.609	1440.23	-2.263E-03	-1.095E-01	1.108E-06	3.889E-03	3.890E-03
.7000	9.524	9.969	1243.67	1.483E-03	-6.283E-02	5.514E-07	1.484E-03	1.484E-03
.8000	10.885	11.330	1094.32	3.515E-03	-3.417E-02	3.518E-06	4.988E-04	5.023E-04
.9000	12.245	12.691	977.00	4.682E-03	-1.594E-02	6.993E-06	1.216E-04	1.286E-04
1.0000	13.606	14.051	882.39	5.361E-03	-4.074E-03	1.015E-05	8.794E-06	1.894E-05
2.0000	27.212	27.657	448.30	6.073E-03	1.821E-02	2.564E-05	3.456E-04	3.713E-04
4.0000	54.424	54.869	225.97	3.961E-03	1.394E-02	2.164E-05	4.021E-04	4.238E-04
6.0000	81.635	82.081	151.05	2.464E-03	1.070E-02	1.253E-05	3.542E-04	3.667E-04

ZN II 16D EO= 1.7644E-02 (RYD) N*= 15.0567 MU= .9433

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.240	51647.24	-2.215E+01	-8.137E+01	2.962E+00	5.993E+01	6.290E+01
.0200	.272	.512	24207.47	-5.472E+00	-2.346E+01	3.855E-01	1.063E+01	1.101E+01
.0600	.816	1.056	11736.48	-1.302E+00	-6.840E+00	4.504E-02	1.864E+00	1.909E+00
.1000	1.361	1.601	7745.97	-5.362E-01	-3.256E+00	1.157E-02	6.397E-01	6.513E-01
.2000	2.721	2.961	4186.96	-1.249E-01	-9.967E-01	1.162E-03	1.109E-01	1.121E-01
.3000	4.082	4.322	2868.83	-4.377E-02	-4.423E-01	2.081E-04	3.188E-02	3.209E-02
.4000	5.442	5.682	2181.92	-1.742E-02	-2.291E-01	4.333E-05	1.125E-02	1.129E-02
.5000	6.803	7.043	1760.41	-6.733E-03	-1.280E-01	8.025E-06	4.353E-03	4.361E-03
.6000	8.164	8.404	1475.39	-1.774E-03	-7.380E-02	6.647E-07	1.725E-03	1.726E-03
.7000	9.524	9.764	1269.80	8.011E-04	-4.243E-02	1.575E-07	6.627E-04	6.629E-04
.8000	10.885	11.125	1114.50	2.183E-03	-2.326E-02	1.333E-06	2.269E-04	2.282E-04
.9000	12.245	12.485	993.05	2.954E-03	-1.110E-02	2.739E-06	5.795E-05	6.069E-05
1.0000	13.606	13.846	895.47	3.389E-03	-3.216E-03	3.996E-06	5.394E-06	9.394E-06
2.0000	27.212	27.452	451.65	3.837E-03	1.155E-02	1.016E-05	1.381E-04	1.483E-04
4.0000	54.424	54.664	226.82	2.503E-03	8.809E-03	8.608E-06	1.599E-04	1.685E-04
6.0000	81.635	81.876	151.43	1.552E-03	6.769E-03	4.959E-06	1.414E-04	1.464E-04

ZN II 20D EO= 1.1014E-02 (RYD) N*= 19.0570 MU= .9430

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.150	82736.11	-3.771E+01	-1.227E+02	5.357E+00	8.507E+01	9.043E+01
.0100	.136	.286	43364.49	-1.178E+01	-4.298E+01	9.979E-01	1.991E+01	2.091E+01
.0200	.272	.422	29382.33	-5.697E+00	-2.265E+01	3.443E-01	8.165E+00	8.509E+00
.0600	.816	.966	12832.20	-1.114E+00	-5.583E+00	3.016E-02	1.135E+00	1.166E+00
.1000	1.361	1.510	8208.57	-4.319E-01	-2.527E+00	7.083E-03	3.637E-01	3.708E-01
.2000	2.721	2.871	4318.52	-9.535E-02	-7.411E-01	6.561E-04	5.946E-02	6.011E-02
.3000	4.082	4.232	2929.99	-3.278E-02	-3.241E-01	1.143E-04	1.676E-02	1.688E-02
.4000	5.442	5.592	2217.12	-1.305E-02	-1.667E-01	2.393E-05	5.860E-03	5.884E-03
.5000	6.803	6.953	1783.25	-5.084E-03	-9.272E-02	4.517E-06	2.254E-03	2.258E-03
.6000	8.164	8.313	1491.40	-1.340E-03	-5.342E-02	3.752E-07	8.946E-04	8.949E-04
.7000	9.524	9.674	1281.65	5.024E-04	-3.068E-02	6.138E-08	3.433E-04	3.434E-04
.8000	10.885	11.035	1123.62	1.520E-03	-1.684E-02	6.410E-07	1.179E-04	1.186E-04
.9000	12.245	12.395	1000.28	2.063E-03	-8.133E-03	1.326E-06	3.091E-05	3.224E-05
1.0000	13.606	13.756	901.34	2.415E-03	-2.481E-03	2.017E-06	3.191E-06	5.209E-06
2.0000	27.212	27.362	453.14	2.702E-03	8.126E-03	5.022E-06	6.812E-05	7.315E-05
4.0000	54.424	54.574	227.19	1.775E-03	6.197E-03	4.324E-06	7.902E-05	8.335E-05
6.0000	81.635	81.785	151.60	1.113E-03	4.722E-03	2.546E-06	6.875E-05	7.130E-05

ZN II 4F EO= 2.5251E-01 (RYD) N*= 3.9801 MU= .0199

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.436	3608.89	-3.923E-01	6.200E+00	1.424E-02	4.742E+00	4.756E+00
.0600	.816	4.252	2916.00	-2.334E-01	3.656E+00	6.240E-03	2.041E+00	2.047E+00
.2000	2.721	6.157	2013.82	-9.395E-02	1.390E+00	1.463E-03	4.269E-01	4.284E-01
.6000	8.164	11.599	1068.93	-2.473E-02	2.219E-01	1.910E-04	2.050E-02	2.069E-02
1.0000	13.606	17.041	727.56	-1.178E-02	6.836E-02	6.371E-05	2.859E-03	2.923E-03

ZN II 5F EO= 1.6131E-01 (RYD) N*= 4.9796 MU= .0204

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.195	5649.08	-9.635E-01	1.144E+01	5.487E-02	1.032E+01	1.037E+01
.0200	.272	2.467	5025.95	-7.348E-01	8.962E+00	3.587E-02	7.114E+00	7.150E+00
.1000	1.361	3.555	3487.27	-3.013E-01	4.021E+00	8.694E-03	2.064E+00	2.072E+00
.2000	2.721	4.916	2522.10	-1.313E-01	1.875E+00	2.284E-03	6.203E-01	6.226E-01
.6000	8.164	10.358	1196.97	-2.334E-02	2.573E-01	1.519E-04	2.463E-02	2.478E-02
1.0000	13.606	15.801	784.69	-1.083E-02	7.355E-02	4.995E-05	3.069E-03	3.119E-03

ZN II 6F EO= 1.1188E-01 (RYD) N*= 5.9793 MU= .0207

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.522	8144.92	-1.821E+00	1.702E+01	1.360E-01	1.584E+01	1.597E+01
.0200	.272	1.794	6909.73	-1.265E+00	1.244E+01	7.732E-02	9.965E+00	1.004E+01
.0600	.816	2.339	5301.71	-6.842E-01	7.352E+00	2.948E-02	4.539E+00	4.568E+00
.2000	2.721	4.243	2921.84	-1.525E-01	2.029E+00	2.657E-03	6.274E-01	6.301E-01
.6000	8.164	9.686	1280.08	-2.034E-02	2.496E-01	1.079E-04	2.166E-02	2.177E-02
1.0000	13.606	15.128	819.57	-9.110E-03	6.844E-02	3.381E-05	2.545E-03	2.579E-03

ZN II 8F EO= 6.2830E-02 (RYD) N*= 7.9789 MU= .0211

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.855	14503.62	-4.436E+00	2.941E+01	4.531E-01	2.654E+01	2.700E+01
.0600	.816	1.671	7418.91	-1.043E+00	8.867E+00	4.900E-02	4.718E+00	4.767E+00
.2000	2.721	3.576	3467.13	-1.604E-01	1.917E+00	2.479E-03	4.719E-01	4.743E-01
.6000	8.164	9.018	1374.81	-1.514E-02	2.050E-01	5.567E-05	1.361E-02	1.366E-02
1.0000	13.606	14.461	857.40	-6.412E-03	5.387E-02	1.601E-05	1.507E-03	1.523E-03

ZN II 10F EO= 4.0171E-02 (RYD) N*= 9.9788 MU= .0212

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.547	22685.00	-8.268E+00	4.351E+01	1.006E+00	3.715E+01	3.816E+01
.0200	.272	.819	15144.76	-3.666E+00	2.219E+01	2.962E-01	1.447E+01	1.477E+01
.0600	.816	1.363	9097.17	-1.225E+00	9.074E+00	5.507E-02	4.030E+00	4.085E+00
.2000	2.721	3.268	3794.25	-1.474E-01	1.652E+00	1.912E-03	3.204E-01	3.223E-01
.6000	8.164	8.710	1423.48	-1.156E-02	1.633E-01	3.137E-05	8.339E-03	8.370E-03

ZN II 12F EO= 2.7877E-02 (RYD) N*= 11.9786 MU= .0214

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.379	32689.01	-1.332E+01	5.933E+01	1.812E+00	4.794E+01	4.975E+01
.0200	.272	.651	19033.56	-4.592E+00	2.455E+01	3.699E-01	1.410E+01	1.447E+01
.0600	.816	1.196	10369.82	-1.271E+00	8.646E+00	5.198E-02	3.209E+00	3.261E+00
.2000	2.721	3.100	3998.95	-1.296E-01	1.397E+00	1.403E-03	2.174E-01	2.188E-01
.6000	8.164	8.543	1451.35	-9.132E-03	1.317E-01	1.919E-05	5.318E-03	5.337E-03

ZN II 16F EO= 1.5667E-02 (RYD) N*= 15.9785 MU= .0215

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.213	58164.81	-2.703E+01	9.598E+01	4.196E+00	7.052E+01	7.472E+01
.0200	.272	.485	25549.33	-5.580E+00	2.572E+01	4.069E-01	1.153E+01	1.193E+01
.0600	.816	1.030	12043.13	-1.169E+00	7.238E+00	3.786E-02	1.937E+00	1.975E+00
.1000	1.361	1.574	7878.37	-4.506E-01	3.383E+00	8.605E-03	6.468E-01	6.554E-01
.2000	2.721	2.934	4225.35	-9.773E-02	1.012E+00	7.548E-04	1.079E-01	1.086E-01
.6000	8.164	8.377	1480.13	-6.147E-03	9.059E-02	8.524E-06	2.469E-03	2.477E-03

ZN II 20F EO= 1.0022E-02 (RYD) N*= 19.9785 MU= .0215

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.136	90930.88	-4.550E+01	1.391E+02	7.601E+00	9.473E+01	1.023E+02
.0050	.068	.204	60664.06	-2.159E+01	7.361E+01	2.566E+00	3.976E+01	4.233E+01
.0200	.272	.408	30353.80	-5.721E+00	2.431E+01	3.600E-01	8.665E+00	9.025E+00
.0600	.816	.953	13014.11	-9.989E-01	5.900E+00	2.560E-02	1.191E+00	1.217E+00
.1000	1.361	1.497	8282.63	-3.644E-01	2.643E+00	5.353E-03	3.754E-01	3.808E-01
.2000	2.721	2.858	4338.93	-7.515E-02	7.625E-01	4.346E-04	5.965E-02	6.009E-02
.6000	8.164	8.300	1493.83	-4.483E-03	6.655E-02	4.492E-06	1.320E-03	1.325E-03

GA III 4S EO= 2.2454E+00 (RYD) N*= 2.0020 MU= 1.9980

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	30.551	405.84	.000	2.889E-01	.000	1.602E-01	1.602E-01
.0200	.272	30.823	402.25	.000	2.877E-01	.000	1.603E-01	1.603E-01
.0600	.816	31.367	395.27	.000	2.853E-01	.000	1.605E-01	1.605E-01
.1000	1.361	31.911	388.53	.000	2.828E-01	.000	1.604E-01	1.604E-01
1.0000	13.606	44.157	280.79	.000	2.233E-01	.000	1.384E-01	1.384E-01
4.0000	54.424	84.974	145.91	.000	1.123E-01	.000	6.731E-02	6.731E-02

GA III 5S EO= 9.7673E-01 (RYD) N*= 3.0355 MU= 1.9645

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	13.289	932.98	.000	4.882E-01	.000	1.990E-01	1.990E-01
1.0000	13.606	26.895	461.00	.000	2.603E-01	.000	1.145E-01	1.145E-01
2.0000	27.212	40.501	306.13	.000	1.618E-01	.000	6.666E-02	6.666E-02
8.0000	108.847	122.137	101.51	.000	4.001E-02	.000	1.228E-02	1.228E-02
10.0000	136.059	149.348	83.02	.000	3.088E-02	.000	8.948E-03	8.948E-03

GA III 6S EO= 5.5014E-01 (RYD) N*= 4.0447 MU= 1.9553

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.485	1656.42	.000	7.056E-01	.000	2.342E-01	2.342E-01
1.0000	13.606	21.091	587.86	.000	2.536E-01	.000	8.522E-02	8.522E-02
4.0000	54.424	61.909	200.27	.000	6.439E-02	.000	1.613E-02	1.613E-02
6.0000	81.635	89.121	139.12	.000	3.985E-02	.000	8.895E-03	8.895E-03

GA III 8S EO= 2.4581E-01 (RYD) N*= 6.0510 MU= 1.9490

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.344	3707.27	.000	1.179E+00	.000	2.922E-01	2.922E-01
.6000	8.164	11.508	1077.40	.000	3.264E-01	.000	7.706E-02	7.706E-02
1.0000	13.606	16.950	731.47	.000	2.010E-01	.000	4.304E-02	4.304E-02
4.0000	54.424	57.768	214.63	.000	3.963E-02	.000	5.701E-03	5.701E-03

GA III 10S EO= 1.3877E-01 (RYD) N*= 8.0532 MU= 1.9468

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.888	6566.64	.000	1.681E+00	.000	3.351E-01	3.351E-01
.6000	8.164	10.052	1233.49	.000	2.676E-01	.000	4.522E-02	4.522E-02
1.0000	13.606	15.494	800.22	.000	1.529E-01	.000	2.275E-02	2.275E-02
2.0000	27.212	29.100	426.07	.000	6.606E-02	.000	7.979E-03	7.979E-03
4.0000	54.424	56.312	220.18	.000	2.698E-02	.000	2.576E-03	2.576E-03

GA III 12S EO= 8.9031E-02 (RYD) N*= 10.0543 MU= 1.9457

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.211	10235.36	.000	2.209E+00	.000	3.713E-01	3.713E-01
.6000	8.164	9.375	1322.53	.000	2.162E-01	.000	2.753E-02	2.753E-02
1.0000	13.606	14.817	836.77	.000	1.184E-01	.000	1.305E-02	1.305E-02
2.0000	27.212	28.423	436.22	.000	4.935E-02	.000	4.350E-03	4.350E-03

GA III 16S EO= 4.5559E-02 (RYD) N*= 14.0551 MU= 1.9449

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.620	20002.04	.000	3.343E+00	.000	4.354E-01	4.354E-01
.2000	2.721	3.341	3711.00	.000	5.130E-01	.000	5.525E-02	5.525E-02
.8000	10.885	11.505	1077.71	.000	1.022E-01	.000	7.550E-03	7.550E-03
1.0000	13.606	14.226	871.56	.000	7.695E-02	.000	5.293E-03	5.293E-03

GA III 20S EO= 2.7607E-02 (RYD) N*= 18.0555 MU= 1.9445

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.376	33008.30	.000	4.574E+00	.000	4.938E-01	4.938E-01
.1000	1.361	1.736	7141.19	.000	8.322E-01	.000	7.556E-02	7.556E-02
.4000	5.442	5.818	2131.09	.000	1.759E-01	.000	1.131E-02	1.131E-02
.6000	8.164	8.539	1451.97	.000	1.056E-01	.000	5.983E-03	5.983E-03
1.0000	13.606	13.982	886.79	.000	5.448E-02	.000	2.608E-03	2.608E-03

GA III 4P EO= 1.6691E+00 (RYD) N*= 2.3221 MU= 1.6779

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	22.710	545.97	6.953E-01	-7.217E-01	2.300E-01	4.955E-01	7.255E-01
1.0000	13.606	36.315	341.41	3.301E-01	-1.565E-01	8.287E-02	3.728E-02	1.202E-01
2.0000	27.212	49.921	248.36	1.997E-01	-2.058E-02	4.168E-02	8.856E-04	4.257E-02
2.5000	34.015	56.724	218.58	1.632E-01	7.419E-03	3.166E-02	1.308E-04	3.179E-02
3.0000	40.818	63.527	195.17	1.366E-01	2.422E-02	2.481E-02	1.561E-03	2.637E-02
6.0000	81.635	104.345	118.82	6.263E-02	4.771E-02	8.574E-03	9.948E-03	1.852E-02
8.0000	108.847	131.557	94.25	4.358E-02	4.520E-02	5.233E-03	1.126E-02	1.649E-02
10.0000	136.059	158.769	78.09	3.249E-02	4.093E-02	3.510E-03	1.114E-02	1.465E-02

GA III 5P EO= 7.9862E-01 (RYD) N*= 3.3570 MU= 1.6430

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.866	1141.05	1.446E+00	-1.618E+00	4.762E-01	1.192E+00	1.668E+00
.0600	.816	11.682	1061.32	1.285E+00	-1.375E+00	4.038E-01	9.247E-01	1.328E+00
.6000	8.164	19.030	651.55	5.778E-01	-4.159E-01	1.331E-01	1.379E-01	2.710E-01
1.0000	13.606	24.472	506.65	3.829E-01	-2.004E-01	7.516E-02	4.119E-02	1.163E-01
2.0000	27.212	38.078	325.61	1.861E-01	-2.825E-02	2.761E-02	1.273E-03	2.889E-02
2.5000	34.015	44.881	276.26	1.424E-01	-6.518E-04	1.906E-02	7.987E-07	1.906E-02
3.0000	40.818	51.684	239.89	1.132E-01	1.426E-02	1.388E-02	4.405E-04	1.432E-02
4.0000	54.424	65.290	189.90	7.755E-02	2.720E-02	8.225E-03	2.024E-03	1.025E-02
6.0000	81.635	92.501	134.04	4.427E-02	3.123E-02	3.797E-03	3.780E-03	7.578E-03
8.0000	108.847	119.713	103.57	2.932E-02	2.876E-02	2.155E-03	4.148E-03	6.303E-03
10.0000	136.059	146.925	84.39	2.117E-02	2.550E-02	1.379E-03	4.003E-03	5.382E-03

GA III   6P   EO= 4.7166E-01 (RYD)   N*= 4.3683   MU= 1.6317

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.417	1932.05	2.433E+00	-2.784E+00	7.958E-01	2.083E+00	2.879E+00
.2000	2.721	9.139	1356.74	1.357E+00	-1.334E+00	3.523E-01	6.816E-01	1.034E+00
.6000	8.164	14.581	850.33	6.268E-01	-4.594E-01	1.200E-01	1.289E-01	2.489E-01
1.0000	13.606	20.023	619.21	3.710E-01	-1.989E-01	5.772E-02	3.319E-02	9.092E-02
2.0000	27.212	33.629	368.69	1.575E-01	-2.628E-02	1.748E-02	9.733E-04	1.846E-02
2.5000	34.015	40.432	306.65	1.163E-01	-2.416E-03	1.146E-02	9.884E-06	1.147E-02
3.0000	40.818	47.235	262.49	9.010E-02	9.800E-03	8.031E-03	1.900E-04	8.221E-03
4.0000	54.424	60.841	203.79	5.954E-02	1.977E-02	4.517E-03	9.960E-04	5.513E-03
6.0000	81.635	88.053	140.81	3.265E-02	2.237E-02	1.966E-03	1.846E-03	3.812E-03
8.0000	108.847	115.265	107.57	2.116E-02	2.032E-02	1.081E-03	1.993E-03	3.074E-03
10.0000	136.059	142.476	87.02	1.507E-02	1.785E-02	6.777E-04	1.901E-03	2.579E-03

GA III   8P   EO= 2.2133E-01 (RYD)   N*= 6.3767   MU= 1.6233

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.011	4117.14	5.076E+00	-5.873E+00	1.625E+00	4.352E+00	5.977E+00
.0600	.816	3.828	3239.08	3.406E+00	-3.751E+00	9.301E-01	2.256E+00	3.186E+00
.2000	2.721	5.733	2162.81	1.739E+00	-1.718E+00	3.630E-01	7.091E-01	1.072E+00
.6000	8.164	11.175	1109.50	5.718E-01	-4.217E-01	7.654E-02	8.324E-02	1.598E-01
1.0000	13.606	16.617	746.12	2.951E-01	-1.601E-01	3.032E-02	1.785E-02	4.817E-02
2.0000	27.212	30.223	410.23	1.089E-01	-1.925E-02	7.511E-03	4.693E-04	7.981E-03
2.5000	34.015	37.026	334.86	7.774E-02	-2.487E-03	4.688E-03	9.596E-06	4.697E-03
3.0000	40.818	43.829	282.89	5.879E-02	5.673E-03	3.173E-03	5.909E-05	3.232E-03
4.0000	54.424	57.435	215.87	3.763E-02	1.198E-02	1.703E-03	3.451E-04	2.048E-03
6.0000	81.635	84.647	146.47	1.994E-02	1.336E-02	7.051E-04	6.329E-04	1.338E-03
8.0000	108.847	111.859	110.84	1.269E-02	1.199E-02	3.773E-04	6.732E-04	1.051E-03
10.0000	136.059	139.071	89.15	8.938E-03	1.045E-02	2.327E-04	6.357E-04	8.684E-04

GA III   10P   EO= 1.2817E-01 (RYD)   N*= 8.3798   MU= 1.6202

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.744	7110.03	8.557E+00	-9.906E+00	2.674E+00	7.169E+00	9.844E+00
.1000	1.361	3.104	3993.87	3.273E+00	-3.486E+00	6.967E-01	1.581E+00	2.277E+00
.2000	2.721	4.465	2776.85	1.784E+00	-1.759E+00	2.977E-01	5.790E-01	8.767E-01
.6000	8.164	9.907	1251.46	4.705E-01	-3.468E-01	4.595E-02	4.992E-02	9.586E-02
1.0000	13.606	15.350	807.74	2.263E-01	-1.231E-01	1.646E-02	9.739E-03	2.620E-02
2.0000	27.212	28.956	428.19	7.832E-02	-1.410E-02	3.720E-03	2.413E-04	3.961E-03
2.5000	34.015	35.759	346.73	5.509E-02	-1.976E-03	2.273E-03	5.850E-06	2.279E-03
3.0000	40.818	42.562	291.31	4.124E-02	3.801E-03	1.517E-03	2.576E-05	1.542E-03
4.0000	54.424	56.167	220.74	2.606E-02	8.163E-03	7.988E-04	1.568E-04	9.556E-04
6.0000	81.635	83.379	148.70	1.362E-02	9.049E-03	3.241E-04	2.860E-04	6.102E-04
8.0000	108.847	110.591	112.11	8.608E-03	8.080E-03	1.717E-04	3.025E-04	4.742E-04
10.0000	136.059	137.803	89.97	6.038E-03	7.020E-03	1.052E-04	2.845E-04	3.897E-04

GA III   12P   EO= 8.3511E-02 (RYD)   N*= 10.3813   MU= 1.6187

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.136	10912.01	1.283E+01	-1.482E+01	3.917E+00	1.046E+01	1.438E+01
.0200	.272	1.408	8803.63	8.973E+00	-1.018E+01	2.375E+00	6.120E+00	8.495E+00
.1000	1.361	2.497	4965.75	3.453E+00	-3.669E+00	6.237E-01	1.408E+00	2.032E+00
.2000	2.721	3.857	3214.23	1.669E+00	-1.642E+00	2.250E-01	4.356E-01	6.606E-01
.6000	8.164	9.300	1333.22	3.820E-01	-2.813E-01	2.843E-02	3.082E-02	5.926E-02
1.0000	13.606	14.742	841.03	1.766E-01	-9.611E-02	9.633E-03	5.705E-03	1.534E-02
2.0000	27.212	28.348	437.37	5.909E-02	-1.073E-02	2.073E-03	1.367E-04	2.210E-03
2.5000	34.015	35.151	352.72	4.127E-02	-1.544E-03	1.254E-03	3.511E-06	1.257E-03
3.0000	40.818	41.954	295.53	3.074E-02	2.770E-03	8.303E-04	1.349E-05	8.438E-04
4.0000	54.424	55.560	223.16	1.929E-02	6.000E-03	4.331E-04	8.378E-05	5.169E-04
6.0000	81.635	82.772	149.79	1.002E-02	6.629E-03	1.741E-04	1.524E-04	3.265E-04
8.0000	108.847	109.984	112.73	6.309E-03	5.904E-03	9.171E-05	1.606E-04	2.523E-04
10.0000	136.059	137.195	90.37	4.416E-03	5.119E-03	5.603E-05	1.506E-04	2.066E-04

GA III   16P   EO= 4.3508E-02 (RYD)   N*= 14.3826   MU= 1.6174

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.592	20944.84	2.364E+01	-2.717E+01	6.930E+00	1.831E+01	2.524E+01
.0200	.272	.864	14348.87	1.259E+01	-1.422E+01	2.869E+00	7.318E+00	1.019E+01
.0600	.816	1.408	8803.84	5.574E+00	-6.088E+00	9.166E-01	2.187E+00	3.103E+00
.1000	1.361	1.953	6349.94	3.230E+00	-3.417E+00	4.266E-01	9.550E-01	1.382E+00
.2000	2.721	3.313	3742.25	1.333E+00	-1.307E+00	1.233E-01	2.371E-01	3.604E-01
.4000	5.442	6.034	2054.68	4.874E-01	-4.134E-01	3.003E-02	4.321E-02	7.324E-02
.8000	10.885	11.477	1080.33	1.657E-01	-1.052E-01	6.597E-03	5.321E-03	1.192E-02
1.0000	13.606	14.198	873.27	1.160E-01	-6.312E-02	3.999E-03	2.370E-03	6.368E-03
2.0000	27.212	27.804	445.93	3.757E-02	-6.867E-03	8.221E-04	5.492E-05	8.770E-04
2.5000	34.015	34.607	358.27	2.606E-02	-1.025E-03	4.923E-04	1.524E-06	4.938E-04
3.0000	40.818	41.410	299.41	1.931E-02	1.721E-03	3.235E-04	5.138E-06	3.286E-04
4.0000	54.424	55.016	225.37	1.205E-02	3.737E-03	1.674E-04	3.218E-05	1.996E-04
6.0000	81.635	82.227	150.78	6.223E-03	4.112E-03	6.670E-05	5.825E-05	1.250E-04
8.0000	108.847	109.439	113.29	3.907E-03	3.643E-03	3.499E-05	6.086E-05	9.585E-05
10.0000	136.059	136.651	90.73	2.726E-03	3.155E-03	2.128E-05	5.699E-05	7.827E-05

GA III 20P EO= 2.8632E-02 (RYD) N*= 18.3831 MU= 1.6169

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.362	34217.02	3.734E+01	-4.272E+01	1.058E+01	2.771E+01	3.829E+01
.0200	.272	.634	19541.68	1.468E+01	-1.652E+01	2.865E+00	7.250E+00	1.011E+01
.0600	.816	1.179	10518.84	5.223E+00	-5.687E+00	6.735E-01	1.597E+00	2.271E+00
.0800	1.088	1.451	8545.91	3.691E+00	-3.957E+00	4.141E-01	9.515E-01	1.366E+00
.2000	2.721	3.084	4020.91	1.045E+00	-1.023E+00	7.052E-02	1.351E-01	2.056E-01
.4000	5.442	5.805	2135.96	3.612E-01	-3.060E-01	1.586E-02	2.277E-02	3.863E-02
.6000	8.164	8.526	1454.23	1.893E-01	-1.391E-01	6.401E-03	6.909E-03	1.331E-02
1.0000	13.606	13.968	887.63	8.264E-02	-4.499E-02	1.998E-03	1.185E-03	3.183E-03
2.0000	27.212	27.574	449.65	2.640E-02	-4.831E-03	4.027E-04	2.697E-05	4.296E-04
2.5000	34.015	34.377	360.67	1.826E-02	-7.323E-04	2.401E-04	7.722E-07	2.409E-04
3.0000	40.818	41.180	301.08	1.351E-02	1.192E-03	1.575E-04	2.452E-06	1.599E-04
4.0000	54.424	54.786	226.31	8.414E-03	2.593E-03	8.124E-05	1.543E-05	9.667E-05
6.0000	81.635	81.998	151.21	4.328E-03	2.847E-03	3.218E-05	2.783E-05	6.001E-05
8.0000	108.847	109.210	113.53	2.718E-03	2.518E-03	1.690E-05	2.901E-05	4.591E-05
10.0000	136.059	136.422	90.88	1.889E-03	2.188E-03	1.020E-05	2.735E-05	3.755E-05

GA III 4D EO= 9.3712E-01 (RYD) N*= 3.0990 MU= .9010

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	12.750	972.41	2.952E-01	-1.184E+00	2.792E-02	6.738E-01	7.018E-01
.4000	5.442	18.193	681.51	1.911E-01	-3.086E-01	1.670E-02	6.533E-02	8.204E-02
.6000	8.164	20.914	592.84	1.614E-01	-1.364E-01	1.370E-02	1.467E-02	2.837E-02
.8000	10.885	23.635	524.58	1.391E-01	-3.320E-02	1.150E-02	9.825E-04	1.248E-02
1.0000	13.606	26.356	470.42	1.218E-01	3.087E-02	9.826E-03	9.472E-04	1.077E-02
2.0000	27.212	39.962	310.26	7.256E-02	1.314E-01	5.288E-03	2.602E-02	3.130E-02
4.0000	54.424	67.174	184.57	3.704E-02	1.225E-01	2.317E-03	3.801E-02	4.033E-02
6.0000	81.635	94.386	131.36	2.344E-02	9.673E-02	1.303E-03	3.330E-02	3.460E-02
8.0000	108.847	121.598	101.96	1.650E-02	7.684E-02	8.319E-04	2.707E-02	2.790E-02

GA III 5D EO= 5.3244E-01 (RYD) N*= 4.1114 MU= .8886

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.244	1711.50	4.373E-01	-2.652E+00	3.482E-02	1.921E+00	1.955E+00
.1000	1.361	8.605	1440.88	3.530E-01	-1.741E+00	2.695E-02	9.839E-01	1.011E+00
.4000	5.442	12.687	977.30	2.198E-01	-5.817E-01	1.541E-02	1.619E-01	1.773E-01
.6000	8.164	15.408	804.70	1.734E-01	-2.889E-01	1.164E-02	4.849E-02	6.014E-02
.8000	10.885	18.129	683.91	1.419E-01	-1.317E-01	9.175E-03	1.186E-02	2.104E-02
1.0000	13.606	20.850	594.65	1.192E-01	-4.150E-02	7.451E-03	1.354E-03	8.805E-03
2.0000	27.212	34.456	359.84	6.289E-02	8.827E-02	3.426E-03	1.012E-02	1.355E-02
4.0000	54.424	61.668	201.05	2.908E-02	8.755E-02	1.311E-03	1.782E-02	1.913E-02
6.0000	81.635	88.880	139.50	1.761E-02	6.833E-02	6.929E-04	1.564E-02	1.634E-02
8.0000	108.847	116.092	106.80	1.209E-02	5.373E-02	4.269E-04	1.264E-02	1.306E-02

GA III 6D EO= 3.4386E-01 (RYD) N*= 5.1160 MU= .8840

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.679	2650.12	5.613E-01	-4.386E+00	3.706E-02	3.393E+00	3.430E+00
.2000	2.721	7.400	1675.56	3.223E-01	-1.590E+00	1.932E-02	7.058E-01	7.251E-01
.4000	5.442	10.121	1225.05	2.217E-01	-7.137E-01	1.251E-02	1.944E-01	2.069E-01
.6000	8.164	12.842	965.47	1.661E-01	-3.457E-01	8.906E-03	5.786E-02	6.676E-02
.8000	10.885	15.563	796.66	1.310E-01	-1.650E-01	6.717E-03	1.597E-02	2.269E-02
1.0000	13.606	18.284	678.10	1.071E-01	-6.734E-02	5.272E-03	3.126E-03	8.398E-03
2.0000	27.212	31.890	388.79	5.233E-02	6.372E-02	2.195E-03	4.883E-03	7.078E-03
4.0000	54.424	59.102	209.78	2.287E-02	6.574E-02	7.771E-04	9.630E-03	1.041E-02
6.0000	81.635	86.314	143.65	1.353E-02	5.096E-02	3.975E-04	8.450E-03	8.847E-03
8.0000	108.847	113.526	109.21	9.178E-03	3.986E-02	2.404E-04	6.799E-03	7.040E-03

GA III 8D EO= 1.7754E-01 (RYD) N*= 7.1200 MU= .8800

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.416	5132.86	7.413E-01	-8.635E+00	3.337E-02	6.791E+00	6.824E+00
.2000	2.721	5.137	2413.72	3.143E-01	-1.958E+00	1.275E-02	7.425E-01	7.552E-01
.4000	5.442	7.858	1577.85	1.932E-01	-7.450E-01	7.370E-03	1.644E-01	1.718E-01
.6000	8.164	10.579	1171.99	1.357E-01	-3.374E-01	4.896E-03	4.540E-02	5.030E-02
1.0000	13.606	16.021	773.88	8.116E-02	-7.125E-02	2.653E-03	3.066E-03	5.719E-03
1.5000	20.409	22.824	543.22	5.148E-02	1.482E-02	1.520E-03	1.890E-04	1.709E-03
2.0000	27.212	29.627	418.49	3.651E-02	3.859E-02	9.925E-04	1.663E-03	2.656E-03
3.0000	40.818	43.233	286.78	2.195E-02	4.550E-02	5.238E-04	3.375E-03	3.899E-03
4.0000	54.424	56.839	218.14	1.509E-02	4.155E-02	3.251E-04	3.701E-03	4.026E-03
5.0000	68.030	70.445	176.00	1.119E-02	3.653E-02	2.219E-04	3.544E-03	3.766E-03

GA III 10D EO= 1.0817E-01 (RYD) N*= 9.1215 MU= .8785

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.472	8424.36	8.085E-01	-1.386E+01	2.418E-02	1.067E+01	1.069E+01
.0200	.272	1.744	7109.81	6.786E-01	-1.027E+01	2.019E-02	6.939E+00	6.959E+00
.1000	1.361	2.832	4377.51	4.155E-01	-4.226E+00	1.229E-02	1.908E+00	1.920E+00
.2000	2.721	4.193	2957.02	2.756E-01	-1.963E+00	8.005E-03	6.095E-01	6.175E-01
.6000	8.164	9.635	1286.79	1.074E-01	-2.873E-01	2.792E-03	2.998E-02	3.278E-02
.8000	10.885	12.356	1003.41	7.932E-02	-1.343E-01	1.954E-03	8.408E-03	1.036E-02
1.0000	13.606	15.078	822.32	6.181E-02	-6.075E-02	1.448E-03	2.098E-03	3.546E-03
1.5000	20.409	21.881	566.65	3.824E-02	8.051E-03	8.041E-04	5.347E-05	8.576E-04
2.0000	27.212	28.684	432.26	2.672E-02	2.648E-02	5.147E-04	7.581E-04	1.273E-03
3 0000	40.818	42.290	293.18	1.581E-02	3.188E-02	2.656E-04	1.621E-03	1.887E-03
4.0000	54.424	55.895	221.82	1.077E-02	2.912E-02	1.629E-04	1.787E-03	1.949E-03
5.0000	68.030	69.501	178.39	7.941E-03	2.556E-02	1.102E-04	1.711E-03	1.822E-03
6.0000	81.635	83.107	149.19	6.169E-03	2.235E-02	7.951E-05	1.565E-03	1.644E-03

GA III 12D EO= 7.2754E-02 (RYD) N*= 11.1223 MU= .8777

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.990	12525.37	7.440E-01	-2.002E+01	1.377E-02	1.496E+01	1.497E+01
.0200	.272	1.262	9824.59	6.163E-01	-1.318E+01	1.205E-02	8.264E+00	8.276E+00
.0600	.816	1.806	6864.35	4.611E-01	-7.008E+00	9.653E-03	3.345E+00	3.354E+00
.2000	2.721	3.711	3340.99	2.343E-01	-1.819E+00	5.121E-03	4.629E-01	4.680E-01
.4000	5.442	6.432	1927.57	1.293E-01	-5.689E-01	2.705E-03	7.850E-02	8.120E-02
.6000	8.164	9.153	1354.53	8.590E-02	-2.387E-01	1.698E-03	1.967E-02	2.137E-02
.8000	10.885	11.875	1044.13	6.266E-02	-1.104E-01	1.172E-03	5.460E-03	6.632E-03
1.0000	13.606	14.596	849.47	4.840E-02	-5.017E-02	8.595E-04	1.385E-03	2.245E-03
1.5000	20.409	21.399	579.41	2.953E-02	5.049E-03	4.692E-04	2.057E-05	4.897E-04
2.0000	27.212	28.202	439.64	2.047E-02	1.960E-02	2.971E-04	4.084E-04	7.055E-04
3.0000	40.818	41.808	296.56	1.201E-02	2.388E-02	1.515E-04	8.987E-04	1.050E-03
4.0000	54.424	55.414	223.75	8.136E-03	2.180E-02	9.221E-05	9.933E-04	1.086E-03
5.0000	68.030	69.019	179.64	5.985E-03	1.912E-02	6.214E-05	9.513E-04	1.013E-03

GA III 16D EO= 3.9352E-02 (RYD) N*= 15.1230 MU= .8770

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.535	23156.78	1.929E-01	-3.498E+01	5.008E-04	2.470E+01	2.470E+01
.0100	.136	.671	18464.62	3.072E-01	-2.394E+01	1.593E-03	1.451E+01	1.451E+01
.0200	.272	.808	15353.59	3.500E-01	-1.753E+01	2.486E-03	9.360E+00	9.363E+00
.0600	.816	1.352	9172.10	3.293E-01	-7.230E+00	3.685E-03	2.664E+00	2.668E+00
.1000	1.361	1.896	6539.32	2.684E-01	-3.968E+00	3.434E-03	1.125E+00	1.129E+00
.2000	2.721	3.257	3807.23	1.691E-01	-1.449E+00	2.342E-03	2.578E-01	2.602E-01
.4000	5.442	5.978	2074.12	8.968E-02	-4.136E-01	1.208E-03	3.856E-02	3.977E-02
.6000	8.164	8.699	1425.30	5.828E-02	-1.680E-01	7.428E-04	9.254E-03	9.997E-03
.8000	10.885	11.420	1085.68	4.196E-02	-7.675E-02	5.053E-04	2.537E-03	3.042E-03
1.0000	13.606	14.141	876.77	3.217E-02	-3.495E-02	3.678E-04	6.515E-04	1.019E-03
1.5000	20.409	20.944	591.98	1.934E-02	2.596E-03	1.969E-04	5.320E-06	2.022E-04
2.0000	27.212	27.747	446.84	1.332E-02	1.232E-02	1.237E-04	1.587E-04	2.824E-04
3.0000	40.818	41.353	299.82	7.726E-03	1.517E-02	6.204E-05	3.589E-04	4.209E-04
4.0000	54.424	54.959	225.60	5.219E-03	1.386E-02	3.763E-05	3.981E-04	4.357E-04
5.0000	68.030	68.565	180.83	3.836E-03	1.214E-02	2.536E-05	3.811E-04	4.065E-04

GA III 20D EO= 2.4610E-02 (RYD) N*= 19.1233 MU= .8767

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.335	37027.86	-9.365E-01	-5.330E+01	7.381E-03	3.587E+01	3.588E+01
.0100	.136	.471	26329.36	-2.152E-01	-3.028E+01	5.479E-04	1.628E+01	1.628E+01
.0200	.272	.607	20427.28	4.968E-02	-1.981E+01	3.765E-05	8.983E+00	8.983E+00
.0600	.816	1.151	10770.17	2.274E-01	-6.665E+00	1.496E-03	1.928E+00	1.930E+00
.1000	1.361	1.695	7312.94	1.994E-01	-3.378E+00	1.695E-03	7.296E-01	7.313E-01
.2000	2.721	3.056	4057.11	1.266E-01	-1.141E+00	1.231E-03	1.500E-01	1.512E-01
.4000	5.442	5.777	2146.13	6.587E-02	-3.106E-01	6.301E-04	2.101E-02	2.164E-02
.6000	8.164	8.498	1458.94	4.235E-02	-1.241E-01	3.830E-04	4.934E-03	5.318E-03
1.0000	13.606	13.941	889.38	2.310E-02	-2.567E-02	1.869E-04	3.465E-04	5.334E-04
1.5000	20.409	20.744	597.71	1.384E-02	1.614E-03	9.995E-05	2.038E-06	1.020E-04
2.0000	27.212	27.547	450.10	9.464E-03	8.652E-03	6.202E-05	7.775E-05	1.398E-04
3.0000	40.818	41.153	301.28	5.506E-03	1.071E-02	3.136E-05	1.780E-04	2.094E-04
4.0000	54.424	54.759	226.42	3.680E-03	9.780E-03	1.864E-05	1.975E-04	2.161E-04
5.0000	68.030	68.364	181.36	2.706E-03	8.569E-03	1.258E-05	1.893E-04	2.019E-04
6.0000	81.635	81.970	151.26	2.092E-03	7.472E-03	9.019E-06	1.725E-04	1.816E-04

GA III 4F EO= 5.6465E-01 (RYD) N*= 3.9924 MU= .0076

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.683	1613.87	-2.958E-02	2.835E+00	1.811E-04	2.217E+00	2.217E+00
.0600	.816	8.499	1458.85	-1.508E-02	2.232E+00	5.205E-05	1.521E+00	1.521E+00
.1000	1.361	9.043	1371.06	-8.161E-03	1.925E+00	1.622E-05	1.203E+00	1.203E+00
.2000	2.721	10.404	1191.75	2.981E-03	1.373E+00	2.489E-06	7.045E-01	7.045E-01
.4000	5.442	13.125	944.67	1.169E-02	7.772E-01	4.834E-05	2.847E-01	2.848E-01
.6000	8.164	15.846	782.44	1.338E-02	4.861E-01	7.641E-05	1.344E-01	1.345E-01
.8000	10.885	18.567	667.77	1.283E-02	3.260E-01	8.234E-05	7.086E-02	7.094E-02
1.0000	13.606	21.288	582.41	1.162E-02	2.303E-01	7.741E-05	4.056E-02	4.063E-02
2.0000	27.212	34.894	355.32	6.154E-03	6.502E-02	3.559E-05	5.297E-03	5.332E-03
4.0000	54.424	62.106	199.64	2.160E-03	1.520E-02	7.802E-06	5.152E-04	5.230E-04

GA III 5F EO= 3.6170E-01 (RYD) N*= 4.9882 MU= .0118

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.921	2519.38	-1.256E-01	5.150E+00	2.089E-03	4.687E+00	4.689E+00
.0600	.816	5.738	2160.92	-6.927E-02	3.754E+00	7.414E-04	2.904E+00	2.905E+00
.1000	1.361	6.282	1973.71	-4.521E-02	3.104E+00	3.458E-04	2.174E+00	2.174E+00
.2000	2.721	7.642	1622.33	-1.053E-02	2.039E+00	2.282E-05	1.141E+00	1.141E+00
.4000	5.442	10.364	1196.35	1.262E-02	1.037E+00	4.448E-05	4.000E-01	4.001E-01
.6000	8.164	13.085	947.56	1.681E-02	6.066E-01	9.953E-05	1.729E-01	1.730E-01
.8000	10.885	15.806	784.42	1.621E-02	3.887E-01	1.119E-04	8.574E-02	8.585E-02
1.0000	13.606	18.527	669.21	1.445E-02	2.656E-01	1.042E-04	4.694E-02	4.705E-02
2.0000	27.212	32.133	385.85	7.070E-03	6.882E-02	4.326E-05	5.466E-03	5.509E-03
4.0000	54.424	59.345	208.92	2.302E-03	1.520E-02	8.472E-06	4.926E-04	5.011E-04

GA III 6F EO= 2.5116E-01 (RYD) N*= 5.9862 MU= .0138

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.417	3628.31	-3.035E-01	7.622E+00	8.476E-03	7.128E+00	7.137E+00
.0600	.816	4.234	2928.66	-1.573E-01	5.077E+00	2.822E-03	3.918E+00	3.921E+00
.2000	2.721	6.138	2019.85	-3.125E-02	2.428E+00	1.615E-04	1.300E+00	1.300E+00
.4000	5.442	8.860	1399.46	9.846E-03	1.124E+00	2.313E-05	4.021E-01	4.021E-01
.6000	8.164	11.581	1070.62	1.679E-02	6.243E-01	8.797E-05	1.621E-01	1.622E-01
.8000	10.885	14.302	866.92	1.648E-02	3.870E-01	1.046E-04	7.691E-02	7.701E-02
1.0000	13.606	17.023	728.34	1.458E-02	2.584E-01	9.746E-05	4.082E-02	4.092E-02
2.0000	27.212	30.629	404.80	6.793E-03	6.332E-02	3.807E-05	4.409E-03	4.447E-03
4.0000	54.424	57.841	214.36	2.118E-03	1.352E-02	6.989E-06	3.795E-04	3.865E-04

GA III 8F EO= 1.4119E-01 (RYD) N*= 7.9841 MU= .0159

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.921	6454.41	-9.253E-01	1.313E+01	4.429E-02	1.188E+01	1.193E+01
.0200	.272	2.193	5653.54	-6.728E-01	1.046E+01	2.674E-02	8.613E+00	8.640E+00
.1000	1.361	3.282	3778.29	-2.268E-01	5.115E+00	4.546E-03	3.083E+00	3.087E+00
.2000	2.721	4.642	2670.89	-6.804E-02	2.675E+00	5.788E-04	1.193E+00	1.193E+00
.4000	5.442	7.363	1683.84	3.257E-03	1.072E+00	2.104E-06	3.040E-01	3.041E-01
.6000	8.164	10.085	1229.47	1.386E-02	5.548E-01	5.217E-05	1.115E-01	1.115E-01
.8000	10.885	12.806	968.21	1.416E-02	3.297E-01	6.917E-05	4.999E-02	5.006E-02
1.0000	13.606	15.527	798.53	1.247E-02	2.141E-01	6.500E-05	2.556E-02	2.562E-02
2.0000	27.212	29.133	425.59	5.510E-03	4.921E-02	2.382E-05	2.533E-03	2.557E-03
3.0000	40.818	42.739	290.10	2.814E-03	1.962E-02	9.114E-06	5.907E-04	5.998E-04
4.0000	54.424	56.345	220.05	1.642E-03	1.013E-02	4.093E-06	2.075E-04	2.116E-04

GA III 10F EO= 9.0304E-02 (RYD) N*= 9.9831 MU= .0169

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.229	10091.07	-1.928E+00	1.939E+01	1.230E-01	1.659E+01	1.671E+01
.0200	.272	1.501	8261.39	-1.238E+00	1.395E+01	6.199E-02	1.049E+01	1.055E+01
.0600	.816	2.045	6062.81	-5.944E-01	8.282E+00	1.946E-02	5.036E+00	5.056E+00
.1000	1.361	2.589	4788.47	-3.217E-01	5.498E+00	7.217E-03	2.810E+00	2.817E+00
.2000	2.721	3.950	3139.01	-8.700E-02	2.562E+00	8.051E-04	9.307E-01	9.316E-01
.4000	5.442	6.671	1858.58	-6.223E-04	9.323E-01	6.957E-08	2.082E-01	2.082E-01
.6000	8.164	9.392	1320.10	1.089E-02	4.623E-01	2.998E-05	7.208E-02	7.211E-02
.8000	10.885	12.113	1023.55	1.150E-02	2.683E-01	4.317E-05	3.132E-02	3.136E-02
1.0000	13.606	14.835	835.79	1.012E-02	1.716E-01	4.092E-05	1.569E-02	1.573E-02
2.0000	27.212	28.441	435.95	4.358E-03	3.817E-02	1.455E-05	1.488E-03	1.502E-03
3.0000	40.818	42.046	294.88	2.199E-03	1.504E-02	5.475E-06	3.415E-04	3.469E-04

GA III 12F EO= 6.2682E-02 (RYD) N*= 11.9826 MU= .0174

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.853	14538.02	-3.326E+00	2.641E+01	2.541E-01	2.136E+01	2.161E+01
.0600	.816	1.669	7427.90	-7.574E-01	8.809E+00	2.579E-02	4.651E+00	4.677E+00
.1000	1.361	2.213	5601.54	-3.755E-01	5.447E+00	8.405E-03	2.358E+00	2.367E+00
.2000	2.721	3.574	3469.10	-9.235E-02	2.326E+00	8.210E-04	6.941E-01	6.949E-01
.4000	5.442	6.295	1969.54	-2.450E-03	7.931E-01	1.018E-06	1.422E-01	1.422E-01
.6000	8.164	9.016	1375.12	8.649E-03	3.830E-01	1.816E-05	4.749E-02	4.750E-02
.8000	10.885	11.738	1056.32	9.366E-03	2.191E-01	2.773E-05	2.024E-02	2.027E-02
1.0000	13.606	14.459	857.52	8.250E-03	1.389E-01	2.650E-05	1.002E-02	1.005E-02
2.0000	27.212	28.065	441.79	3.496E-03	3.032E-02	9.240E-06	9.262E-04	9.354E-04
3.0000	40.818	41.671	297.54	1.748E-03	1.187E-02	3.431E-06	2.107E-04	2.141E-04
4.0000	54.424	55.277	224.30	1.007E-03	6.064E-03	1.509E-06	7.300E-05	7.450E-05

GA III 16F EO= 3.5235E-02 (RYD) N*= 15.9821 MU= .0179

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.479	25862.42	-7.321E+00	4.266E+01	6.919E-01	3.132E+01	3.202E+01
.0200	.272	.752	16497.95	-2.972E+00	2.094E+01	1.787E-01	1.183E+01	1.201E+01
.0600	.816	1.296	9568.60	-9.122E-01	8.652E+00	2.904E-02	3.483E+00	3.512E+00
.1000	1.361	1.840	6738.39	-3.961E-01	4.813E+00	7.774E-03	1.530E+00	1.538E+00
.2000	2.721	3.201	3873.86	-8.515E-02	1.831E+00	6.249E-04	3.853E-01	3.859E-01
.4000	5.442	5.922	2093.74	-3.335E-03	5.785E-01	1.774E-06	7.116E-02	7.116E-02
.6000	8.164	8.643	1434.54	5.826E-03	2.713E-01	7.902E-06	2.284E-02	2.285E-02
.8000	10.885	11.364	1091.03	6.492E-03	1.529E-01	1.290E-05	9.536E-03	9.549E-03
1.0000	13.606	14.085	880.25	5.725E-03	9.600E-02	1.243E-05	4.661E-03	4.674E-03
1.5000	20.409	20.888	593.57	3.663E-03	3.956E-02	7.546E-06	1.174E-03	1.181E-03
2.0000	27.212	27.691	447.75	2.398E-03	2.055E-02	4.288E-06	4.199E-04	4.241E-04

GA III 20F EO= 2.2541E-02 (RYD) N*= 19.9818 MU= .0182

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.307	40427.17	-1.291E+01	6.175E+01	1.376E+00	4.199E+01	4.337E+01
.0100	.136	.443	28003.70	-6.371E+00	3.471E+01	4.839E-01	1.916E+01	1.964E+01
.0400	.544	.851	14570.73	-1.678E+00	1.226E+01	6.454E-02	4.593E+00	4.657E+00
.0800	1.088	1.395	8886.86	-5.573E-01	5.460E+00	1.167E-02	1.493E+00	1.505E+00
.1000	1.361	1.667	7436.43	-3.643E-01	4.052E+00	5.958E-03	9.832E-01	9.891E-01
.2000	2.721	3.028	4094.83	-7.224E-02	1.442E+00	4.256E-04	2.261E-01	2.266E-01
.4000	5.442	5.749	2156.64	-3.041E-03	4.375E-01	1.432E-06	3.951E-02	3.951E-02
.6000	8.164	8.470	1463.79	4.237E-03	2.022E-01	4.096E-06	1.244E-02	1.244E-02
.8000	10.885	11.191	1107.87	4.780E-03	1.131E-01	6.887E-06	5.140E-03	5.146E-03
1.0000	13.606	13.913	891.18	4.233E-03	7.069E-02	6.713E-06	2.496E-03	2.503E-03
1.5000	20.409	20.716	598.52	2.650E-03	2.888E-02	3.918E-06	6.205E-04	6.244E-04

GE IV 4S EO= 3.1961E+00 (RYD) N*= 2.2374 MU= 1.7626

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	43.486	285.12	.000	2.395E-01	.000	1.567E-01	1.567E-01
1.0000	13.606	57.092	217.17	.000	1.867E-01	.000	1.250E-01	1.250E-01
2.0000	27.212	70.698	175.38	.000	1.488E-01	.000	9.832E-02	9.832E-02
6.0000	81.635	125.121	99.09	.000	7.575E-02	.000	4.511E-02	4.511E-02

GE IV 5S EO= 1.5029E+00 (RYD) N*= 3.2628 MU= 1.7372

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	20.449	606.33	.000	4.052E-01	.000	2.109E-01	2.109E-01
1.0000	13.606	34.055	364.08	.000	2.387E-01	.000	1.220E-01	1.220E-01
2.0000	27.212	47.660	260.15	.000	1.595E-01	.000	7.616E-02	7.616E-02
6.0000	81.635	102.084	121.46	.000	5.967E-02	.000	2.284E-02	2.284E-02
12.0000	163.271	183.720	67.49	.000	2.748E-02	.000	8.719E-03	8.719E-03

GE IV 6S EO= 8.7709E-01 (RYD) N*= 4.2711 MU= 1.7289

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.934	1038.97	.000	5.932E-01	.000	2.638E-01	2.638E-01
1.0000	13.606	25.539	485.47	.000	2.548E-01	.000	1.042E-01	1.042E-01
2.0000	27.212	39.145	316.73	.000	1.481E-01	.000	5.392E-02	5.392E-02
8.0000	108.847	120.781	102.65	.000	3.267E-02	.000	8.099E-03	8.099E-03
16.0000	217.695	229.628	53.99	.000	1.383E-02	.000	2.759E-03	2.759E-03

GE IV 8S EO= 4.0608E-01 (RYD) N*= 6.2771 MU= 1.7229

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.525	2244.08	.000	1.026E+00	.000	3.652E-01	3.652E-01
1.0000	13.606	19.131	648.09	.000	2.313E-01	.000	6.429E-02	6.429E-02
4.0000	54.424	59.949	206.82	.000	4.909E-02	.000	9.079E-03	9.079E-03
8.0000	108.847	114.372	108.41	.000	2.011E-02	.000	2.908E-03	2.908E-03

GE IV 10S EO= 2.3342E-01 (RYD) N*= 8.2792 MU= 1.7208

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.176	3903.93	.000	1.527E+00	.000	4.652E-01	4.652E-01
.5000	6.803	9.979	1242.49	.000	3.802E-01	.000	9.063E-02	9.063E-02
1.0000	13.606	16.782	738.81	.000	1.905E-01	.000	3.826E-02	3.826E-02
4.0000	54.424	57.600	215.26	.000	3.474E-02	.000	4.369E-03	4.369E-03

GE IV 12S EO= 1.5140E-01 (RYD) N*= 10.2802 MU= 1.7198

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.060	6019.07	.000	2.092E+00	.000	5.664E-01	5.664E-01
.4000	5.442	7.502	1652.65	.000	4.179E-01	.000	8.235E-02	8.235E-02
1.0000	13.606	15.666	791.45	.000	1.548E-01	.000	2.358E-02	2.358E-02
2.0000	27.212	29.272	423.57	.000	6.523E-02	.000	7.826E-03	7.826E-03
4.0000	54.424	56.484	219.51	.000	2.598E-02	.000	2.396E-03	2.396E-03

GE IV 16S EO= 7.8451E-02 (RYD) N*= 14.2811 MU= 1.7189

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.067	11615.79	.000	3.401E+00	.000	7.760E-01	7.760E-01
.2000	2.721	3.789	3272.64	.000	6.725E-01	.000	1.077E-01	1.077E-01
.4000	5.442	6.510	1904.62	.000	3.234E-01	.000	4.279E-02	4.279E-02
1.0000	13.606	14.673	844.98	.000	1.057E-01	.000	1.030E-02	1.030E-02
2.0000	27.212	28.279	438.44	.000	4.229E-02	.000	3.178E-03	3.178E-03

GE IV 20S EO= 4.7874E-02 (RYD) N*= 18.2815 MU= 1.7185

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.651	19034.78	.000	4.936E+00	.000	9.971E-01	9.971E-01
.1000	1.361	2.012	6162.47	.000	1.136E+00	.000	1.632E-01	1.632E-01
.2000	2.721	3.373	3676.34	.000	5.628E-01	.000	6.712E-02	6.712E-02
.6000	8.164	8.815	1406.55	.000	1.497E-01	.000	1.241E-02	1.241E-02
.8000	10.885	11.536	1074.77	.000	1.030E-01	.000	7.689E-03	7.689E-03
1.0000	13.606	14.257	869.64	.000	7.669E-02	.000	5.269E-03	5.269E-03

GE IV 4P EO= 2.5163E+00 (RYD) N*= 2.5216 MU= 1.4784

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	34.236	362.15	4.600E-01	-1.623E-01	1.517E-01	3.776E-02	1.895E-01
.4000	5.442	39.679	312.48	3.625E-01	-6.560E-02	1.092E-01	7.154E-03	1.163E-01
.6000	8.164	42.400	292.42	3.257E-01	-3.429E-02	9.419E-02	2.088E-03	9.628E-02
.8000	10.885	45.121	274.79	2.945E-01	-1.032E-02	8.200E-02	2.012E-04	8.220E-02
1.0000	13.606	47.842	259.16	2.680E-01	8.180E-03	7.197E-02	1.341E-04	7.210E-02
1.2000	16.327	50.563	245.21	2.451E-01	2.254E-02	6.363E-02	1.076E-03	6.471E-02
1.4000	19.048	53.284	232.69	2.252E-01	3.374E-02	5.662E-02	2.541E-03	5.916E-02
2.0000	27.212	61.448	201.77	1.790E-01	5.467E-02	4.123E-02	7.693E-03	4.892E-02
3.0000	40.818	75.054	165.20	1.297E-01	6.755E-02	2.643E-02	1.435E-02	4.078E-02
5.0000	68.030	102.266	121.24	7.886E-02	6.710E-02	1.332E-02	1.929E-02	3.261E-02
6.0000	81.635	115.872	107.00	6.455E-02	6.349E-02	1.011E-02	1.957E-02	2.968E-02
7.0000	95.241	129.478	95.76	5.406E-02	5.953E-02	7.925E-03	1.922E-02	2.714E-02

GE IV 5P EO= 1.2673E+00 (RYD) N*= 3.5532 MU= 1.4468

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	17.243	719.05	9.215E-01	-4.985E-01	3.067E-01	1.795E-01	4.862E-01
.2000	2.721	19.964	621.04	7.239E-01	-3.119E-01	2.191E-01	8.139E-02	3.005E-01
.6000	8.164	25.407	488.01	4.865E-01	-1.200E-01	1.259E-01	1.533E-02	1.413E-01
.8000	10.885	28.128	440.80	4.113E-01	-6.892E-02	9.966E-02	5.598E-03	1.053E-01
1.0000	13.606	30.849	401.92	3.531E-01	-3.355E-02	8.057E-02	1.455E-03	8.203E-02
1.2000	16.327	33.570	369.34	3.071E-01	-8.579E-03	6.632E-02	1.035E-04	6.642E-02
1.4000	19.048	36.291	341.64	2.700E-01	9.318E-03	5.541E-02	1.320E-04	5.555E-02
1.6000	21.769	39.012	317.81	2.396E-01	2.228E-02	4.691E-02	8.110E-04	4.772E-02
1.8000	24.491	41.734	297.09	2.143E-01	3.171E-02	4.015E-02	1.758E-03	4.191E-02
3.0000	40.818	58.061	213.55	1.242E-01	5.272E-02	1.876E-02	6.761E-03	2.552E-02
4.0000	54.424	71.667	173.00	8.775E-02	5.332E-02	1.156E-02	8.536E-03	2.010E-02
5.0000	68.030	85.273	145.40	6.592E-02	5.030E-02	7.761E-03	9.037E-03	1.680E-02
6.0000	81.635	98.878	125.39	5.169E-02	4.644E-02	5.535E-03	8.935E-03	1.447E-02

GE IV 6P EO= 7.6797E-01 (RYD) N*= 4.5644 MU= 1.4356

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.449	1186.59	1.518E+00	-9.562E-01	5.046E-01	4.003E-01	9.049E-01
.5000	6.803	17.252	718.68	6.609E-01	-2.304E-01	1.578E-01	3.838E-02	1.962E-01
1.0000	13.606	24.055	515.43	3.801E-01	-5.455E-02	7.281E-02	2.999E-03	7.581E-02
1.2000	16.327	26.776	463.05	3.180E-01	-2.349E-02	5.670E-02	6.192E-04	5.732E-02
1.4000	19.048	29.497	420.33	2.706E-01	-2.567E-03	4.523E-02	8.144E-06	4.524E-02
1.6000	21.769	32.218	384.83	2.335E-01	1.180E-02	3.681E-02	1.879E-04	3.700E-02
1.8000	24.491	34.940	354.86	2.040E-01	2.178E-02	3.045E-02	6.942E-04	3.115E-02
2.0000	27.212	37.661	329.22	1.800E-01	2.875E-02	2.556E-02	1.304E-03	2.686E-02
4.0000	54.424	64.873	191.12	7.268E-02	4.159E-02	7.179E-03	4.701E-03	1.188E-02
5.0000	68.030	78.479	157.99	5.296E-02	3.859E-02	4.611E-03	4.897E-03	9.508E-03
6.0000	81.635	92.084	134.64	4.063E-02	3.515E-02	3.185E-03	4.765E-03	7.950E-03

GE IV 8P EO= 3.7034E-01 (RYD) N*= 6.5730 MU= 1.4270

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.039	2460.64	3.095E+00	-2.212E+00	1.011E+00	1.033E+00	2.044E+00
.5000	6.803	11.842	1047.03	7.449E-01	-2.938E-01	1.376E-01	4.283E-02	1.805E-01
1.0000	13.606	18.645	664.99	3.482E-01	-6.265E-02	4.735E-02	3.066E-03	5.042E-02
1.2000	16.327	21.366	580.30	2.770E-01	-3.003E-02	3.435E-02	8.072E-04	3.515E-02
1.4000	19.048	24.087	514.74	2.265E-01	-9.650E-03	2.588E-02	9.397E-05	2.598E-02
1.6000	21.769	26.808	462.49	1.892E-01	3.493E-03	2.010E-02	1.370E-05	2.012E-02
1.8000	24.491	29.529	419.87	1.608E-01	1.215E-02	1.600E-02	1.825E-04	1.618E-02
3.0000	40.818	45.857	270.38	7.673E-02	2.753E-02	5.655E-03	1.456E-03	7.111E-03
4.0000	54.424	59.462	208.51	4.960E-02	2.701E-02	3.064E-03	1.817E-03	4.881E-03
5.0000	68.030	73.068	169.69	3.512E-02	2.465E-02	1.888E-03	1.859E-03	3.747E-03
6.0000	81.635	86.674	143.05	2.641E-02	2.214E-02	1.266E-03	1.780E-03	3.046E-03
7.0000	95.241	100.280	123.64	2.072E-02	1.988E-02	9.015E-04	1.661E-03	2.563E-03

GE IV 10P EO= 2.1754E-01 (RYD) N*= 8.5761 MU= 1.4239

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.960	4188.99	5.157E+00	-3.893E+00	1.649E+00	1.880E+00	3.529E+00
.2000	2.721	5.681	2182.47	1.739E+00	-1.022E+00	3.599E-01	2.487E-01	6.086E-01
.4000	5.442	8.402	1475.64	9.037E-01	-4.193E-01	1.437E-01	6.188E-02	2.056E-01
.8000	10.885	13.845	895.56	3.909E-01	-1.064E-01	4.430E-02	6.571E-03	5.087E-02
1.0000	13.606	16.566	748.45	2.890E-01	-5.575E-02	2.899E-02	2.157E-03	3.114E-02
1.4000	19.048	22.008	563.37	1.791E-01	-9.779E-03	1.479E-02	8.817E-05	1.488E-02
1.6000	21.769	24.729	501.37	1.472E-01	9.974E-04	1.122E-02	1.031E-06	1.122E-02
1.8000	24.491	27.450	451.67	1.234E-01	7.907E-03	8.758E-03	7.190E-05	8.830E-03
2.0000	27.212	30.172	410.94	1.052E-01	1.240E-02	6.998E-03	1.945E-04	7.192E-03
3.0000	40.818	43.778	283.22	5.617E-02	1.955E-02	2.893E-03	7.011E-04	3.594E-03
4.0000	54.424	57.383	216.07	3.561E-02	1.902E-02	1.524E-03	8.694E-04	2.393E-03
5.0000	68.030	70.989	174.65	2.490E-02	1.722E-02	9.222E-04	8.814E-04	1.804E-03
6.0000	81.635	84.595	146.56	1.857E-02	1.538E-02	6.109E-04	8.382E-04	1.449E-03

GE IV 12P EO= 1.4300E-01 (RYD) N*= 10.5777 MU= 1.4223

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.946	6372.44	7.683E+00	-5.978E+00	2.406E+00	2.913E+00	5.318E+00
.1000	1.361	3.306	3750.05	3.174E+00	-2.149E+00	6.978E-01	6.398E-01	1.338E+00
.4000	5.442	7.388	1678.21	8.265E-01	-3.900E-01	1.057E-01	4.709E-02	1.528E-01
.6000	8.164	10.109	1226.47	4.881E-01	-1.798E-01	5.045E-02	1.369E-02	6.414E-02
.8000	10.885	12.830	966.35	3.269E-01	-9.108E-02	2.871E-02	4.459E-03	3.317E-02
1.0000	13.606	15.552	797.26	2.364E-01	-4.702E-02	1.820E-02	1.440E-03	1.964E-02
1.4000	19.048	20.994	590.58	1.425E-01	-8.585E-03	8.930E-03	6.482E-05	8.995E-03
1.6000	21.769	23.715	522.82	1.160E-01	1.435E-04	6.684E-03	2.047E-08	6.684E-03
1.8000	24.491	26.436	469.00	9.655E-02	5.663E-03	5.163E-03	3.552E-05	5.198E-03
2.0000	27.212	29.157	425.23	8.183E-02	9.205E-03	4.090E-03	1.035E-04	4.193E-03
4.0000	54.424	56.369	219.95	2.689E-02	1.423E-02	8.538E-04	4.782E-04	1.332E-03
5.0000	68.030	69.975	177.19	1.869E-02	1.283E-02	5.118E-04	4.828E-04	9.946E-04
6.0000	81.635	83.581	148.34	1.387E-02	1.143E-02	3.369E-04	4.572E-04	7.941E-04

GE IV 16P EO= 7.5277E-02 (RYD) N*= 14.5790 MU= 1.4210

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.024	12105.55	1.406E+01	-1.130E+01	4.242E+00	5.475E+00	9.717E+00
.1000	1.361	2.385	5199.02	3.432E+00	-2.365E+00	5.884E-01	5.588E-01	1.147E+00
.4000	5.442	6.467	1917.34	6.449E-01	-3.086E-01	5.633E-02	2.579E-02	8.213E-02
.6000	8.164	9.188	1349.47	3.572E-01	-1.336E-01	2.456E-02	6.873E-03	3.143E-02
1.0000	13.606	14.630	847.47	1.630E-01	-3.328E-02	8.146E-03	6.787E-04	8.825E-03
1.4000	19.048	20.072	617.69	9.556E-02	-6.231E-03	3.839E-03	3.265E-05	3.872E-03
1.6000	21.769	22.794	543.95	7.708E-02	-2.833E-04	2.837E-03	7.662E-08	2.837E-03
1.8000	24.491	25.515	485.94	6.369E-02	3.425E-03	2.168E-03	1.254E-05	2.181E-03
3.0000	40.818	41.842	296.32	2.759E-02	9.332E-03	6.671E-04	1.526E-04	8.198E-04
4.0000	54.424	55.448	223.61	1.715E-02	8.995E-03	3.416E-04	1.880E-04	5.295E-04
5.0000	68.030	69.054	179.55	1.185E-02	8.082E-03	2.030E-04	1.889E-04	3.920E-04
6.0000	81.635	82.660	150.00	8.760E-03	7.177E-03	1.329E-04	1.783E-04	3.112E-04

GE IV 20P EO= 4.6350E-02 (RYD) N*= 18.5796 MU= 1.4204

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.631	19660.77	2.213E+01	-1.808E+01	6.471E+00	8.633E+00	1.510E+01
.1000	1.361	1.991	6226.65	3.247E+00	-2.252E+00	4.398E-01	4.230E-01	8.628E-01
.2000	2.721	3.352	3699.08	1.357E+00	-8.283E-01	1.293E-01	9.635E-02	2.257E-01
.4000	5.442	6.073	2041.60	5.003E-01	-2.407E-01	3.185E-02	1.473E-02	4.658E-02
.6000	8.164	8.794	1409.87	2.682E-01	-1.010E-01	1.326E-02	3.756E-03	1.701E-02
.8000	10.885	11.515	1076.70	1.703E-01	-4.873E-02	6.993E-03	1.146E-03	8.139E-03
1.0000	13.606	14.237	870.90	1.190E-01	-2.455E-02	4.225E-03	3.595E-04	4.584E-03
1.4000	19.048	19.679	630.05	6.886E-02	-4.640E-03	1.954E-03	1.775E-05	1.972E-03
1.6000	21.769	22.400	553.51	5.533E-02	-3.165E-04	1.436E-03	9.403E-08	1.436E-03
1.8000	24.491	25.121	493.55	4.555E-02	2.361E-03	1.092E-03	5.865E-06	1.098E-03
2.0000	27.212	27.842	445.31	3.828E-02	4.041E-03	8.546E-04	1.904E-05	8.736E-04
3.0000	40.818	41.448	299.13	1.954E-02	6.562E-03	3.316E-04	7.478E-05	4.063E-04
4.0000	54.424	55.054	225.21	1.208E-02	6.319E-03	1.683E-04	9.209E-05	2.604E-04
5.0000	68.030	68.660	180.58	8.333E-03	5.664E-03	9.988E-05	9.227E-05	1.921E-04
6.0000	81.635	82.266	150.71	6.147E-03	5.026E-03	6.511E-05	8.706E-05	1.522E-04

GE IV 4D EO= 1.5937E+00 (RYD) N*= 3.1685 MU= .8315

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	21.683	571.80	3.272E-01	-3.269E-01	5.836E-02	8.734E-02	1.457E-01
.2000	2.721	24.405	508.04	2.733E-01	-1.557E-01	4.583E-02	2.231E-02	6.815E-02
.4000	5.442	27.126	457.08	2.329E-01	-4.633E-02	3.698E-02	2.195E-03	3.918E-02
.5000	6.803	28.486	435.25	2.163E-01	-6.789E-03	3.350E-02	4.950E-05	3.355E-02
.6000	8.164	29.847	415.41	2.016E-01	2.539E-02	3.049E-02	7.256E-04	3.122E-02
.7000	9.524	31.208	397.30	1.885E-01	5.168E-02	2.787E-02	3.142E-03	3.101E-02
.9000	12.245	33.929	365.43	1.662E-01	9.085E-02	2.356E-02	1.056E-02	3.411E-02
1.0000	13.606	35.289	351.34	1.566E-01	1.053E-01	2.176E-02	1.477E-02	3.653E-02
3.0000	40.818	62.501	198.37	6.620E-02	1.569E-01	6.885E-03	5.805E-02	6.493E-02
4.0000	54.424	76.107	162.91	4.914E-02	1.433E-01	4.619E-03	5.893E-02	6.354E-02
5.0000	68.030	89.713	138.20	3.828E-02	1.286E-01	3.304E-03	5.596E-02	5.926E-02

GE IV 5D EO= 9.1328E-01 (RYD) N*= 4.1856 MU= .8144

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	12.426	997.79	5.730E-01	-1.021E+00	1.026E-01	4.880E-01	5.906E-01
.2000	2.721	15.147	818.54	4.212E-01	-5.392E-01	6.756E-02	1.660E-01	2.336E-01
.4000	5.442	17.868	693.88	3.263E-01	-2.792E-01	4.784E-02	5.253E-02	1.004E-01
.7000	9.524	21.950	564.85	2.377E-01	-7.736E-02	3.118E-02	4.953E-03	3.614E-02
.8000	10.885	23.311	531.88	2.167E-01	-3.700E-02	2.752E-02	1.203E-03	2.872E-02
.9000	12.245	24.671	502.55	1.986E-01	-4.973E-03	2.446E-02	2.301E-05	2.448E-02
1.0000	13.606	26.032	476.28	1.829E-01	2.058E-02	2.188E-02	4.157E-04	2.230E-02
2.0000	27.212	39.638	312.80	9.563E-02	1.129E-01	9.111E-03	1.905E-02	2.816E-02
3.0000	40.818	53.244	232.87	6.053E-02	1.165E-01	4.904E-03	2.722E-02	3.213E-02
4.0000	54.424	66.850	185.47	4.248E-02	1.061E-01	3.032E-03	2.836E-02	3.140E-02
5.0000	68.030	80.456	154.11	3.181E-02	9.429E-02	2.047E-03	2.697E-02	2.901E-02
8.0000	108.847	121.273	102.24	1.673E-02	6.638E-02	8.530E-04	2.015E-02	2.100E-02

GE IV 6D EO= 5.9351E-01 (RYD) N*= 5.1921 MU= .8079

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.075	1535.38	8.604E-01	-1.865E+00	1.503E-01	1.059E+00	1.209E+00
.2000	2.721	10.796	1148.40	5.463E-01	-8.804E-01	8.098E-02	3.155E-01	3.965E-01
.5000	6.803	14.878	833.34	3.321E-01	-3.152E-01	4.124E-02	5.573E-02	9.697E-02
.8000	10.885	18.960	653.94	2.281E-01	-9.711E-02	2.480E-02	6.741E-03	3.154E-02
.9000	12.245	20.321	610.15	2.049E-01	-5.603E-02	2.144E-02	2.405E-03	2.385E-02
1.0000	13.606	21.681	571.86	1.853E-01	-2.414E-02	1.871E-02	4.762E-04	1.919E-02
2.0000	27.212	35.287	351.36	8.682E-02	8.411E-02	6.686E-03	9.413E-03	1.610E-02
3.0000	40.818	48.893	253.59	5.208E-02	8.992E-02	3.333E-03	1.490E-02	1.824E-02
4.0000	54.424	62.499	198.38	3.538E-02	8.173E-02	1.967E-03	1.574E-02	1.771E-02
5.0000	68.030	76.105	162.92	2.592E-02	7.219E-02	1.285E-03	1.495E-02	1.624E-02
6.0000	81.635	89.711	138.21	1.998E-02	6.359E-02	9.000E-04	1.368E-02	1.458E-02
9.0000	122.453	130.528	94.99	1.102E-02	4.475E-02	3.982E-04	9.856E-03	1.025E-02

GE IV 8D EO= 3.0887E-01 (RYD) N*= 7.1974 MU= .8026

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.202	2950.34	1.540E+00	-3.982E+00	2.506E-01	2.512E+00	2.763E+00
.2000	2.721	6.924	1790.77	7.041E-01	-1.360E+00	8.627E-02	4.825E-01	5.688E-01
.6000	8.164	12.366	1002.64	2.859E-01	-2.854E-01	2.542E-02	3.797E-02	6.339E-02
1.0000	13.606	17.808	696.23	1.621E-01	-5.440E-02	1.176E-02	1.987E-03	1.375E-02
1.2000	16.327	20.530	603.94	1.298E-01	-8.288E-03	8.699E-03	5.317E-05	8.752E-03
1.4000	19.048	23.251	533.26	1.069E-01	1.921E-02	6.673E-03	3.234E-04	6.996E-03
1.6000	21.769	25.972	477.39	8.982E-02	3.599E-02	5.267E-03	1.268E-03	6.536E-03
3.0000	40.818	45.020	275.40	3.769E-02	5.872E-02	1.607E-03	5.852E-03	7.460E-03
4.0000	54.424	58.626	211.49	2.476E-02	5.321E-02	9.036E-04	6.258E-03	7.161E-03
5.0000	68.030	72.232	171.65	1.775E-02	4.668E-02	5.718E-04	5.934E-03	6.506E-03

GE IV 10D EO= 1.8906E-01 (RYD) N*= 9.1994 MU= .8006

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.572	4819.99	2.341E+00	-6.639E+00	3.544E-01	4.275E+00	4.630E+00
.2000	2.721	5.294	2342.23	7.558E-01	-1.577E+00	7.600E-02	4.967E-01	5.727E-01
.6000	8.164	10.736	1154.88	2.523E-01	-2.768E-01	1.718E-02	3.101E-02	4.819E-02
.8000	10.885	13.457	921.35	1.775E-01	-1.300E-01	1.066E-02	8.580E-03	1.924E-02
1.0000	13.606	16.178	766.38	1.332E-01	-5.581E-02	7.215E-03	1.900E-03	9.115E-03
1.2000	16.327	18.899	656.03	1.044E-01	-1.499E-02	5.182E-03	1.600E-04	5.342E-03
1.4000	19.048	21.621	573.46	8.457E-02	8.684E-03	3.887E-03	6.147E-05	3.948E-03
1.6000	21.769	24.342	509.36	7.018E-02	2.284E-02	3.014E-03	4.789E-04	3.493E-03
2.0000	27.212	29.784	416.28	5.104E-02	3.661E-02	1.951E-03	1.505E-03	3.455E-03
3.0000	40.818	43.390	285.75	2.809E-02	4.182E-02	8.604E-04	2.862E-03	3.722E-03
4.0000	54.424	56.996	217.54	1.817E-02	3.783E-02	4.729E-04	3.076E-03	3.549E-03
5.0000	68.030	70.602	175.61	1.289E-02	3.308E-02	2.949E-04	2.914E-03	3.209E-03

GE IV 12D EO= 1.2754E-01 (RYD) N*= 11.2004 MU= .7996

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.735	7144.89	3.248E+00	-9.809E+00	4.603E-01	6.295E+00	6.756E+00
.2000	2.721	4.456	2782.15	7.427E-01	-1.618E+00	6.178E-02	4.401E-01	5.019E-01
.4000	5.442	7.178	1727.39	3.550E-01	-5.674E-01	2.274E-02	8.713E-02	1.099E-01
.6000	8.164	9.899	1252.53	2.157E-01	-2.477E-01	1.157E-02	2.290E-02	3.447E-02
.8000	10.885	12.620	982.46	1.478E-01	-1.150E-01	6.931E-03	6.291E-03	1.322E-02
1.0000	13.606	15.341	808.19	1.090E-01	-5.025E-02	4.580E-03	1.461E-03	6.040E-03
1.2000	16.327	18.062	686.43	8.439E-02	-1.549E-02	3.233E-03	1.635E-04	3.397E-03
1.4000	19.048	20.784	596.56	6.769E-02	4.339E-03	2.394E-03	1.475E-05	2.409E-03
1.6000	21.769	23.505	527.49	5.577E-02	1.604E-02	1.837E-03	2.280E-04	2.065E-03
2.0000	27.212	28.947	428.32	4.012E-02	2.731E-02	1.171E-03	8.140E-04	1.985E-03
3.0000	40.818	42.553	291.37	2.174E-02	3.161E-02	5.055E-04	1.604E-03	2.109E-03
4.0000	54.424	56.159	220.78	1.395E-02	2.857E-02	2.746E-04	1.729E-03	2.003E-03
5.0000	68.030	69.765	177.72	9.842E-03	2.494E-02	1.699E-04	1.637E-03	1.807E-03
7.0000	95.241	96.977	127.85	5.788E-03	1.905E-02	8.166E-05	1.327E-03	1.409E-03

GE IV 16D EO= 6.9239E-02 (RYD) N*= 15.2014 MU= .7986

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.942	13161.11	5.346E+00	-1.761E+01	6.768E-01	1.101E+01	1.169E+01
.1000	1.361	2.303	5384.49	1.317E+00	-3.561E+00	1.004E-01	1.101E+00	1.201E+00
.2000	2.721	3.663	3384.60	6.423E-01	-1.464E+00	3.798E-02	2.960E-01	3.339E-01
.4000	5.442	6.384	1942.01	2.724E-01	-4.523E-01	1.191E-02	4.925E-02	6.115E-02
.6000	8.164	9.106	1361.65	1.572E-01	-1.882E-01	5.653E-03	1.216E-02	1.781E-02
.8000	10.885	11.827	1048.35	1.046E-01	-8.588E-02	3.255E-03	3.289E-03	6.543E-03
1.0000	13.606	14.548	852.26	7.573E-02	-3.791E-02	2.097E-03	7.885E-04	2.886E-03
1.2000	16.327	17.269	717.96	5.788E-02	-1.280E-02	1.454E-03	1.068E-04	1.561E-03
1.4000	19.048	19.990	620.23	4.598E-02	1.283E-03	1.062E-03	1.240E-06	1.063E-03
1.6000	21.769	22.712	545.92	3.760E-02	9.479E-03	8.069E-04	7.694E-05	8.839E-04
2.0000	27.212	28.154	440.39	2.676E-02	1.730E-02	5.067E-04	3.176E-04	8.243E-04
3.0000	40.818	41.760	296.90	1.428E-02	2.029E-02	2.140E-04	6.485E-04	8.624E-04
4.0000	54.424	55.366	223.94	9.084E-03	1.832E-02	1.148E-04	7.009E-04	8.158E-04
5.0000	68.030	68.972	179.76	6.379E-03	1.597E-02	7.054E-05	6.631E-04	7.337E-04

GE IV 20D EO= 4.3395E-02 (RYD) N*= 19.2018 MU= .7982

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.590	20999.56	7.785E+00	-2.726E+01	8.995E-01	1.655E+01	1.745E+01
.0500	.680	1.271	9757.18	2.332E+00	-7.224E+00	1.736E-01	2.500E+00	2.674E+00
.1000	1.361	1.951	6354.97	1.200E+00	-3.347E+00	7.060E-02	8.242E-01	8.948E-01
.2000	2.721	3.312	3743.99	5.308E-01	-1.236E+00	2.345E-02	1.909E-01	2.143E-01
.4000	5.442	6.033	2055.21	2.105E-01	-3.557E-01	6.718E-03	2.877E-02	3.549E-02
.6000	8.164	8.754	1416.34	1.183E-01	-1.443E-01	3.079E-03	6.870E-03	9.949E-03
.8000	10.885	11.475	1080.48	7.766E-02	-6.519E-02	1.740E-03	1.839E-03	3.578E-03
1.0000	13.606	14.196	873.37	5.570E-02	-2.885E-02	1.107E-03	4.456E-04	1.553E-03
1.0000	13.606	14.196	873.37	5.569E-02	-2.886E-02	1.107E-03	4.457E-04	1.553E-03
1.2000	16.327	16.918	732.89	4.230E-02	-1.005E-02	7.608E-04	6.447E-05	8.253E-04
1.4000	19.048	19.639	631.34	3.345E-02	4.152E-04	5.524E-04	1.276E-07	5.525E-04
1.6000	21.769	22.360	554.50	2.728E-02	6.454E-03	4.181E-04	3.512E-05	4.533E-04
2.0000	27.212	27.802	445.96	1.931E-02	1.218E-02	2.605E-04	1.556E-04	4.162E-04
3.0000	40.818	41.408	299.42	1.024E-02	1.438E-02	1.091E-04	3.227E-04	4.318E-04
4.0000	54.424	55.014	225.37	6.485E-03	1.299E-02	5.815E-05	3.501E-04	4.083E-04
5.0000	68.030	68.620	180.69	4.545E-03	1.131E-02	3.564E-05	3.308E-04	3.664E-04

GE IV 4F EO= 1.0049E+00 (RYD) N*= 3.9902 MU= .0098

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	13.673	906.82	9.514E-02	1.612E+00	3.333E-03	1.276E+00	1.279E+00
1.0000	13.606	27.279	454.52	3.534E-02	3.030E-01	9.175E-04	8.992E-02	9.084E-02
2.0000	27.212	40.884	303.26	1.758E-02	1.097E-01	3.403E-04	1.766E-02	1.800E-02
3.0000	40.818	54.490	227.54	1.012E-02	5.299E-02	1.503E-04	5.494E-03	5.645E-03
4.0000	54.424	68.096	182.08	6.380E-03	3.020E-02	7.465E-05	2.231E-03	2.305E-03

GE IV 5F EO= 6.4371E-01 (RYD) N*= 4.9856 MU= .0144

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.758	1415.66	1.713E-01	2.925E+00	6.922E-03	2.690E+00	2.697E+00
.4000	5.442	14.201	873.11	9.294E-02	1.059E+00	3.303E-03	5.713E-01	5.747E-01
1.0000	13.606	22.364	554.40	4.779E-02	3.819E-01	1.375E-03	1.171E-01	1.185E-01
2.0000	27.212	35.970	344.69	2.140E-02	1.244E-01	4.434E-04	1.999E-02	2.043E-02
3.0000	40.818	49.576	250.09	1.165E-02	5.714E-02	1.813E-04	5.812E-03	5.994E-03
4.0000	54.424	63.182	196.24	7.102E-03	3.162E-02	8.582E-05	2.268E-03	2.354E-03

GE IV 6F EO= 4.4697E-01 (RYD) N*= 5.9830 MU= .0170

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.081	2038.77	2.362E-01	4.319E+00	9.137E-03	4.073E+00	4.082E+00
.4000	5.442	11.524	1075.91	1.106E-01	1.241E+00	3.798E-03	6.368E-01	6.406E-01
1.0000	13.606	19.687	629.78	5.147E-02	3.962E-01	1.404E-03	1.110E-01	1.124E-01
2.0000	27.212	33.293	372.41	2.140E-02	1.196E-01	4.106E-04	1.711E-02	1.752E-02
3.0000	40.818	46.899	264.37	1.124E-02	5.317E-02	1.597E-04	4.761E-03	4.920E-03
4.0000	54.424	60.505	204.92	6.709E-03	2.888E-02	7.335E-05	1.812E-03	1.886E-03

GE IV 8F EO= 2.5123E-01 (RYD) N*= 7.9804 MU= .0196

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.418	3627.27	3.117E-01	7.409E+00	8.943E-03	6.739E+00	6.747E+00
.2000	2.721	6.139	2019.53	1.806E-01	2.647E+00	5.394E-03	1.545E+00	1.551E+00
.4000	5.442	8.861	1399.31	1.182E-01	1.331E+00	3.331E-03	5.634E-01	5.668E-01
1.0000	13.606	17.024	728.30	4.792E-02	3.557E-01	1.053E-03	7.735E-02	7.840E-02
2.0000	27.212	30.630	404.79	1.820E-02	9.778E-02	2.732E-04	1.052E-02	1.079E-02
3.0000	40.818	44.236	280.28	9.179E-03	4.184E-02	1.004E-04	2.781E-03	2.881E-03
4.0000	54.424	57.842	214.35	5.352E-03	2.227E-02	4.462E-05	1.030E-03	1.075E-03

GE IV 10F EO= 1.6067E-01 (RYD) N*= 9.9792 MU= .0208

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.186	5671.81	2.957E-01	1.092E+01	5.149E-03	9.366E+00	9.372E+00
.0200	.272	2.458	5043.93	2.854E-01	9.019E+00	5.394E-03	7.180E+00	7.185E+00
.0400	.544	2.730	4541.21	2.727E-01	7.585E+00	5.467E-03	5.640E+00	5.646E+00
.0600	.816	3.002	4129.62	2.590E-01	6.475E+00	5.424E-03	4.520E+00	4.526E+00
.4000	5.442	7.628	1625.33	1.093E-01	1.250E+00	2.456E-03	4.281E-01	4.306E-01
.8000	10.885	13.071	948.58	5.390E-02	4.391E-01	1.023E-03	9.051E-02	9.153E-02
1.0000	13.606	15.792	785.12	4.083E-02	2.982E-01	7.089E-04	5.042E-02	5.113E-02
2.0000	27.212	29.398	421.75	1.475E-02	7.782E-02	1.723E-04	6.392E-03	6.565E-03
3.0000	40.818	43.004	288.32	7.288E-03	3.266E-02	6.151E-05	1.647E-03	1.708E-03
4.0000	54.424	56.610	219.02	4.200E-03	1.720E-02	2.690E-05	6.017E-04	6.286E-04

GE IV 12F EO= 1.1151E-01 (RYD) N*= 11.9786 MU= .0214

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.517	8172.18	1.761E-01	1.486E+01	1.267E-03	1.203E+01	1.203E+01
.0200	.272	1.789	6929.34	2.117E-01	1.141E+01	2.160E-03	8.368E+00	8.370E+00
.0800	1.088	2.606	4758.37	2.172E-01	6.182E+00	3.312E-03	3.576E+00	3.579E+00
.1000	1.361	2.878	4308.42	2.086E-01	5.241E+00	3.372E-03	2.839E+00	2.842E+00
.2000	2.721	4.238	2925.34	1.600E-01	2.714E+00	2.921E-03	1.121E+00	1.124E+00
.4000	5.442	6.960	1781.53	9.653E-02	1.120E+00	1.747E-03	3.133E-01	3.151E-01
.8000	10.885	12.402	999.74	4.574E-02	3.703E-01	6.987E-04	6.107E-02	6.177E-02
1.0000	13.606	15.123	819.85	3.423E-02	2.479E-01	4.773E-04	3.338E-02	3.386E-02
2.0000	27.212	28.729	431.57	1.201E-02	6.272E-02	1.116E-04	4.058E-03	4.170E-03
3.0000	40.818	42.335	292.87	5.864E-03	2.603E-02	3.921E-05	1.030E-03	1.069E-03
4.0000	54.424	55.941	221.64	3.370E-03	1.364E-02	1.711E-05	3.735E-04	3.906E-04

GE IV 16F EO= 6.2673E-02 (RYD) N*= 15.9779 MU= .0221

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.853	14540.12	-3.978E-01	2.396E+01	3.635E-03	1.759E+01	1.759E+01
.0200	.272	1.125	11022.60	-6.785E-02	1.550E+01	1.395E-04	9.702E+00	9.703E+00
.0400	.544	1.397	8875.47	6.283E-02	1.098E+01	1.485E-04	6.051E+00	6.051E+00
.0800	1.088	1.941	6387.12	1.404E-01	6.463E+00	1.031E-03	2.912E+00	2.913E+00
.1000	1.361	2.213	5601.85	1.477E-01	5.216E+00	1.301E-03	2.163E+00	2.164E+00
.2000	2.721	3.574	3469.21	1.243E-01	2.343E+00	1.486E-03	7.043E-01	7.058E-01
.4000	5.442	6.295	1969.57	7.325E-02	8.673E-01	9.096E-04	1.700E-01	1.709E-01
.6000	8.164	9.016	1375.14	4.745E-02	4.455E-01	5.468E-04	6.425E-02	6.480E-02
1.0000	13.606	14.459	857.52	2.456E-02	1.763E-01	2.348E-04	1.614E-02	1.638E-02
2.0000	27.212	28.065	441.79	8.345E-03	4.316E-02	5.263E-05	1.877E-03	1.930E-03
3.0000	40.818	41.670	297.54	4.026E-03	1.770E-02	1.819E-05	4.690E-04	4.872E-04
4.0000	54.424	55.276	224.30	2.293E-03	9.220E-03	7.826E-06	1.687E-04	1.766E-04

GE IV 20F EO= 4.0090E-02 (RYD) N*= 19.9776 MU= .0224

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.545	22730.79	-1.435E+00	3.466E+01	3.025E-02	2.353E+01	2.356E+01
.0200	.272	.818	15165.16	-4.125E-01	1.839E+01	3.747E-03	9.924E+00	9.928E+00
.0400	.544	1.090	11378.11	-9.470E-02	1.167E+01	2.632E-04	5.332E+00	5.332E+00
.0600	.816	1.362	9104.52	2.699E-02	8.180E+00	2.672E-05	3.272E+00	3.272E+00
.0800	1.088	1.634	7588.23	7.784E-02	6.102E+00	2.667E-04	2.184E+00	2.185E+00
.1000	1.361	1.906	6504.89	9.897E-02	4.753E+00	5.028E-04	1.546E+00	1.546E+00
.2000	2.721	3.267	3795.53	9.638E-02	1.945E+00	8.172E-04	4.439E-01	4.447E-01
.4000	5.442	5.988	2070.64	5.649E-02	6.769E-01	5.147E-04	9.853E-02	9.904E-02
.6000	8.164	8.709	1423.66	3.610E-02	3.395E-01	3.057E-04	3.605E-02	3.636E-02
1.0000	13.606	14.151	876.14	1.840E-02	1.317E-01	1.290E-04	8.812E-03	8.941E-03
2.0000	27.212	27.757	446.68	6.159E-03	3.171E-02	2.835E-05	1.003E-03	1.031E-03
3.0000	40.818	41.363	299.75	2.956E-03	1.295E-02	9.736E-06	2.489E-04	2.586E-04
4.0000	54.424	54.969	225.56	1.673E-03	6.714E-03	4.145E-06	8.899E-05	9.314E-05

AS V 4S EO= 4.4446E+00 (RYD) N*= 2.3717 MU= 1.6283

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	60.472	205.03	.000	2.002E-01	.000	1.523E-01	1.523E-01
1.0000	13.606	74.078	167.37	.000	1.626E-01	.000	1.230E-01	1.230E-01
4.0000	54.424	114.896	107.91	.000	9.798E-02	.000	6.932E-02	6.932E-02

AS V 5S EO= 2.1664E+00 (RYD) N*= 3.3970 MU= 1.6030

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	29.476	420.63	.000	3.378E-01	.000	2.114E-01	2.114E-01
1.0000	13.606	43.082	287.79	.000	2.200E-01	.000	1.311E-01	1.311E-01
2.0000	27.212	56.688	218.72	.000	1.570E-01	.000	8.776E-02	8.776E-02
6.0000	81.635	111.112	111.59	.000	6.523E-02	.000	2.971E-02	2.971E-02

AS V 6S EO= 1.2881E+00 (RYD) N*= 4.4055 MU= 1.5945

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	17.526	707.46	.000	4.982E-01	.000	2.733E-01	2.733E-01
1.0000	13.606	31.132	398.27	.000	2.510E-01	.000	1.233E-01	1.233E-01
2.0000	27.212	44.737	277.14	.000	1.569E-01	.000	6.919E-02	6.919E-02
6.0000	81.635	99.161	125.04	.000	5.340E-02	.000	1.777E-02	1.777E-02
10.0000	136.059	153.585	80.73	.000	2.932E-02	.000	8.295E-03	8.295E-03

AS V 8S EO= 6.0811E-01 (RYD) N*= 6.4118 MU= 1.5882

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.274	1498.53	.000	8.781E-01	.000	4.009E-01	4.009E-01
1.0000	13.606	21.880	566.67	.000	2.547E-01	.000	8.923E-02	8.923E-02
2.0000	27.212	35.486	349.40	.000	1.317E-01	.000	3.869E-02	3.869E-02
6.0000	81.635	89.909	137.90	.000	3.592E-02	.000	7.290E-03	7.290E-03

AS V 10S EO= 3.5312E-01 (RYD) N*= 8.4141 MU= 1.5859

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.805	2580.60	.000	1.331E+00	.000	5.350E-01	5.350E-01
1.0000	13.606	18.410	673.46	.000	2.258E-01	.000	5.901E-02	5.901E-02
4.0000	54.424	59.228	209.34	.000	4.370E-02	.000	7.109E-03	7.109E-03
10.0000	136.059	140.864	88.02	.000	1.284E-02	.000	1.460E-03	1.460E-03

AS V 12S EO= 2.3047E-01 (RYD) N*= 10.4152 MU= 1.5848

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.136	3954.03	.000	1.853E+00	.000	6.763E-01	6.763E-01
1.0000	13.606	16.742	740.59	.000	1.923E-01	.000	3.892E-02	3.892E-02
4.0000	54.424	57.559	215.41	.000	3.334E-02	.000	4.020E-03	4.020E-03

AS V 16S EO= 1.2029E-01 (RYD) N*= 14.4162 MU= 1.5838

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.637	7575.39	.000	3.090E+00	.000	9.817E-01	9.817E-01
.5000	6.803	8.440	1469.09	.000	3.205E-01	.000	5.447E-02	5.447E-02
1.0000	13.606	15.243	813.42	.000	1.384E-01	.000	1.834E-02	1.834E-02
2.0000	27.212	28.849	429.78	.000	5.559E-02	.000	5.601E-03	5.601E-03

AS V 20S EO= 7.3709E-02 (RYD) N*= 18.4166 MU= 1.5834

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.003	12362.98	.000	4.571E+00	.000	1.317E+00	1.317E+00
.5000	6.803	7.806	1588.38	.000	2.529E-01	.000	3.138E-02	3.138E-02
1.0000	13.606	14.609	848.71	.000	1.030E-01	.000	9.736E-03	9.736E-03
2.0000	27.212	28.215	439.44	.000	3.999E-02	.000	2.836E-03	2.836E-03

AS V 4P EO= 3.6199E+00 (RYD) N*= 2.6280 MU= 1.3720

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	49.252	251.74	3.199E-01	4.337E-03	1.056E-01	3.881E-05	1.056E-01
.5000	6.803	56.055	221.19	2.595E-01	4.169E-02	7.910E-02	4.082E-03	8.318E-02
1.0000	13.606	62.858	197.25	2.157E-01	6.211E-02	6.124E-02	1.016E-02	7.140E-02
4.0000	54.424	103.676	119.59	9.604E-02	7.906E-02	2.003E-02	2.715E-02	4.718E-02
5.0000	68.030	117.282	105.72	7.871E-02	7.491E-02	1.522E-02	2.757E-02	4.279E-02
6.0000	81.635	130.888	94.73	6.594E-02	7.025E-02	1.192E-02	2.706E-02	3.898E-02
7.0000	95.241	144.494	85.81	5.623E-02	6.564E-02	9.570E-03	2.608E-02	3.565E-02

AS V 5P EO= 1.8664E+00 (RYD) N*= 3.6599 MU= 1.3401

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	25.394	488.25	6.275E-01	-1.356E-01	2.095E-01	1.955E-02	2.290E-01
.2000	2.721	28.115	440.99	5.306E-01	-7.323E-02	1.658E-01	6.316E-03	1.721E-01
.4000	5.442	30.837	402.07	4.555E-01	-3.048E-02	1.340E-01	1.200E-03	1.352E-01
.6000	8.164	33.558	369.47	3.962E-01	-5.852E-04	1.103E-01	4.815E-07	1.103E-01
.7000	9.524	34.918	355.07	3.710E-01	1.090E-02	1.007E-01	1.740E-04	1.008E-01
.8000	10.885	36.279	341.76	3.483E-01	2.061E-02	9.218E-02	6.453E-04	9.282E-02
.9000	12.245	37.640	329.40	3.277E-01	2.881E-02	8.467E-02	1.309E-03	8.598E-02
1.0000	13.606	39.000	317.91	3.090E-01	3.576E-02	7.801E-02	2.090E-03	8.010E-02
2.0000	27.212	52.606	235.69	1.883E-01	6.658E-02	3.906E-02	9.771E-03	4.883E-02
3.0000	40.818	66.212	187.26	1.286E-01	6.965E-02	2.293E-02	1.346E-02	3.639E-02
4.0000	54.424	79.818	155.34	9.433E-02	6.586E-02	1.488E-02	1.451E-02	2.938E-02
5.0000	68.030	93.424	132.71	7.268E-02	6.054E-02	1.034E-02	1.435E-02	2.468E-02
6.0000	81.635	107.030	115.84	5.805E-02	5.523E-02	7.554E-03	1.368E-02	2.123E-02

AS V 6P EO= 1.1456E+00 (RYD) N*= 4.6714 MU= 1.3286

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	15.587	795.44	1.024E+00	-3.379E-01	3.423E-01	7.458E-02	4.169E-01
.4000	5.442	21.030	589.58	6.229E-01	-9.790E-02	1.709E-01	8.443E-03	1.793E-01
.6000	8.164	23.751	522.03	5.087E-01	-4.292E-02	1.288E-01	1.833E-03	1.306E-01
.7000	9.524	25.111	493.75	4.637E-01	-2.341E-02	1.131E-01	5.766E-04	1.137E-01
.8000	10.885	26.472	468.37	4.247E-01	-7.673E-03	1.000E-01	6.529E-05	1.001E-01
.9000	12.245	27.832	445.47	3.906E-01	5.095E-03	8.896E-02	3.026E-05	8.899E-02
1.0000	13.606	29.193	424.71	3.607E-01	1.550E-02	7.958E-02	2.937E-04	7.987E-02
2.0000	27.212	42.799	289.69	1.904E-01	5.590E-02	3.249E-02	5.604E-03	3.809E-02
3.0000	40.818	56.405	219.81	1.199E-01	5.848E-02	1.699E-02	8.081E-03	2.507E-02
4.0000	54.424	70.011	177.10	8.351E-02	5.409E-02	1.023E-02	8.581E-03	1.881E-02
5.0000	68.030	83.617	148.28	6.204E-02	4.869E-02	6.742E-03	8.305E-03	1.505E-02
10.0000	136.059	151.646	81.76	2.303E-02	2.945E-02	1.684E-03	5.509E-03	7.193E-03

AS V 8P EO= 5.6020E-01 (RYD) N*= 6.6803 MU= 1.3197

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.622	1626.67	2.068E+00	-9.196E-01	6.828E-01	2.700E-01	9.529E-01
.2000	2.721	10.343	1198.72	1.244E+00	-4.103E-01	3.353E-01	7.293E-02	4.082E-01
.4000	5.442	13.064	949.04	8.423E-01	-1.982E-01	1.941E-01	2.150E-02	2.156E-01
.6000	8.164	15.786	785.44	6.137E-01	-9.441E-02	1.245E-01	5.895E-03	1.304E-01
.8000	10.885	18.507	669.95	4.701E-01	-3.831E-02	8.566E-02	1.138E-03	8.680E-02
.9000	12.245	19.867	624.07	4.173E-01	-2.004E-02	7.248E-02	3.342E-04	7.281E-02
1.0000	13.606	21.228	584.07	3.734E-01	-5.994E-03	6.199E-02	3.196E-05	6.203E-02
2.0000	27.212	34.834	355.94	1.622E-01	3.989E-02	1.920E-02	2.322E-03	2.152E-02
3.0000	40.818	48.440	255.96	9.299E-02	4.134E-02	8.774E-03	3.468E-03	1.224E-02
4.0000	54.424	62.046	199.83	6.123E-02	3.718E-02	4.872E-03	3.594E-03	8.465E-03
5.0000	68.030	75.652	163.89	4.382E-02	3.269E-02	3.043E-03	3.388E-03	6.430E-03
9.0000	122.453	130.075	95.32	1.763E-02	2.051E-02	8.467E-04	2.292E-03	3.138E-03

AS V 10P EO= 3.3154E-01 (RYD) N*= 8.6837 MU= 1.3163

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.511	2748.61	3.431E+00	-1.723E+00	1.112E+00	5.611E-01	1.673E+00
.2000	2.721	7.232	1714.40	1.562E+00	-5.763E-01	3.694E-01	1.006E-01	4.700E-01
.4000	5.442	9.953	1245.69	9.150E-01	-2.440E-01	1.746E-01	2.483E-02	1.994E-01
.6000	8.164	12.674	978.24	6.100E-01	-1.103E-01	9.878E-02	6.460E-03	1.052E-01
.8000	10.885	15.396	805.34	4.399E-01	-4.653E-02	6.239E-02	1.396E-03	6.379E-02
1.0000	13.606	18.117	684.37	3.344E-01	-1.288E-02	4.244E-02	1.259E-04	4.257E-02
1.2000	16.327	20.838	595.00	2.641E-01	6.026E-03	3.045E-02	3.170E-05	3.049E-02
1.4000	19.048	23.559	526.28	2.147E-01	1.704E-02	2.275E-02	2.866E-04	2.304E-02
2.0000	27.212	31.723	390.84	1.299E-01	2.958E-02	1.121E-02	1.162E-03	1.237E-02
3.0000	40.818	45.329	273.53	7.097E-02	3.038E-02	4.782E-03	1.753E-03	6.535E-03
4.0000	54.424	58.935	210.38	4.549E-02	2.692E-02	2.555E-03	1.789E-03	4.344E-03
5.0000	68.030	72.540	170.92	3.201E-02	2.341E-02	1.557E-03	1.665E-03	3.222E-03

AS V 12P EO= 2.1896E-01 (RYD) N*= 10.6853 MU= 1.3147

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.979	4161.79	5.099E+00	-2.737E+00	1.623E+00	9.349E-01	2.558E+00
.2000	2.721	5.700	2175.07	1.726E+00	-6.714E-01	3.558E-01	1.077E-01	4.635E-01
.4000	5.442	8.422	1472.25	8.976E-01	-2.530E-01	1.421E-01	2.258E-02	1.647E-01
.6000	8.164	11.143	1112.71	5.607E-01	-1.086E-01	7.337E-02	5.509E-03	7.888E-02
1.0000	13.606	16.585	747.58	2.868E-01	-1.413E-02	2.858E-02	1.387E-04	2.872E-02
1.2000	16.327	19.306	642.21	2.219E-01	2.814E-03	1.992E-02	6.405E-06	1.993E-02
1.4000	19.048	22.027	562.87	1.776E-01	1.238E-02	1.455E-02	1.413E-04	1.469E-02
2.0000	27.212	30.191	410.67	1.041E-01	2.280E-02	6.859E-03	6.576E-04	7.517E-03
3.0000	40.818	43.797	283.09	5.542E-02	2.328E-02	2.818E-03	9.943E-04	3.812E-03
4.0000	54.424	57.403	215.99	3.502E-02	2.046E-02	1.475E-03	1.006E-03	2.481E-03
5.0000	68.030	71.009	174.61	2.442E-02	1.768E-02	8.870E-04	9.295E-04	1.816E-03

AS V 16P EO= 1.1590E-01 (RYD) N*= 14.6868 MU= 1.3132

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.577	7862.48	9.310E+00	-5.365E+00	2.863E+00	1.902E+00	4.765E+00
.1000	1.361	2.938	4220.77	3.297E+00	-1.578E+00	6.687E-01	3.064E-01	9.751E-01
.2000	2.721	4.298	2884.66	1.743E+00	-7.095E-01	2.736E-01	9.063E-02	3.642E-01
.4000	5.442	7.019	1766.36	7.652E-01	-2.259E-01	8.608E-02	1.501E-02	1.011E-01
.6000	8.164	9.740	1272.90	4.408E-01	-9.044E-02	3.964E-02	3.337E-03	4.298E-02
.8000	10.885	12.462	994.94	2.909E-01	-3.714E-02	2.209E-02	7.202E-04	2.281E-02
1.0000	13.606	15.183	816.62	2.084E-01	-1.226E-02	1.381E-02	9.557E-05	1.391E-02
1.2000	16.327	17.904	692.50	1.577E-01	5.669E-04	9.323E-03	2.410E-07	9.324E-03
1.4000	19.048	20.625	601.14	1.241E-01	7.568E-03	6.652E-03	4.949E-05	6.702E-03
1.6000	21.769	23.346	531.07	1.006E-01	1.149E-02	4.947E-03	1.292E-04	5.076E-03
3.0000	40.818	42.395	292.46	3.654E-02	1.508E-02	1.185E-03	4.038E-04	1.589E-03
4.0000	54.424	56.001	221.40	2.277E-02	1.314E-02	6.080E-04	4.052E-04	1.013E-03
5.0000	68.030	69.607	178.12	1.574E-02	1.129E-02	3.612E-04	3.716E-04	7.328E-04

AS V 20P EO= 7.1588E-02 (RYD) N*= 18.6874 MU= 1.3126

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.974	12729.30	1.464E+01	-8.758E+00	4.371E+00	3.130E+00	7.501E+00
.0500	.680	1.654	7494.71	6.049E+00	-3.242E+00	1.268E+00	7.286E-01	1.996E+00
.1000	1.361	2.335	5310.78	3.401E+00	-1.663E+00	5.655E-01	2.703E-01	8.358E-01
.2000	2.721	3.695	3355.33	1.576E+00	-6.529E-01	1.921E-01	6.598E-02	2.581E-01
.4000	5.442	6.416	1932.34	6.234E-01	-1.874E-01	5.223E-02	9.438E-03	6.167E-02
.6000	8.164	9.138	1356.88	3.436E-01	-7.211E-02	2.260E-02	1.990E-03	2.459E-02
.8000	10.885	11.859	1045.53	2.213E-01	-2.920E-02	1.216E-02	4.237E-04	1.259E-02
1.0000	13.606	14.580	850.39	1.561E-01	-9.801E-03	7.438E-03	5.867E-05	7.496E-03
1.2000	16.327	17.301	716.64	1.168E-01	2.053E-05	4.945E-03	3.054E-10	4.945E-03
1.4000	19.048	20.022	619.24	9.121E-02	5.226E-03	3.489E-03	2.291E-05	3.512E-03
2.0000	27.212	28.186	439.89	5.104E-02	1.059E-02	1.538E-03	1.325E-04	1.670E-03
3.0000	40.818	41.792	296.68	2.614E-02	1.071E-02	5.981E-04	2.008E-04	7.989E-04
4.0000	54.424	55.398	223.81	1.619E-02	9.291E-03	3.042E-04	2.003E-04	5.046E-04

AS V 4D EO= 2.4276E+00 (RYD) N*= 3.2091 MU= .7909

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	33.030	375.37	2.595E-01	-2.379E-02	5.590E-02	7.048E-04	5.660E-02
.0400	.544	33.574	369.29	2.528E-01	-9.881E-03	5.395E-02	1.236E-04	5.407E-02
.0600	.816	33.846	366.32	2.496E-01	-3.285E-03	5.301E-02	1.377E-05	5.302E-02
.0800	1.088	34.118	363.40	2.465E-01	3.083E-03	5.210E-02	1.223E-05	5.211E-02
.1000	1.361	34.391	360.52	2.434E-01	9.233E-03	5.121E-02	1.105E-04	5.132E-02
.2000	2.721	35.751	346.80	2.289E-01	3.697E-02	4.708E-02	1.842E-03	4.892E-02
.4000	5.442	38.472	322.27	2.038E-01	8.000E-02	4.017E-02	9.284E-03	4.945E-02
.6000	8.164	41.194	300.98	1.829E-01	1.106E-01	3.465E-02	1.901E-02	5.366E-02
1.0000	13.606	46.636	265.86	1.504E-01	1.478E-01	2.651E-02	3.839E-02	6.490E-02
2.0000	27.212	60.242	205.81	1.004E-01	1.741E-01	1.526E-02	6.888E-02	8.413E-02
3.0000	40.818	73.848	167.89	7.272E-02	1.680E-01	9.816E-03	7.860E-02	8.841E-02
4.0000	54.424	87.454	141.77	5.560E-02	1.542E-01	6.796E-03	7.843E-02	8.523E-02

AS V 5D EO= 1.3985E+00 (RYD) N*= 4.2280 MU= .7720

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	19.028	651.60	4.672E-01	-3.858E-01	1.044E-01	1.068E-01	2.112E-01
.0200	.272	19.300	642.41	4.566E-01	-3.632E-01	1.012E-01	9.599E-02	1.971E-01
.0400	.544	19.572	633.48	4.464E-01	-3.417E-01	9.804E-02	8.615E-02	1.842E-01
.2000	2.721	21.749	570.07	3.766E-01	-2.021E-01	7.755E-02	3.350E-02	1.111E-01
.4000	5.442	24.470	506.68	3.116E-01	-8.622E-02	5.970E-02	6.859E-03	6.656E-02
.6000	8.164	27.192	455.97	2.630E-01	-1.078E-02	4.726E-02	1.192E-04	4.738E-02
.8000	10.885	29.913	414.49	2.256E-01	3.936E-02	3.826E-02	1.747E-03	4.001E-02
1.0000	13.606	32.634	379.93	1.961E-01	7.312E-02	3.154E-02	6.579E-03	3.812E-02
2.0000	27.212	46.240	268.14	1.118E-01	1.320E-01	1.453E-02	3.036E-02	4.490E-02
3.0000	40.818	59.846	207.18	7.364E-02	1.318E-01	8.157E-03	3.917E-02	4.733E-02
4.0000	54.424	73.452	168.80	5.277E-02	1.202E-01	5.142E-03	4.001E-02	4.515E-02
5.0000	68.030	87.058	142.42	3.999E-02	1.073E-01	3.499E-03	3.780E-02	4.130E-02

AS V 6D EO= 9.1214E-01 (RYD) N*= 5.2353 MU= .7647

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	12.411	999.04	7.179E-01	-8.395E-01	1.608E-01	3.298E-01	4.906E-01
.4000	5.442	17.853	694.49	3.986E-01	-2.292E-01	7.129E-02	3.537E-02	1.067E-01
.6000	8.164	20.574	602.63	3.169E-01	-1.031E-01	5.194E-02	8.247E-03	6.019E-02
.7000	9.524	21.935	565.25	2.858E-01	-5.989E-02	4.502E-02	2.967E-03	4.799E-02
.8000	10.885	23.295	532.24	2.593E-01	-2.571E-02	3.936E-02	5.807E-04	3.994E-02
.9000	12.245	24.656	502.87	2.365E-01	1.513E-03	3.467E-02	2.128E-06	3.467E-02
1.0000	13.606	26.016	476.57	2.168E-01	2.332E-02	3.075E-02	5.333E-04	3.128E-02
2.0000	27.212	39.622	312.92	1.095E-01	1.028E-01	1.195E-02	1.579E-02	2.774E-02
3.0000	40.818	53.228	232.93	6.761E-02	1.055E-01	6.115E-03	2.233E-02	2.844E-02
4.0000	54.424	66.834	185.51	4.651E-02	9.570E-02	3.635E-03	2.308E-02	2.672E-02
5.0000	68.030	80.440	154.13	3.426E-02	8.467E-02	2.374E-03	2.174E-02	2.412E-02
8.0000	108.847	121.258	102.25	1.735E-02	5.879E-02	9.177E-04	1.580E-02	1.672E-02

AS V 8D EO= 4.7680E-01 (RYD) N*= 7.2411 MU= .7589

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.487	1911.22	1.334E+00	-2.007E+00	2.903E-01	9.857E-01	1.276E+00
.2000	2.721	9.208	1346.44	7.558E-01	-8.651E-01	1.322E-01	2.598E-01	3.921E-01
.4000	5.442	11.930	1039.31	4.971E-01	-4.168E-01	7.409E-02	7.815E-02	1.522E-01
.6000	8.164	14.651	846.27	3.564E-01	-2.036E-01	4.679E-02	2.290E-02	6.968E-02
.8000	10.885	17.372	713.71	2.704E-01	-9.005E-02	3.194E-02	5.312E-03	3.725E-02
.9000	12.245	18.733	661.87	2.393E-01	-5.331E-02	2.696E-02	2.007E-03	2.897E-02
1.0000	13.606	20.093	617.06	2.135E-01	-2.513E-02	2.303E-02	4.785E-04	2.351E-02
2.0000	27.212	33.699	367.92	9.183E-02	6.745E-02	7.144E-03	5.781E-03	1.292E-02
3.0000	40.818	47.305	262.10	5.255E-02	7.173E-02	3.284E-03	9.176E-03	1.246E-02
4.0000	54.424	60.911	203.55	3.457E-02	6.460E-02	1.830E-03	9.585E-03	1.142E-02
5.0000	68.030	74.517	166.39	2.472E-02	5.655E-02	1.145E-03	8.986E-03	1.013E-02
6.0000	81.635	88.123	140.70	1.868E-02	4.941E-02	7.731E-04	8.112E-03	8.885E-03

AS V 10D EO= 2.9260E-01 (RYD) N*= 9.2433 MU= .7567

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.981	3114.33	2.089E+00	-3.502E+00	4.369E-01	1.841E+00	2.278E+00
.2000	2.721	6.702	1849.90	8.975E-01	-1.146E+00	1.357E-01	3.321E-01	4.678E-01
.4000	5.442	9.424	1315.71	5.173E-01	-4.924E-01	6.339E-02	8.613E-02	1.495E-01
.6000	8.164	12.145	1020.91	3.432E-01	-2.312E-01	3.595E-02	2.447E-02	6.042E-02
.8000	10.885	14.866	834.03	2.473E-01	-1.061E-01	2.285E-02	6.305E-03	2.915E-02
1.0000	13.606	17.587	704.99	1.882E-01	-3.941E-02	1.565E-02	1.030E-03	1.668E-02
1.2000	16.327	20.308	610.52	1.489E-01	-1.449E-03	1.131E-02	1.607E-06	1.131E-02
1.4000	19.048	23.029	538.38	1.212E-01	2.107E-02	8.510E-03	3.853E-04	8.895E-03
1.6000	21.769	25.751	481.49	1.010E-01	3.474E-02	6.603E-03	1.172E-03	7.775E-03
3.0000	40.818	44.799	276.76	4.057E-02	5.214E-02	1.854E-03	4.593E-03	6.446E-03
4.0000	54.424	58.405	212.29	2.611E-02	4.677E-02	1.001E-03	4.817E-03	5.818E-03
5.0000	68.030	72.011	172.18	1.840E-02	4.072E-02	6.127E-04	4.502E-03	5.115E-03

AS V 12D EO= 1.9772E-01 (RYD) N*= 11.2445 MU= .7555

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.690	4608.77	2.972E+00	-5.306E+00	5.972E-01	2.856E+00	3.453E+00
.2000	2.721	5.411	2291.20	9.571E-01	-1.293E+00	1.246E-01	3.412E-01	4.658E-01
.4000	5.442	8.133	1524.56	4.957E-01	-5.013E-01	5.022E-02	7.706E-02	1.273E-01
.6000	8.164	10.854	1142.33	3.108E-01	-2.257E-01	2.635E-02	2.085E-02	4.721E-02
.8000	10.885	13.575	913.35	2.163E-01	-1.033E-01	1.596E-02	5.463E-03	2.142E-02
1.0000	13.606	16.296	760.83	1.607E-01	-4.111E-02	1.058E-02	1.038E-03	1.162E-02
1.2000	16.327	19.017	651.97	1.250E-01	-6.816E-03	7.466E-03	3.331E-05	7.500E-03
1.4000	19.048	21.739	570.35	1.004E-01	1.307E-02	5.513E-03	1.400E-04	5.653E-03
2.0000	27.212	29.902	414.64	5.953E-02	3.630E-02	2.664E-03	1.485E-03	4.149E-03
3.0000	40.818	43.508	284.97	3.203E-02	3.987E-02	1.122E-03	2.608E-03	3.730E-03
4.0000	54.424	57.114	217.09	2.037E-02	3.568E-02	5.955E-04	2.741E-03	3.336E-03
5.0000	68.030	70.720	175.32	1.425E-02	3.097E-02	3.609E-04	2.557E-03	2.918E-03

AS V 16D EO= 1.0756E-01 (RYD) N*= 15.2455 MU= .7545

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.463	8472.12	5.090E+00	-9.795E+00	9.531E-01	5.294E+00	6.247E+00
.1000	1.361	2.824	4390.37	1.752E+00	-2.890E+00	2.179E-01	8.895E-01	1.107E+00
.2000	2.721	4.185	2962.89	9.288E-01	-1.326E+00	9.075E-02	2.775E-01	3.683E-01
.4000	5.442	6.906	1795.39	4.141E-01	-4.429E-01	2.977E-02	5.107E-02	8.084E-02
.8000	10.885	12.348	1004.08	1.617E-01	-8.471E-02	8.119E-03	3.341E-03	1.146E-02
1.0000	13.606	15.069	822.77	1.170E-01	-3.502E-02	5.186E-03	6.970E-04	5.883E-03
1.2000	16.327	17.791	696.92	8.927E-02	-8.615E-03	3.564E-03	4.979E-05	3.613E-03
1.4000	19.048	20.512	604.47	7.074E-02	6.304E-03	2.580E-03	3.074E-05	2.611E-03
1.6000	21.769	23.233	533.67	5.768E-02	1.504E-02	1.943E-03	1.982E-04	2.141E-03
3.0000	40.818	42.281	293.24	2.147E-02	2.590E-02	4.897E-04	1.070E-03	1.559E-03
4.0000	54.424	55.887	221.85	1.349E-02	2.312E-02	2.555E-04	1.126E-03	1.381E-03
5.0000	68.030	69.493	178.42	9.356E-03	2.000E-02	1.529E-04	1.049E-03	1.201E-03
6.0000	81.635	83.099	149.20	6.927E-03	1.731E-02	1.002E-04	9.386E-04	1.039E-03

AS V 20D EO= 6.7493E-02 (RYD) N*= 19.2460 MU= .7540

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.918	13501.67	7.648E+00	-1.540E+01	1.350E+00	8.214E+00	9.564E+00
.1000	1.361	2.279	5440.63	1.752E+00	-2.981E+00	1.759E-01	7.638E-01	9.397E-01
.2000	2.721	3.639	3406.70	8.242E-01	-1.208E+00	6.214E-02	2.002E-01	2.623E-01
.4000	5.442	6.361	1949.27	3.353E-01	-3.675E-01	1.797E-02	3.239E-02	5.036E-02
.6000	8.164	9.082	1365.21	1.886E-01	-1.507E-01	8.121E-03	7.772E-03	1.589E-02
.8000	10.885	11.803	1050.46	1.234E-01	-6.710E-02	4.516E-03	2.003E-03	6.519E-03
1.0000	13.606	14.524	853.65	8.807E-02	-2.802E-02	2.832E-03	4.299E-04	3.262E-03
1.2000	16.327	17.245	718.95	6.656E-02	-7.653E-03	1.921E-03	3.808E-05	1.959E-03
1.4000	19.048	19.967	620.97	5.242E-02	3.726E-03	1.379E-03	1.045E-05	1.390E-03
1.6000	21.769	22.688	546.49	4.249E-02	1.033E-02	1.030E-03	9.125E-05	1.121E-03
2.0000	27.212	28.130	440.76	2.983E-02	1.651E-02	6.290E-04	2.892E-04	9.183E-04
3.0000	40.818	41.736	297.07	1.551E-02	1.847E-02	2.524E-04	5.371E-04	7.894E-04
4.0000	54.424	55.342	224.04	9.695E-03	1.647E-02	1.307E-04	5.659E-04	6.966E-04
5.0000	68.030	68.948	179.83	6.701E-03	1.423E-02	7.783E-05	5.263E-04	6.041E-04

AS V 4F EO= 1.5762E+00 (RYD) N*= 3.9825 MU= .0175

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	21.446	578.12	1.037E-01	1.059E+00	6.209E-03	8.640E-01	8.702E-01
1.0000	13.606	35.052	353.72	4.624E-02	3.324E-01	2.018E-03	1.390E-01	1.411E-01
2.0000	27.212	48.658	254.81	2.567E-02	1.503E-01	8.638E-04	3.947E-02	4.034E-02
4.0000	54.424	75.870	163.42	1.070E-02	5.085E-02	2.339E-04	7.044E-03	7.278E-03
6.0000	81.635	103.082	120.28	5.520E-03	2.423E-02	8.459E-05	2.173E-03	2.257E-03

AS V 5F EO= 1.0102E+00 (RYD) N*= 4.9748 MU= .0252

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	13.744	902.10	2.081E-01	1.911E+00	1.603E-02	1.803E+00	1.819E+00
.5000	6.803	20.547	603.42	1.111E-01	8.348E-01	6.829E-03	5.142E-01	5.210E-01
1.0000	13.606	27.350	453.33	6.946E-02	4.503E-01	3.554E-03	1.992E-01	2.027E-01
2.0000	27.212	40.956	302.73	3.420E-02	1.821E-01	1.290E-03	4.878E-02	5.007E-02
3.0000	40.818	54.562	227.24	1.990E-02	9.401E-02	5.822E-04	1.731E-02	1.790E-02
4.0000	54.424	68.168	181.88	1.276E-02	5.593E-02	2.989E-04	7.657E-03	7.956E-03

AS V 6F EO= 7.0130E-01 (RYD) N*= 5.9706 MU= .0294

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.542	1299.39	3.225E-01	2.808E+00	2.673E-02	2.702E+00	2.729E+00
.5000	6.803	16.345	758.57	1.418E-01	1.005E+00	8.854E-03	5.926E-01	6.014E-01
1.0000	13.606	23.148	535.63	8.089E-02	4.945E-01	4.079E-03	2.033E-01	2.073E-01
2.0000	27.212	36.754	337.34	3.633E-02	1.833E-01	1.306E-03	4.434E-02	4.564E-02
3.0000	40.818	50.360	246.20	2.017E-02	9.072E-02	5.520E-04	1.488E-02	1.544E-02
4.0000	54.424	63.966	193.83	1.257E-02	5.266E-02	2.721E-04	6.369E-03	6.641E-03

AS V 8F EO= 3.9392E-01 (RYD) N*= 7.9664 MU= .0336

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.360	2313.31	5.653E-01	4.782E+00	4.612E-02	4.402E+00	4.448E+00
.5000	6.803	12.163	1019.40	1.684E-01	1.127E+00	9.284E-03	5.549E-01	5.642E-01
1.0000	13.606	18.966	653.74	8.344E-02	4.802E-01	3.556E-03	1.571E-01	1.606E-01
2.0000	27.212	32.572	380.66	3.315E-02	1.582E-01	9.640E-04	2.928E-02	3.024E-02
3.0000	40.818	46.177	268.50	1.739E-02	7.440E-02	3.762E-04	9.178E-03	9.554E-03
4.0000	54.424	59.783	207.39	1.048E-02	4.196E-02	1.770E-04	3.780E-03	3.957E-03
5.0000	68.030	73.389	168.94	6.881E-03	2.648E-02	9.357E-05	1.849E-03	1.942E-03

AS V 10F EO= 2.5178E-01 (RYD) N*= 9.9645 MU= .0355

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.426	3619.24	8.111E-01	7.014E+00	6.070E-02	6.052E+00	6.113E+00
.5000	6.803	10.229	1212.14	1.673E-01	1.094E+00	7.712E-03	4.399E-01	4.476E-01
1.0000	13.606	17.032	727.98	7.545E-02	4.221E-01	2.611E-03	1.090E-01	1.116E-01
2.0000	27.212	30.638	404.69	2.789E-02	1.296E-01	6.420E-04	1.849E-02	1.913E-02
3.0000	40.818	44.243	280.24	1.419E-02	5.929E-02	2.400E-04	5.586E-03	5.826E-03
5.0000	68.030	71.455	173.52	5.459E-03	2.060E-02	5.736E-05	1.089E-03	1.147E-03

AS V 12F EO= 1.7467E-01 (RYD) N*= 11.9635 MU= .0365

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.377	5216.99	1.049E+00	9.505E+00	7.048E-02	7.711E+00	7.781E+00
.5000	6.803	9.180	1350.68	1.551E-01	1.003E+00	5.949E-03	3.319E-01	3.379E-01
1.0000	13.606	15.983	775.76	6.564E-02	3.616E-01	1.854E-03	7.504E-02	7.689E-02
2.0000	27.212	29.588	419.04	2.321E-02	1.063E-01	4.292E-04	1.201E-02	1.244E-02
3.0000	40.818	43.194	287.04	1.160E-02	4.783E-02	1.565E-04	3.548E-03	3.705E-03
4.0000	54.424	56.800	218.28	6.805E-03	2.635E-02	7.084E-05	1.416E-03	1.487E-03

AS V 16F EO= 9.8116E-02 (RYD) N*= 15.9624 MU= .0376

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.335	9287.62	1.480E+00	1.525E+01	7.876E-02	1.115E+01	1.123E+01
.2000	2.721	4.056	3056.75	3.368E-01	2.600E+00	1.239E-02	9.844E-01	9.968E-01
.4000	5.442	6.777	1829.43	1.631E-01	1.099E+00	4.858E-03	2.938E-01	2.986E-01
1.0000	13.606	14.941	829.85	4.899E-02	2.658E-01	9.657E-04	3.790E-02	3.887E-02
2.0000	27.212	28.547	434.33	1.650E-02	7.447E-02	2.092E-04	5.685E-03	5.894E-03
3.0000	40.818	42.153	294.14	8.089E-03	3.293E-02	7.428E-05	1.641E-03	1.716E-03

AS V 20F EO= 6.2738E-02 (RYD) N*= 19.9620 MU= .0380

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.854	14524.87	1.829E+00	2.198E+01	7.691E-02	1.481E+01	1.489E+01
.0500	.680	1.534	8083.03	8.768E-01	8.815E+00	3.176E-02	4.280E+00	4.311E+00
.2000	2.721	3.575	3468.35	2.908E-01	2.281E+00	8.143E-03	6.679E-01	6.760E-01
.4000	5.442	6.296	1969.29	1.320E-01	8.885E-01	2.954E-03	1.785E-01	1.814E-01
.6000	8.164	9.017	1375.00	7.782E-02	4.763E-01	1.471E-03	7.347E-02	7.494E-02
1.0000	13.606	14.460	857.47	3.745E-02	2.018E-01	5.463E-04	2.115E-02	2.169E-02
2.0000	27.212	28.065	441.78	1.231E-02	5.520E-02	1.146E-04	3.071E-03	3.185E-03

SE VI 4S EO= 5.8246E+00 (RYD) N**= 2.4861 MU= 1.5139

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	79.249	156.45	.000	1.690E-01	.000	1.423E-01	1.423E-01
1.0000	13.606	92.855	133.53	.000	1.420E-01	.000	1.177E-01	1.177E-01
2.0000	27.212	106.461	116.46	.000	1.213E-01	.000	9.845E-02	9.845E-02
8.0000	108.847	188.096	65.92	.000	6.014E-02	.000	4.275E-02	4.275E-02

SE VI 5S EO= 2.9209E+00 (RYD) N**= 3.5107 MU= 1.4893

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	39.742	311.98	.000	2.826E-01	.000	1.994E-01	1.994E-01
1.0000	13.606	53.348	232.41	.000	1.991E-01	.000	1.329E-01	1.329E-01
2.0000	27.212	66.954	185.18	.000	1.497E-01	.000	9.425E-02	9.425E-02
6.0000	81.635	121.377	102.15	.000	6.834E-02	.000	3.562E-02	3.562E-02

SE VI 6S EO= 1.7627E+00 (RYD) N**= 4.5192 MU= 1.4808

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	23.983	516.97	.000	4.164E-01	.000	2.613E-01	2.613E-01
1.0000	13.606	37.589	329.84	.000	2.380E-01	.000	1.338E-01	1.338E-01
2.0000	27.212	51.195	242.18	.000	1.585E-01	.000	8.080E-02	8.080E-02
6.0000	81.635	105.619	117.39	.000	5.890E-02	.000	2.303E-02	2.303E-02

SE VI 8S EO= 8.4541E-01 (RYD) N**= 6.5256 MU= 1.4744

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.503	1077.90	.000	7.376E-01	.000	3.933E-01	3.933E-01
1.0000	13.606	25.108	493.80	.000	2.640E-01	.000	1.099E-01	1.099E-01
2.0000	27.212	38.714	320.26	.000	1.451E-01	.000	5.119E-02	5.119E-02
8.0000	108.847	120.350	103.02	.000	2.916E-02	.000	6.431E-03	6.431E-03

SE VI 10S EO= 4.9501E-01 (RYD) N**= 8.5279 MU= 1.4721

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.735	1840.90	.000	1.125E+00	.000	5.357E-01	5.357E-01
1.0000	13.606	20.341	609.54	.000	2.499E-01	.000	7.985E-02	7.985E-02
4.0000	54.424	61.159	202.73	.000	5.210E-02	.000	1.043E-02	1.043E-02
6.0000	81.635	88.371	140.30	.000	3.071E-02	.000	5.238E-03	5.238E-03

SE VI 12S EO= 3.2473E-01 (RYD) N**= 10.5291 MU= 1.4709

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.418	2806.23	.000	1.575E+00	.000	6.886E-01	6.886E-01
1.0000	13.606	18.024	687.89	.000	2.227E-01	.000	5.619E-02	5.619E-02
4.0000	54.424	58.842	210.71	.000	4.056E-02	.000	6.085E-03	6.085E-03

SE VI 16S EO= 1.7052E-01 (RYD) N**= 14.5301 MU= 1.4699

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.320	5344.16	.000	2.651E+00	.000	1.025E+00	1.025E+00
1.0000	13.606	15.926	778.52	.000	1.690E-01	.000	2.858E-02	2.858E-02
2.0000	27.212	29.532	419.84	.000	6.888E-02	.000	8.805E-03	8.805E-03
4.0000	54.424	56.744	218.50	.000	2.663E-02	.000	2.528E-03	2.528E-03

SE VI 20S EO= 1.0484E-01 (RYD) N**= 18.5305 MU= 1.4695

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.426	8691.98	.000	3.952E+00	.000	1.400E+00	1.400E+00
.2000	2.721	4.148	2989.33	.000	8.489E-01	.000	1.878E-01	1.878E-01
.4000	5.442	6.869	1805.06	.000	4.065E-01	.000	7.132E-02	7.132E-02
1.0000	13.606	15.032	824.80	.000	1.293E-01	.000	1.580E-02	1.580E-02
2.0000	27.212	28.638	432.94	.000	5.039E-02	.000	4.570E-03	4.570E-03

SE VI 4P EO= 4.8632E+00 (RYD) N**= 2.7208 MU= 1.2792

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	66.168	187.38	2.368E-01	6.979E-02	7.773E-02	1.350E-02	9.123E-02
1.0000	13.606	79.774	155.42	1.749E-01	8.749E-02	5.114E-02	2.558E-02	7.672E-02
3.0000	40.818	106.986	115.89	1.087E-01	8.813E-02	2.648E-02	3.481E-02	6.130E-02
4.0000	54.424	120.592	102.81	8.953E-02	8.366E-02	2.025E-02	3.536E-02	5.560E-02
5.0000	68.030	134.198	92.39	7.528E-02	7.858E-02	1.593E-02	3.471E-02	5.064E-02
8.0000	108.847	175.016	70.84	4.896E-02	6.421E-02	8.789E-03	3.023E-02	3.902E-02

SE VI 5P EO= 2.5572E+00 (RYD) N**= 3.7521 MU= 1.2479

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	34.793	356.35	4.566E-01	1.697E-02	1.519E-01	4.199E-04	1.524E-01
.0800	1.088	35.882	345.54	4.340E-01	2.640E-02	1.416E-01	1.048E-03	1.426E-01
.6000	8.164	42.957	288.63	3.224E-01	6.428E-02	9.352E-02	7.437E-03	1.010E-01
1.0000	13.606	48.399	256.18	2.646E-01	7.722E-02	7.100E-02	1.209E-02	8.309E-02
2.0000	27.212	62.005	199.96	1.755E-01	8.529E-02	4.000E-02	1.889E-02	5.890E-02
3.0000	40.818	75.611	163.98	1.262E-01	8.135E-02	2.524E-02	2.096E-02	4.620E-02
4.0000	54.424	89.217	138.97	9.587E-02	7.469E-02	1.718E-02	2.085E-02	3.803E-02
6.0000	81.635	116.429	106.49	6.158E-02	6.163E-02	9.249E-03	1.853E-02	2.778E-02
10.0000	136.059	170.852	72.57	3.260E-02	4.339E-02	3.803E-03	1.347E-02	1.728E-02

SE VI 6P EO= 1.5865E+00 (RYD) N*= 4.7636 MU= 1.2364

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	21.586	574.39	7.390E-01	-6.971E-02	2.469E-01	4.394E-03	2.513E-01
.2000	2.721	24.307	510.09	6.068E-01	-1.522E-02	1.875E-01	2.360E-04	1.877E-01
.3000	4.082	25.667	483.05	5.543E-01	3.892E-03	1.652E-01	1.629E-05	1.652E-01
.4000	5.442	27.028	458.73	5.087E-01	1.917E-02	1.465E-01	4.162E-04	1.469E-01
.5000	6.803	28.389	436.75	4.688E-01	3.144E-02	1.307E-01	1.175E-03	1.319E-01
1.0000	13.606	35.191	352.32	3.277E-01	6.496E-02	7.916E-02	6.221E-03	8.538E-02
2.0000	27.212	48.797	254.08	1.897E-01	7.732E-02	3.678E-02	1.222E-02	4.900E-02
3.0000	40.818	62.403	198.69	1.256E-01	7.209E-02	2.062E-02	1.359E-02	3.420E-02
4.0000	54.424	76.009	163.12	9.018E-02	6.436E-02	1.295E-02	1.319E-02	2.614E-02
5.0000	68.030	89.615	138.35	6.838E-02	5.708E-02	8.778E-03	1.223E-02	2.101E-02

SE VI 8P EO= 7.8487E-01 (RYD) N*= 6.7725 MU= 1.2275

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.679	1161.04	1.481E+00	-3.405E-01	4.905E-01	5.186E-02	5.423E-01
.3000	4.082	14.761	839.98	8.633E-01	-8.751E-02	2.305E-01	4.736E-03	2.352E-01
.5000	6.803	17.482	709.23	6.506E-01	-1.963E-02	1.550E-01	2.821E-04	1.553E-01
.6000	8.164	18.842	658.02	5.739E-01	1.379E-03	1.300E-01	1.501E-06	1.300E-01
1.0000	13.606	24.285	510.55	3.749E-01	4.420E-02	7.151E-02	1.987E-03	7.350E-02
2.0000	27.212	37.891	327.22	1.772E-01	6.071E-02	2.493E-02	5.851E-03	3.078E-02
3.0000	40.818	51.497	240.77	1.055E-01	5.446E-02	1.201E-02	6.400E-03	1.841E-02
4.0000	54.424	65.103	190.45	7.094E-02	4.683E-02	6.863E-03	5.980E-03	1.284E-02

SE VI 10P EO= 4.6742E-01 (RYD) N*= 8.7760 MU= 1.2240

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.360	1949.55	2.447E+00	-7.339E-01	7.979E-01	1.435E-01	9.414E-01
.2000	2.721	9.081	1365.35	1.351E+00	-2.617E-01	3.472E-01	2.606E-02	3.733E-01
.4000	5.442	11.802	1050.54	8.713E-01	-9.469E-02	1.877E-01	4.433E-03	1.921E-01
.6000	8.164	14.523	853.71	6.152E-01	-2.224E-02	1.151E-01	3.008E-04	1.154E-01
.8000	10.885	17.244	718.99	4.609E-01	1.285E-02	7.674E-02	1.193E-04	7.686E-02
1.0000	13.606	19.966	621.00	3.601E-01	3.085E-02	5.424E-02	7.960E-04	5.504E-02
2.0000	27.212	33.572	369.32	1.497E-01	4.745E-02	1.575E-02	3.166E-03	1.892E-02
3.0000	40.818	47.177	262.81	8.404E-02	4.148E-02	6.980E-03	3.400E-03	1.038E-02
4.0000	54.424	60.783	203.98	5.464E-02	3.492E-02	3.802E-03	3.105E-03	6.907E-03

SE VI 12P EO= 3.0992E-01 (RYD) N*= 10.7777 MU= 1.2223

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.217	2940.30	3.629E+00	-1.244E+00	1.163E+00	2.732E-01	1.437E+00
.2000	2.721	6.938	1787.07	1.581E+00	-3.511E-01	3.631E-01	3.584E-02	3.989E-01
.4000	5.442	9.659	1283.61	9.078E-01	-1.191E-01	1.668E-01	5.737E-03	1.725E-01
.6000	8.164	12.380	1001.48	5.982E-01	-3.315E-02	9.281E-02	5.699E-04	9.338E-02
.8000	10.885	15.102	821.02	4.281E-01	4.551E-03	5.798E-02	1.310E-05	5.799E-02
1.0000	13.606	17.823	695.67	3.237E-01	2.260E-02	3.912E-02	3.815E-04	3.951E-02
2.0000	27.212	31.429	394.50	1.239E-01	3.774E-02	1.011E-02	1.875E-03	1.199E-02
3.0000	40.818	45.035	275.31	6.727E-02	3.245E-02	4.269E-03	1.986E-03	6.255E-03
4.0000	54.424	58.640	211.43	4.293E-02	2.698E-02	2.263E-03	1.789E-03	4.052E-03
6.0000	81.635	85.852	144.42	2.243E-02	1.939E-02	9.049E-04	1.352E-03	2.257E-03

SE VI 16P EO= 1.6482E-01 (RYD) N*= 14.7792 MU= 1.2208

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.242	5528.97	6.611E+00	-2.596E+00	2.053E+00	6.332E-01	2.686E+00
.2000	2.721	4.964	2497.88	1.753E+00	-4.374E-01	3.194E-01	3.978E-02	3.591E-01
.4000	5.442	7.685	1613.39	8.414E-01	-1.278E-01	1.140E-01	5.259E-03	1.192E-01
.6000	8.164	10.406	1191.49	5.051E-01	-3.685E-02	5.561E-02	5.921E-04	5.621E-02
.8000	10.885	13.127	944.50	3.413E-01	-1.719E-03	3.204E-02	1.625E-06	3.204E-02
1.0000	13.606	15.848	782.33	2.483E-01	1.375E-02	2.046E-02	1.256E-04	2.059E-02
2.0000	27.212	29.454	420.94	8.681E-02	2.544E-02	4.649E-03	7.986E-04	5.448E-03
3.0000	40.818	43.060	287.94	4.550E-02	2.148E-02	1.867E-03	8.324E-04	2.699E-03
4.0000	54.424	56.666	218.80	2.849E-02	1.764E-02	9.636E-04	7.387E-04	1.702E-03
6.0000	81.635	83.878	147.82	1.460E-02	1.249E-02	3.743E-04	5.483E-04	9.227E-04

SE VI 20P EO= 1.0207E-01 (RYD) N*= 18.7798 MU= 1.2202

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.389	8927.45	1.038E+01	-4.373E+00	3.135E+00	1.113E+00	4.248E+00
.2000	2.721	4.110	3016.70	1.692E+00	-4.427E-01	2.466E-01	3.374E-02	2.803E-01
.4000	5.442	6.831	1815.00	7.207E-01	-1.158E-01	7.433E-02	3.839E-03	7.817E-02
.6000	8.164	9.552	1297.96	4.096E-01	-3.293E-02	3.358E-02	4.339E-04	3.401E-02
.8000	10.885	12.274	1010.19	2.683E-01	-3.136E-03	1.851E-02	5.057E-06	1.851E-02
1.0000	13.606	14.995	826.87	1.912E-01	9.412E-03	1.148E-02	5.565E-05	1.154E-02
2.0000	27.212	28.601	433.51	6.393E-02	1.842E-02	2.448E-03	4.064E-04	2.855E-03
3.0000	40.818	42.207	293.76	3.296E-02	1.541E-02	9.602E-04	4.201E-04	1.380E-03
4.0000	54.424	55.812	222.15	2.046E-02	1.258E-02	4.894E-04	3.700E-04	8.594E-04

SE VI 4D EO= 3.4074E+00 (RYD) N*= 3.2504 MU= .7496

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	46.361	267.43	2.047E-01	1.190E-01	4.883E-02	2.477E-02	7.360E-02
1.0000	13.606	59.967	206.76	1.349E-01	1.806E-01	2.742E-02	7.372E-02	1.011E-01
2.0000	27.212	73.573	168.52	9.678E-02	1.854E-01	1.732E-02	9.533E-02	1.126E-01
3.0000	40.818	87.179	142.22	7.342E-02	1.746E-01	1.181E-02	1.001E-01	1.120E-01
4.0000	54.424	100.785	123.02	5.794E-02	1.599E-01	8.506E-03	9.714E-02	1.056E-01
8.0000	108.847	155.209	79.88	2.850E-02	1.084E-01	3.169E-03	6.876E-02	7.193E-02

SE VI 5D EO= 1.9742E+00 (RYD) N*= 4.2703 MU= .7297

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	26.861	461.59	3.731E-01	-6.861E-02	9.397E-02	4.767E-03	9.874E-02
.1000	1.361	28.221	439.34	3.440E-01	-2.890E-02	8.392E-02	8.887E-04	8.481E-02
.2000	2.721	29.582	419.13	3.183E-01	3.787E-03	7.535E-02	1.600E-05	7.536E-02
.4000	5.442	32.303	383.82	2.755E-01	5.316E-02	6.161E-02	3.442E-03	6.505E-02
.6000	8.164	35.024	354.00	2.411E-01	8.715E-02	5.119E-02	1.003E-02	6.122E-02
1.0000	13.606	40.466	306.39	1.901E-01	1.267E-01	3.676E-02	2.449E-02	6.126E-02
2.0000	27.212	54.072	229.30	1.178E-01	1.523E-01	1.886E-02	4.727E-02	6.613E-02
3.0000	40.818	67.678	183.20	8.117E-02	1.451E-01	1.121E-02	5.370E-02	6.491E-02
4.0000	54.424	81.284	152.53	5.980E-02	1.312E-01	7.307E-03	5.279E-02	6.010E-02
8.0000	108.847	135.708	91.36	2.526E-02	8.377E-02	2.177E-03	3.591E-02	3.808E-02

SE VI 6D EO= 1.2924E+00 (RYD) N*= 5.2779 MU= .7221

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	17.584	705.12	5.794E-01	-3.139E-01	1.484E-01	6.534E-02	2.137E-01
.3000	4.082	21.666	572.27	4.107E-01	-9.343E-02	9.184E-02	7.131E-03	9.897E-02
.4000	5.442	23.026	538.46	3.714E-01	-4.900E-02	7.985E-02	2.085E-03	8.193E-02
.5000	6.803	24.387	508.42	3.379E-01	-1.361E-02	6.997E-02	1.703E-04	7.014E-02
.6000	8.164	25.747	481.55	3.089E-01	1.476E-02	6.175E-02	2.114E-04	6.197E-02
1.0000	13.606	31.190	397.52	2.250E-01	8.310E-02	3.969E-02	8.121E-03	4.781E-02
2.0000	27.212	44.796	276.78	1.234E-01	1.257E-01	1.714E-02	2.669E-02	4.382E-02
3.0000	40.818	58.402	212.30	7.919E-02	1.209E-01	9.205E-03	3.220E-02	4.140E-02
4.0000	54.424	72.007	172.19	5.568E-02	1.083E-01	5.612E-03	3.182E-02	3.743E-02

SE VI 8D EO= 6.7853E-01 (RYD) N*= 7.2839 MU= .7161

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.232	1343.00	1.095E+00	-9.690E-01	2.784E-01	3.268E-01	6.052E-01
.2000	2.721	11.953	1037.26	7.154E-01	-4.568E-01	1.538E-01	9.403E-02	2.478E-01
.4000	5.442	14.674	844.91	5.101E-01	-2.152E-01	9.597E-02	2.562E-02	1.216E-01
.6000	8.164	17.396	712.75	3.852E-01	-8.755E-02	6.488E-02	5.027E-03	6.991E-02
.8000	10.885	20.117	616.33	3.029E-01	-1.513E-02	4.640E-02	1.736E-04	4.657E-02
1.0000	13.606	22.838	542.90	2.455E-01	2.785E-02	3.460E-02	6.678E-04	3.526E-02
2.0000	27.212	36.444	340.21	1.127E-01	8.856E-02	1.164E-02	1.078E-02	2.241E-02
3.0000	40.818	50.050	247.73	6.615E-02	8.628E-02	5.504E-03	1.405E-02	1.955E-02
4.0000	54.424	63.656	194.78	4.403E-02	7.613E-02	3.103E-03	1.391E-02	1.701E-02

SE VI 10D EO= 4.1746E-01 (RYD) N*= 9.2863 MU= .7137

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.680	2182.89	1.738E+00	-1.830E+00	4.313E-01	7.170E-01	1.148E+00
.2000	2.721	8.401	1475.83	9.120E-01	-7.104E-01	1.756E-01	1.599E-01	3.355E-01
.4000	5.442	11.122	1114.76	5.744E-01	-3.143E-01	9.225E-02	4.143E-02	1.337E-01
.6000	8.164	13.843	895.63	4.004E-01	-1.374E-01	5.577E-02	9.859E-03	6.563E-02
.8000	10.885	16.565	748.50	2.976E-01	-4.754E-02	3.687E-02	1.412E-03	3.828E-02
1.0000	13.606	19.286	642.89	2.313E-01	1.827E-03	2.593E-02	2.427E-06	2.594E-02
2.0000	27.212	32.892	376.95	9.499E-02	6.556E-02	7.459E-03	5.331E-03	1.279E-02
3.0000	40.818	46.498	266.65	5.304E-02	6.434E-02	3.288E-03	7.258E-03	1.055E-02
4.0000	54.424	60.104	206.29	3.432E-02	5.629E-02	1.779E-03	7.180E-03	8.959E-03
5.0000	68.030	73.709	168.21	2.423E-02	4.848E-02	1.087E-03	6.531E-03	7.619E-03
6.0000	81.635	87.315	142.00	1.812E-02	4.189E-02	7.207E-04	5.778E-03	6.499E-03

SE VI 12D EO= 2.8256E-01 (RYD) N*= 11.2875 MU= .7125

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.844	3225.08	2.499E+00	-2.885E+00	6.034E-01	1.207E+00	1.810E+00
.2000	2.721	6.566	1888.42	1.035E+00	-8.865E-01	1.769E-01	1.946E-01	3.715E-01
.4000	5.442	9.287	1335.08	5.852E-01	-3.588E-01	7.994E-02	4.509E-02	1.250E-01
.8000	10.885	14.729	841.77	2.733E-01	-5.903E-02	2.766E-02	1.935E-03	2.960E-02
1.0000	13.606	17.450	710.51	2.064E-01	-9.455E-03	1.869E-02	5.882E-05	1.875E-02
2.0000	27.212	31.056	399.23	7.893E-02	5.067E-02	4.863E-03	3.006E-03	7.869E-03
3.0000	40.818	44.662	277.61	4.280E-02	4.994E-02	2.056E-03	4.199E-03	6.255E-03
4.0000	54.424	58.268	212.79	2.724E-02	4.346E-02	1.087E-03	4.149E-03	5.236E-03
5.0000	68.030	71.874	172.51	1.903E-02	3.725E-02	6.546E-04	3.760E-03	4.415E-03

SE VI 16D EO= 1.5402E-01 (RYD) N*= 15.2886 MU= .7114

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.096	5916.73	4.352E+00	-5.550E+00	9.976E-01	2.433E+00	3.431E+00
.1000	1.361	3.456	3587.45	1.911E+00	-2.082E+00	3.171E-01	5.646E-01	8.818E-01
.4000	5.442	7.538	1644.84	5.307E-01	-3.595E-01	5.336E-02	3.673E-02	9.009E-02
.6000	8.164	10.259	1208.55	3.194E-01	-1.471E-01	2.631E-02	8.366E-03	3.468E-02
.8000	10.885	12.980	955.19	2.166E-01	-5.829E-02	1.530E-02	1.663E-03	1.697E-02
1.0000	13.606	15.701	789.65	1.580E-01	-1.523E-02	9.857E-03	1.374E-04	9.994E-03
2.0000	27.212	29.307	423.06	5.579E-02	3.328E-02	2.293E-03	1.224E-03	3.517E-03
3.0000	40.818	42.913	288.92	2.933E-02	3.294E-02	9.279E-04	1.756E-03	2.684E-03
4.0000	54.424	56.519	219.37	1.836E-02	2.851E-02	4.791E-04	1.733E-03	2.212E-03
5.0000	68.030	70.125	176.81	1.271E-02	2.432E-02	2.846E-04	1.563E-03	1.848E-03

SE VI 20D EO= 9.6756E-02 (RYD) N*= 19.2891 MU= .7109

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.316	9418.23	6.622E+00	-8.917E+00	1.451E+00	3.947E+00	5.397E+00
.1000	1.361	2.677	4631.47	2.062E+00	-2.344E+00	2.860E-01	5.547E-01	8.407E-01
.4000	5.442	6.759	1834.44	4.510E-01	-3.186E-01	3.455E-02	2.587E-02	6.042E-02
.6000	8.164	9.480	1307.87	2.584E-01	-1.255E-01	1.591E-02	5.631E-03	2.154E-02
.8000	10.885	12.201	1016.18	1.703E-01	-4.982E-02	8.898E-03	1.142E-03	1.004E-02
1.0000	13.606	14.922	830.88	1.220E-01	-1.449E-02	5.587E-03	1.181E-04	5.705E-03
2.0000	27.212	28.528	434.61	4.140E-02	2.387E-02	1.229E-03	6.127E-04	1.842E-03
3.0000	40.818	42.134	294.27	2.144E-02	2.368E-02	4.868E-04	8.906E-04	1.377E-03
4.0000	54.424	55.740	222.44	1.331E-02	2.043E-02	2.481E-04	8.772E-04	1.125E-03
5.0000	68.030	69.346	178.79	9.163E-03	1.739E-02	1.464E-04	7.906E-04	9.370E-04
6.0000	81.635	82.952	149.47	6.734E-03	1.488E-02	9.456E-05	6.927E-04	7.872E-04

SE VI 4F EO= 2.2794E+00 (RYD) N*= 3.9742 MU= .0258

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	31.013	399.79	9.889E-02	7.550E-01	8.168E-03	6.349E-01	6.430E-01
1.0000	13.606	44.619	277.88	5.231E-02	3.256E-01	3.288E-03	1.699E-01	1.732E-01
2.0000	27.212	58.225	212.95	3.199E-02	1.740E-01	1.604E-03	6.330E-02	6.490E-02
4.0000	54.424	85.436	145.12	1.500E-02	6.997E-02	5.175E-04	1.502E-02	1.554E-02
6.0000	81.635	112.648	110.07	8.340E-03	3.633E-02	2.110E-04	5.338E-03	5.549E-03
8.0000	108.847	139.860	88.65	5.135E-03	2.186E-02	9.933E-05	2.399E-03	2.499E-03

SE VI 5F EO= 1.4613E+00 (RYD) N*= 4.9634 MU= .0366

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	19.882	623.60	2.068E-01	1.354E+00	2.290E-02	1.309E+00	1.332E+00
1.0000	13.606	33.488	370.24	8.523E-02	4.656E-01	6.552E-03	2.607E-01	2.672E-01
2.0000	27.212	47.094	263.27	4.610E-02	2.231E-01	2.696E-03	8.420E-02	8.690E-02
4.0000	54.424	74.306	166.86	1.909E-02	8.069E-02	7.294E-04	1.737E-02	1.810E-02
5.0000	68.030	87.912	141.03	1.352E-02	5.514E-02	4.327E-04	9.596E-03	1.003E-02

SE VI 6F EO= 1.0142E+00 (RYD) N*= 5.9577 MU= .0423

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	13.800	898.47	3.330E-01	1.979E+00	4.121E-02	1.940E+00	1.981E+00
.5000	6.803	20.603	601.80	1.721E-01	9.370E-01	1.644E-02	6.495E-01	6.660E-01
1.0000	13.606	27.406	452.41	1.060E-01	5.356E-01	8.295E-03	2.823E-01	2.906E-01
2.0000	27.212	41.011	302.32	5.182E-02	2.343E-01	2.966E-03	8.084E-02	8.381E-02
4.0000	54.424	68.223	181.74	1.961E-02	7.836E-02	7.064E-04	1.504E-02	1.575E-02
5.0000	68.030	81.829	151.52	1.355E-02	5.247E-02	4.047E-04	8.089E-03	8.494E-03

SE VI 8F EO= 5.6929E-01 (RYD) N*= 7.9521 MU= .0479

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.746	1600.71	6.278E-01	3.344E+00	8.221E-02	3.110E+00	3.192E+00
.5000	6.803	14.549	852.22	2.277E-01	1.130E+00	2.032E-02	6.672E-01	6.875E-01
1.0000	13.606	21.352	580.69	1.202E-01	5.584E-01	8.309E-03	2.391E-01	2.474E-01
2.0000	27.212	34.958	354.68	5.079E-02	2.137E-01	2.428E-03	5.732E-02	5.975E-02
4.0000	54.424	62.169	199.43	1.715E-02	6.470E-02	4.923E-04	9.346E-03	9.838E-03

SE VI 10F EO= 3.6366E-01 (RYD) N*= 9.9496 MU= .0504

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.948	2505.84	9.665E-01	4.878E+00	1.245E-01	4.229E+00	4.353E+00
.5000	6.803	11.751	1055.13	2.451E-01	1.162E+00	1.901E-02	5.700E-01	5.890E-01
1.0000	13.606	18.554	668.25	1.154E-01	5.145E-01	6.659E-03	1.764E-01	1.831E-01
2.0000	27.212	32.160	385.53	4.448E-02	1.807E-01	1.714E-03	3.772E-02	3.944E-02
3.0000	40.818	45.766	270.92	2.326E-02	8.888E-02	6.666E-04	1.298E-02	1.365E-02
4.0000	54.424	59.372	208.83	1.409E-02	5.174E-02	3.176E-04	5.707E-03	6.025E-03

SE VI 12F EO= 2.5217E-01 (RYD) N*= 11.9482 MU= .0518

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.431	3613.67	1.340E+00	6.586E+00	1.660E-01	5.344E+00	5.510E+00
.5000	6.803	10.234	1211.51	2.406E-01	1.113E+00	1.596E-02	4.554E-01	4.714E-01
1.0000	13.606	17.037	727.75	1.044E-01	4.548E-01	5.005E-03	1.266E-01	1.316E-01
2.0000	27.212	30.643	404.62	3.791E-02	1.511E-01	1.186E-03	2.511E-02	2.630E-02
3.0000	40.818	44.249	280.20	1.934E-02	7.268E-02	4.457E-04	8.393E-03	8.838E-03
5.0000	68.030	71.461	173.50	7.585E-03	2.680E-02	1.107E-04	1.843E-03	1.954E-03

SE VI 16F EO= 1.4156E-01 (RYD) N*= 15.9468 MU= .0532

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.926	6437.13	2.172E+00	1.051E+01	2.447E-01	7.643E+00	7.888E+00
.5000	6.803	8.729	1420.38	2.081E-01	9.395E-01	1.018E-02	2.767E-01	2.869E-01
1.0000	13.606	15.532	798.26	8.152E-02	3.468E-01	2.780E-03	6.707E-02	6.985E-02
2.0000	27.212	29.138	425.52	2.764E-02	1.080E-01	5.997E-04	1.221E-02	1.281E-02
3.0000	40.818	42.744	290.07	1.373E-02	5.075E-02	2.171E-04	3.953E-03	4.170E-03
4.0000	54.424	56.350	220.03	8.094E-03	2.884E-02	9.942E-05	1.683E-03	1.782E-03

SE VI 20F EO= 9.0486E-02 (RYD) N*= 19.9462 MU= .0538

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.231	10070.80	3.095E+00	1.510E+01	3.176E-01	1.008E+01	1.040E+01
.2000	2.721	3.952	3137.04	5.212E-01	2.443E+00	2.892E-02	8.471E-01	8.760E-01
.4000	5.442	6.674	1857.89	2.311E-01	1.047E+00	9.599E-03	2.626E-01	2.722E-01
1.0000	13.606	14.837	835.65	6.380E-02	2.684E-01	1.627E-03	3.838E-02	4.000E-02
2.0000	27.212	28.443	435.91	2.089E-02	8.095E-02	3.343E-04	6.692E-03	7.026E-03

BR VII 4S EO= 7.3529E+00 (RYD) N*= 2.5815 MU= 1.4185

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	100.044	123.93	.000	1.440E-01	.000	1.303E-01	1.303E-01
2.0000	27.212	127.255	97.43	.000	1.088E-01	.000	9.462E-02	9.462E-02
6.0000	81.635	181.679	68.24	.000	7.001E-02	.000	5.595E-02	5.595E-02

BR VII 5S EO= 3.7696E+00 (RYD) N*= 3.6054 MU= 1.3946

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	51.289	241.74	.000	2.384E-01	.000	1.832E-01	1.832E-01
2.0000	27.212	78.501	157.94	.000	1.399E-01	.000	9.661E-02	9.661E-02
6.0000	81.635	132.925	93.28	.000	6.951E-02	.000	4.036E-02	4.036E-02

BR VII 6S EO= 2.3019E+00 (RYD) N*= 4.6138 MU= 1.3862

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	31.319	395.88	.000	3.503E-01	.000	2.415E-01	2.415E-01
2.0000	27.212	58.531	211.83	.000	1.551E-01	.000	8.851E-02	8.851E-02
6.0000	81.635	112.954	109.77	.000	6.274E-02	.000	2.794E-02	2.794E-02

BR VII 8S EO= 1.1180E+00 (RYD) N*= 6.6202 MU= 1.3798

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	15.212	815.07	.000	6.207E-01	.000	3.683E-01	3.683E-01
2.0000	27.212	42.424	292.26	.000	1.530E-01	.000	6.245E-02	6.245E-02
6.0000	81.635	96.847	128.02	.000	4.722E-02	.000	1.357E-02	1.357E-02

BR VII 10S EO= 6.5905E-01 (RYD) N*= 8.6226 MU= 1.3774

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.967	1382.70	.000	9.487E-01	.000	5.072E-01	5.072E-01
2.0000	27.212	36.179	342.70	.000	1.342E-01	.000	4.093E-02	4.093E-02
6.0000	81.635	90.602	136.85	.000	3.555E-02	.000	7.196E-03	7.196E-03

BR VII 12S EO= 4.3415E-01 (RYD) N*= 10.6238 MU= 1.3762

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.907	2098.98	.000	1.331E+00	.000	6.579E-01	6.579E-01
1.0000	13.606	19.513	635.41	.000	2.450E-01	.000	7.363E-02	7.363E-02
4.0000	54.424	60.331	205.51	.000	4.744E-02	.000	8.534E-03	8.534E-03

BR VII 16S EO= 2.2909E-01 (RYD) N*= 14.6248 MU= 1.3752

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.117	3977.70	.000	2.251E+00	.000	9.927E-01	9.927E-01
.5000	6.803	9.920	1249.86	.000	4.219E-01	.000	1.110E-01	1.110E-01
1.0000	13.606	16.723	741.41	.000	1.961E-01	.000	4.041E-02	4.041E-02

BR VII 20S EO= 1.4125E-01 (RYD) N*= 18.6253 MU= 1.3747

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.922	6451.43	.000	3.367E+00	.000	1.369E+00	1.369E+00
.2000	2.721	4.643	2670.38	.000	9.241E-01	.000	2.491E-01	2.491E-01
1.0000	13.606	15.528	798.48	.000	1.545E-01	.000	2.328E-02	2.328E-02

BR VII 4P EO= 6.2553E+00 (RYD) N*= 2.7988 MU= 1.2012

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	85.109	145.68	1.827E-01	9.652E-02	5.954E-02	3.322E-02	9.275E-02
1.0000	13.606	98.715	125.60	1.437E-01	9.860E-02	4.269E-02	4.021E-02	8.290E-02
2.0000	27.212	112.321	110.39	1.165E-01	9.561E-02	3.194E-02	4.302E-02	7.496E-02
3.0000	40.818	125.927	98.46	9.676E-02	9.072E-02	2.470E-02	4.341E-02	6.811E-02
4.0000	54.424	139.533	88.86	8.190E-02	8.526E-02	1.961E-02	4.249E-02	6.209E-02

BR VII 5P EO= 3.3415E+00 (RYD) N*= 3.8294 MU= 1.1706

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	45.464	272.71	3.475E-01	8.665E-02	1.150E-01	1.430E-02	1.293E-01
1.0000	13.606	59.070	209.90	2.254E-01	1.012E-01	6.286E-02	2.537E-02	8.823E-02
2.0000	27.212	72.676	170.60	1.598E-01	9.729E-02	3.887E-02	2.882E-02	6.770E-02
3.0000	40.818	86.282	143.70	1.201E-01	8.922E-02	2.608E-02	2.877E-02	5.485E-02

BR VII 6P EO= 2.0910E+00 (RYD) N*= 4.8408 MU= 1.1592

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	28.451	435.79	5.586E-01	5.823E-02	1.860E-01	4.041E-03	1.900E-01
.4000	5.442	33.893	365.82	4.177E-01	8.666E-02	1.238E-01	1.066E-02	1.345E-01
.8000	10.885	39.335	315.20	3.259E-01	9.680E-02	8.752E-02	1.544E-02	1.030E-01
1.0000	13.606	42.057	294.81	2.915E-01	9.848E-02	7.485E-02	1.709E-02	9.194E-02
2.0000	27.212	55.662	222.75	1.824E-01	9.368E-02	3.879E-02	2.046E-02	5.925E-02
3.0000	40.818	69.268	178.99	1.264E-01	8.300E-02	2.317E-02	1.999E-02	4.316E-02
6.0000	81.635	110.086	112.63	5.795E-02	5.682E-02	7.743E-03	1.489E-02	2.263E-02

BR VII 8P EO= 1.0443E+00 (RYD) N*= 6.8498 MU= 1.1502

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	14.209	872.57	1.112E+00	-5.323E-02	3.681E-01	1.687E-03	3.698E-01
.0400	.544	14.754	840.38	1.045E+00	-3.438E-02	3.372E-01	7.305E-04	3.379E-01
.0800	1.088	15.298	810.49	9.834E-01	-1.810E-02	3.099E-01	2.099E-04	3.101E-01
.1000	1.361	15.570	796.32	9.550E-01	-1.080E-02	2.974E-01	7.607E-05	2.975E-01
.2000	2.721	16.930	732.33	8.305E-01	1.887E-02	2.446E-01	2.526E-04	2.449E-01
.4000	5.442	19.652	630.92	6.475E-01	5.485E-02	1.726E-01	2.477E-03	1.751E-01
.8000	10.885	25.094	494.09	4.300E-01	8.215E-02	9.718E-02	7.095E-03	1.043E-01
1.0000	13.606	27.815	445.75	3.617E-01	8.604E-02	7.624E-02	8.626E-03	8.487E-02
2.0000	27.212	41.421	299.33	1.850E-01	7.986E-02	2.969E-02	1.107E-02	4.075E-02
3.0000	40.818	55.027	225.32	1.144E-01	6.684E-02	1.509E-02	1.030E-02	2.539E-02
4.0000	54.424	68.633	180.65	7.867E-02	5.600E-02	8.898E-03	9.017E-03	1.792E-02

BR VII 10P EO= 6.2516E-01 (RYD) N*= 8.8532 MU= 1.1468

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.506	1457.65	1.832E+00	-2.338E-01	5.981E-01	1.948E-02	6.175E-01
.2000	2.721	11.227	1104.35	1.153E+00	-4.840E-02	3.127E-01	1.102E-03	3.138E-01
.4000	5.442	13.948	888.90	8.020E-01	2.334E-02	1.879E-01	3.184E-04	1.882E-01
.6000	8.164	16.669	743.79	5.948E-01	5.401E-02	1.235E-01	2.037E-03	1.256E-01
.8000	10.885	19.391	639.41	4.613E-01	6.729E-02	8.643E-02	3.678E-03	9.011E-02
1.0000	13.606	22.112	560.72	3.698E-01	7.244E-02	6.334E-02	4.861E-03	6.820E-02
2.0000	27.212	35.718	347.13	1.645E-01	6.556E-02	2.024E-02	6.431E-03	2.667E-02
3.0000	40.818	49.324	251.37	9.512E-02	5.280E-02	9.348E-03	5.760E-03	1.511E-02

BR VII 12P EO= 4.1586E-01 (RYD) N*= 10.8549 MU= 1.1451

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.658	2191.31	2.712E+00	-4.801E-01	8.716E-01	5.463E-02	9.262E-01
.2000	2.721	8.379	1479.68	1.408E+00	-1.100E-01	3.480E-01	4.245E-03	3.522E-01
.4000	5.442	11.100	1116.95	8.790E-01	-3.992E-04	1.797E-01	7.413E-08	1.797E-01
.6000	8.164	13.822	897.04	6.082E-01	3.962E-02	1.071E-01	9.091E-04	1.080E-01
1.0000	13.606	19.264	643.62	3.476E-01	6.072E-02	4.877E-02	2.975E-03	5.174E-02
2.0000	27.212	32.870	377.20	1.407E-01	5.376E-02	1.364E-02	3.980E-03	1.762E-02
3.0000	40.818	46.476	266.78	7.811E-02	4.222E-02	5.939E-03	3.471E-03	9.410E-03

BR VII 16P EO= 2.2201E-01 (RYD) N*= 14.8565 MU= 1.1435

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.021	4104.71	4.930E+00	-1.161E+00	1.538E+00	1.705E-01	1.708E+00
.4000	5.442	8.463	1465.05	8.792E-01	-2.531E-02	1.370E-01	2.271E-04	1.372E-01
.6000	8.164	11.184	1108.59	5.499E-01	2.258E-02	7.085E-02	2.388E-04	7.109E-02
.8000	10.885	13.905	891.65	3.809E-01	3.859E-02	4.226E-02	8.676E-04	4.312E-02
1.0000	13.606	16.627	745.71	2.816E-01	4.365E-02	2.762E-02	1.327E-03	2.895E-02
2.0000	27.212	30.232	410.11	1.022E-01	3.748E-02	6.613E-03	1.779E-03	8.392E-03
3.0000	40.818	43.838	282.83	5.428E-02	2.861E-02	2.706E-03	1.503E-03	4.209E-03

BR VII 20P EO= 1.3780E-01 (RYD) N*= 18.8572 MU= 1.1428

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.875	6613.06	7.734E+00	-2.082E+00	2.349E+00	3.405E-01	2.690E+00
.4000	5.442	7.317	1694.44	7.911E-01	-3.261E-02	9.591E-02	3.260E-04	9.624E-02
.6000	8.164	10.038	1235.12	4.644E-01	1.421E-02	4.535E-02	8.497E-05	4.543E-02
.8000	10.885	12.760	971.71	3.098E-01	2.852E-02	2.565E-02	4.347E-04	2.608E-02
1.0000	13.606	15.481	800.90	2.234E-01	3.273E-02	1.618E-02	6.947E-04	1.688E-02
2.0000	27.212	29.087	426.26	7.661E-02	2.759E-02	3.576E-03	9.273E-04	4.503E-03
3.0000	40.818	42.693	290.42	3.984E-02	2.077E-02	1.420E-03	7.714E-04	2.191E-03

BR VII 4D EO= 4.5408E+00 (RYD) N*= 3.2850 MU= .7150

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	61.781	200.69	1.634E-01	1.771E-01	4.146E-02	7.308E-02	1.145E-01
.8000	10.885	72.666	170.62	1.250E-01	1.927E-01	2.855E-02	1.018E-01	1.303E-01
1.0000	13.606	75.387	164.47	1.177E-01	1.933E-01	2.624E-02	1.062E-01	1.325E-01
2.0000	27.212	88.993	139.32	8.943E-02	1.870E-01	1.789E-02	1.173E-01	1.352E-01
3.0000	40.818	102.599	120.85	7.062E-02	1.739E-01	1.286E-02	1.169E-01	1.298E-01
4.0000	54.424	116.205	106.70	5.740E-02	1.593E-01	9.624E-03	1.112E-01	1.208E-01
6.0000	81.635	143.417	86.45	4.037E-02	1.323E-01	5.876E-03	9.464E-02	1.005E-01

BR VII 5D EO= 2.6432E+00 (RYD) N*= 4.3056 MU= .6944

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	35.963	344.76	3.000E-01	8.514E-02	8.138E-02	9.828E-03	9.121E-02
.8000	10.885	46.848	264.66	1.930E-01	1.555E-01	4.388E-02	4.269E-02	8.656E-02
1.0000	13.606	49.569	250.13	1.756E-01	1.614E-01	3.844E-02	4.868E-02	8.712E-02
2.0000	27.212	63.175	196.26	1.169E-01	1.653E-01	2.171E-02	6.507E-02	8.678E-02
3.0000	40.818	76.781	161.48	8.416E-02	1.529E-01	1.367E-02	6.771E-02	8.138E-02
4.0000	54.424	90.387	137.17	6.383E-02	1.377E-01	9.256E-03	6.458E-02	7.384E-02

BR VII 6D EO= 1.7356E+00 (RYD) N*= 5.3134 MU= .6866

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	23.614	525.05	4.691E-01	-4.401E-02	1.306E-01	1.724E-03	1.323E-01
.0400	.544	24.159	513.22	4.516E-01	-2.776E-02	1.238E-01	7.019E-04	1.245E-01
.0800	1.088	24.703	501.91	4.351E-01	-1.289E-02	1.175E-01	1.548E-04	1.177E-01
.1000	1.361	24.975	496.44	4.272E-01	-5.937E-03	1.146E-01	3.319E-05	1.146E-01
.2000	2.721	26.335	470.80	3.910E-01	2.464E-02	1.012E-01	6.027E-04	1.018E-01
.4000	5.442	29.057	426.71	3.318E-01	6.924E-02	8.041E-02	5.253E-03	8.567E-02
.6000	8.164	31.778	390.17	2.857E-01	9.851E-02	6.520E-02	1.163E-02	7.682E-02
1.0000	13.606	37.220	333.12	2.192E-01	1.301E-01	4.496E-02	2.374E-02	6.870E-02
2.0000	27.212	50.826	243.94	1.298E-01	1.443E-01	2.151E-02	3.990E-02	6.141E-02
3.0000	40.818	64.432	192.43	8.679E-02	1.328E-01	1.220E-02	4.287E-02	5.507E-02
4.0000	54.424	78.038	158.88	6.260E-02	1.177E-01	7.686E-03	4.079E-02	4.848E-02

BR VII 8D EO= 9.1455E-01 (RYD) N*= 7.3197 MU= .6803

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	12.443	996.41	8.961E-01	-4.088E-01	2.511E-01	7.839E-02	3.295E-01
.2000	2.721	15.165	817.61	6.446E-01	-1.765E-01	1.584E-01	1.782E-02	1.762E-01
.4000	5.442	17.886	693.21	4.895E-01	-5.377E-02	1.077E-01	1.950E-03	1.097E-01
.6000	8.164	20.607	601.67	3.864E-01	1.548E-02	7.732E-02	1.861E-04	7.751E-02
1.0000	13.606	26.049	475.97	2.609E-01	8.029E-02	4.457E-02	6.331E-03	5.090E-02
2.0000	27.212	39.655	312.66	1.285E-01	1.094E-01	1.645E-02	1.790E-02	3.435E-02
3.0000	40.818	53.261	232.79	7.778E-02	9.983E-02	8.099E-03	2.001E-02	2.811E-02
4.0000	54.424	66.867	185.42	5.267E-02	8.652E-02	4.662E-03	1.887E-02	2.354E-02

BR VII 10D EO= 5.6385E-01 (RYD) N*= 9.3222 MU= .6778

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.672	1616.16	1.433E+00	-9.066E-01	3.961E-01	2.377E-01	6.339E-01
.2000	2.721	10.393	1193.00	8.651E-01	-3.700E-01	1.955E-01	5.365E-02	2.492E-01
.4000	5.442	13.114	945.45	5.874E-01	-1.468E-01	1.137E-01	1.066E-02	1.244E-01
.6000	8.164	15.835	782.98	4.288E-01	-3.901E-02	7.319E-02	9.088E-04	7.410E-02
1.0000	13.606	21.278	582.71	2.615E-01	4.912E-02	3.658E-02	1.936E-03	3.852E-02
2.0000	27.212	34.883	355.43	1.136E-01	8.457E-02	1.132E-02	9.407E-03	2.073E-02
3.0000	40.818	48.489	255.70	6.485E-02	7.663E-02	5.126E-03	1.073E-02	1.586E-02
4.0000	54.424	62.095	199.67	4.241E-02	6.551E-02	2.808E-03	1.005E-02	1.285E-02
5.0000	68.030	75.701	163.78	3.012E-02	5.585E-02	1.726E-03	8.904E-03	1.063E-02

BR VII 12D EO= 3.8216E-01 (RYD) N*= 11.3234 MU= .6766

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.200	2384.55	2.074E+00	-1.530E+00	5.621E-01	4.589E-01	1.021E+00
.4000	5.442	10.642	1165.07	6.308E-01	-2.048E-01	1.064E-01	1.683E-02	1.233E-01
.6000	8.164	13.363	927.82	4.316E-01	-6.884E-02	6.256E-02	2.388E-03	6.495E-02
.8000	10.885	16.084	770.85	3.166E-01	-3.319E-03	4.054E-02	6.681E-06	4.054E-02
1.0000	13.606	18.805	659.31	2.437E-01	3.075E-02	2.807E-02	6.705E-04	2.874E-02
2.0000	27.212	32.411	382.54	9.731E-02	6.710E-02	7.715E-03	5.502E-03	1.322E-02
3.0000	40.818	46.017	269.43	5.355E-02	6.050E-02	3.318E-03	6.350E-03	9.668E-03
4.0000	54.424	59.623	207.95	3.432E-02	5.128E-02	1.765E-03	5.911E-03	7.677E-03

BR VII 16D EO= 2.0865E-01 (RYD) N*= 15.3246 MU= .6754

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.839	4367.45	3.647E+00	-3.134E+00	9.490E-01	1.051E+00	2.000E+00
.4000	5.442	8.281	1497.20	6.174E-01	-2.457E-01	7.936E-02	1.884E-02	9.820E-02
.8000	10.885	13.724	903.45	2.660E-01	-1.913E-02	2.441E-02	1.894E-04	2.460E-02
1.0000	13.606	16.445	753.96	1.965E-01	1.331E-02	1.596E-02	1.099E-04	1.607E-02
2.0000	27.212	30.051	412.59	7.110E-02	4.535E-02	3.819E-03	2.330E-03	6.149E-03
3.0000	40.818	43.657	284.00	3.762E-02	4.065E-02	1.553E-03	2.720E-03	4.273E-03
4.0000	54.424	57.263	216.52	2.358E-02	3.414E-02	8.001E-04	2.516E-03	3.316E-03
5.0000	68.030	70.868	174.95	1.631E-02	2.869E-02	4.741E-04	2.200E-03	2.674E-03

BR VII 20D EO= 1.3121E-01 (RYD) N*= 19.3251 MU= .6749

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.785	6945.35	5.589E+00	-5.191E+00	1.402E+00	1.814E+00	3.216E+00
.2000	2.721	4.506	2751.37	1.206E+00	-7.732E-01	1.646E-01	1.016E-01	2.662E-01
.4000	5.442	7.228	1715.47	5.506E-01	-2.375E-01	5.508E-02	1.537E-02	7.044E-02
.8000	10.885	12.670	978.59	2.161E-01	-2.145E-02	1.487E-02	2.198E-04	1.509E-02
1.0000	13.606	15.391	805.57	1.560E-01	6.516E-03	9.419E-03	2.464E-05	9.444E-03
2.0000	27.212	28.997	427.58	5.363E-02	3.298E-02	2.096E-03	1.189E-03	3.285E-03
3.0000	40.818	42.603	291.03	2.784E-02	2.947E-02	8.298E-04	1.395E-03	2.225E-03
4.0000	54.424	56.209	220.58	1.727E-02	2.464E-02	4.216E-04	1.286E-03	1.708E-03
5.0000	68.030	69.815	177.59	1.187E-02	2.063E-02	2.473E-04	1.121E-03	1.368E-03

BR VII 4F EO= 3.1170E+00 (RYD) N*= 3.9649 MU= .0351

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	42.409	292.36	8.789E-02	5.698E-01	8.823E-03	4.944E-01	5.032E-01
2.0000	27.212	69.621	178.09	3.528E-02	1.835E-01	2.333E-03	8.422E-02	8.656E-02
4.0000	54.424	96.833	128.04	1.836E-02	8.532E-02	8.790E-04	2.531E-02	2.619E-02

BR VII 5F EO= 1.9988E+00 (RYD) N*= 4.9512 MU= .0488

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	27.196	455.91	1.879E-01	1.014E+00	2.585E-02	1.005E+00	1.030E+00
1.0000	13.606	40.801	303.88	9.217E-02	4.500E-01	9.334E-03	2.966E-01	3.060E-01
4.0000	54.424	81.619	151.91	2.486E-02	1.027E-01	1.358E-03	3.094E-02	3.230E-02

BR VII 6F EO= 1.3868E+00 (RYD) N*= 5.9441 MU= .0559

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	18.869	657.08	3.082E-01	1.474E+00	4.828E-02	1.472E+00	1.520E+00
.5000	6.803	25.672	482.96	1.823E-01	8.394E-01	2.299E-02	6.495E-01	6.725E-01
1.0000	13.606	32.475	381.79	1.210E-01	5.369E-01	1.281E-02	3.361E-01	3.489E-01
2.0000	27.212	46.081	269.06	6.444E-02	2.688E-01	5.154E-03	1.195E-01	1.247E-01
4.0000	54.424	73.293	169.17	2.662E-02	1.028E-01	1.399E-03	2.783E-02	2.923E-02

BR VII 8F EO= 7.7779E-01 (RYD) N*= 7.9372 MU= .0628

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.583	1171.60	6.005E-01	2.470E+00	1.028E-01	2.318E+00	2.421E+00
.5000	6.803	17.386	713.16	2.624E-01	1.069E+00	3.225E-02	7.141E-01	7.463E-01
1.0000	13.606	24.189	512.58	1.493E-01	5.949E-01	1.451E-02	3.074E-01	3.219E-01
2.0000	27.212	37.794	328.05	6.774E-02	2.584E-01	4.671E-03	9.065E-02	9.532E-02
4.0000	54.424	65.006	190.73	2.446E-02	8.808E-02	1.048E-03	1.811E-02	1.916E-02

BR VII 10F EO= 4.9653E-01 (RYD) N*= 9.9340 MU= .0660

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.756	1835.28	9.514E-01	3.584E+00	1.647E-01	3.116E+00	3.280E+00
.5000	6.803	13.559	914.44	3.021E-01	1.154E+00	3.332E-02	6.489E-01	6.822E-01
1.0000	13.606	20.362	608.92	1.519E-01	5.731E-01	1.265E-02	2.402E-01	2.528E-01
2.0000	27.212	33.968	365.01	6.186E-02	2.258E-01	3.501E-03	6.219E-02	6.569E-02

BR VII 12F EO= 3.4415E-01 (RYD) N*= 11.9324 MU= .0676

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.682	2647.90	1.353E+00	4.819E+00	2.310E-01	3.905E+00	4.136E+00
.5000	6.803	11.485	1079.51	3.124E-01	1.150E+00	3.019E-02	5.456E-01	5.757E-01
1.0000	13.606	18.288	677.95	1.429E-01	5.228E-01	1.006E-02	1.795E-01	1.896E-01
2.0000	27.212	31.894	388.74	5.411E-02	1.927E-01	2.515E-03	4.252E-02	4.503E-02
3.0000	40.818	45.500	272.50	2.826E-02	9.823E-02	9.786E-04	1.577E-02	1.675E-02

BR VII 16F EO= 1.9308E-01 (RYD) N*= 15.9307 MU= .0693

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.627	4719.75	2.293E+00	7.650E+00	3.721E-01	5.521E+00	5.893E+00
.5000	6.803	9.430	1314.82	2.898E-01	1.026E+00	2.132E-02	3.564E-01	3.777E-01
1.0000	13.606	16.233	763.80	1.170E-01	4.143E-01	5.985E-03	1.000E-01	1.060E-01
2.0000	27.212	29.839	415.52	4.061E-02	1.410E-01	1.325E-03	2.130E-02	2.263E-02
3.0000	40.818	43.445	285.39	2.049E-02	6.971E-02	4.911E-04	7.580E-03	8.072E-03

BR VII 20F EO= 1.2336E-01 (RYD) N*= 19.9299 MU= .0701

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.678	7386.89	3.396E+00	1.095E+01	5.212E-01	7.225E+00	7.746E+00
.2000	2.721	4.400	2818.10	7.255E-01	2.472E+00	6.237E-02	9.653E-01	1.028E+00
.4000	5.442	7.121	1741.18	3.330E-01	1.153E+00	2.127E-02	3.399E-01	3.611E-01
1.0000	13.606	15.284	811.20	9.391E-02	3.274E-01	3.630E-03	5.884E-02	6.247E-02
2.0000	27.212	28.890	429.16	3.113E-02	1.068E-01	7.541E-04	1.183E-02	1.259E-02

KR VIII 4S EO= 9.0259E+00 (RYD) N*= 2.6628 MU= 1.3372

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	122.806	100.96	.000	1.240E-01	.000	1.187E-01	1.187E-01
2.0000	27.212	150.018	82.65	.000	9.759E-02	.000	8.977E-02	8.977E-02
6.0000	81.635	204.441	60.65	.000	6.621E-02	.000	5.631E-02	5.631E-02

KR VIII 5S EO= 4.7104E+00 (RYD) N*= 3.6861 MU= 1.3139

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	64.089	193.46	.000	2.035E-01	.000	1.668E-01	1.668E-01
2.0000	27.212	91.301	135.80	.000	1.295E-01	.000	9.624E-02	9.624E-02
6.0000	81.635	145.725	85.08	.000	6.927E-02	.000	4.394E-02	4.394E-02

KR VIII 6S EO= 2.9042E+00 (RYD) N*= 4.6944 MU= 1.3056

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	39.514	313.78	.000	2.980E-01	.000	2.205E-01	2.205E-01
2.0000	27.212	66.726	185.81	.000	1.489E-01	.000	9.295E-02	9.295E-02
6.0000	81.635	121.149	102.34	.000	6.516E-02	.000	3.233E-02	3.233E-02

KR VIII 8S EO= 1.4254E+00 (RYD) N*= 6.7008 MU= 1.2992

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	19.393	639.32	.000	5.272E-01	.000	3.388E-01	3.388E-01
2.0000	27.212	46.605	266.04	.000	1.567E-01	.000	7.194E-02	7.194E-02
6.0000	81.635	101.029	122.72	.000	5.168E-02	.000	1.696E-02	1.696E-02

KR VIII 10S EO= 8.4493E-01 (RYD) N*= 8.7032 MU= 1.2968

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.496	1078.52	.000	8.064E-01	.000	4.697E-01	4.697E-01
2.0000	27.212	38.708	320.31	.000	1.439E-01	.000	5.038E-02	5.038E-02
6.0000	81.635	93.131	133.13	.000	4.004E-02	.000	9.380E-03	9.380E-03

KR VIII 12S EO= 5.5854E-01 (RYD) N*= 10.7044 MU= 1.2956

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.599	1631.52	.000	1.133E+00	.000	6.126E-01	6.126E-01
1.0000	13.606	21.205	584.69	.000	2.599E-01	.000	9.003E-02	9.003E-02
2.0000	27.212	34.811	356.17	.000	1.259E-01	.000	3.467E-02	3.467E-02

KR VIII 16S EO= 2.9595E-01 (RYD) N*= 14.7055 MU= 1.2945

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.027	3079.11	.000	1.919E+00	.000	9.322E-01	9.322E-01
1.0000	13.606	17.633	703.17	.000	2.191E-01	.000	5.318E-02	5.318E-02
4.0000	54.424	58.450	212.12	.000	3.698E-02	.000	5.023E-03	5.023E-03

KR VIII 20S EO= 1.8290E-01 (RYD) N*= 18.7060 MU= 1.2940

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.489	4982.26	.000	2.876E+00	.000	1.294E+00	1.294E+00
1.0000	13.606	16.094	770.37	.000	1.778E-01	.000	3.196E-02	3.196E-02
2.0000	27.212	29.700	417.46	.000	7.112E-02	.000	9.439E-03	9.439E-03

KR VIII 4P EO= 7.7933E+00 (RYD) N*= 2.8657 MU= 1.1343

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	106.035	116.93	1.454E-01	1.050E-01	4.699E-02	4.901E-02	9.600E-02
.8000	10.885	116.920	106.04	1.241E-01	1.022E-01	3.773E-02	5.113E-02	8.886E-02
1.0000	13.606	119.641	103.63	1.196E-01	1.012E-01	3.583E-02	5.137E-02	8.719E-02
2.0000	27.212	133.247	93.05	1.004E-01	9.590E-02	2.812E-02	5.134E-02	7.945E-02
3.0000	40.818	146.853	84.43	8.568E-02	9.015E-02	2.258E-02	5.000E-02	7.259E-02

KR VIII 5P EO= 4.2175E+00 (RYD) N*= 3.8955 MU= 1.1045

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	57.382	216.07	2.735E-01	1.168E-01	8.988E-02	3.280E-02	1.227E-01
1.0000	13.606	70.988	174.66	1.923E-01	1.129E-01	5.499E-02	3.791E-02	9.290E-02
2.0000	27.212	84.594	146.57	1.437E-01	1.034E-01	3.661E-02	3.791E-02	7.453E-02
3.0000	40.818	98.200	126.26	1.122E-01	9.344E-02	2.588E-02	3.592E-02	6.180E-02

KR VIII 6P EO= 2.6582E+00 (RYD) N*= 4.9068 MU= 1.0932

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	36.168	342.81	4.371E-01	1.186E-01	1.448E-01	2.132E-02	1.661E-01
1.0000	13.606	49.773	249.10	2.569E-01	1.184E-01	6.881E-02	2.924E-02	9.804E-02
2.0000	27.212	63.379	195.63	1.715E-01	1.045E-01	3.904E-02	2.900E-02	6.804E-02
3.0000	40.818	76.985	161.05	1.237E-01	9.072E-02	2.468E-02	2.654E-02	5.123E-02

KR VIII 8P EO= 1.3382E+00 (RYD) N*= 6.9157 MU= 1.0843

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	18.207	680.98	8.654E-01	9.194E-02	2.856E-01	6.447E-03	2.921E-01
.6000	8.164	26.371	470.17	4.663E-01	1.215E-01	1.201E-01	1.632E-02	1.364E-01
.8000	10.885	29.092	426.19	3.955E-01	1.201E-01	9.533E-02	1.757E-02	1.129E-01
1.0000	13.606	31.813	389.74	3.404E-01	1.169E-01	7.722E-02	1.823E-02	9.544E-02
2.0000	27.212	45.419	272.98	1.869E-01	9.566E-02	3.324E-02	1.741E-02	5.065E-02
3.0000	40.818	59.025	210.06	1.200E-01	7.757E-02	1.781E-02	1.488E-02	3.268E-02

KR VIII 10P EO= 8.0451E-01 (RYD) N*= 8.9191 MU= 1.0809

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.946	1132.69	1.422E+00	2.658E-02	4.636E-01	3.240E-04	4.639E-01
.6000	8.164	19.110	648.81	5.601E-01	1.127E-01	1.256E-01	1.017E-02	1.357E-01
.8000	10.885	21.831	567.94	4.479E-01	1.114E-01	9.172E-02	1.135E-02	1.031E-01
1.0000	13.606	24.552	504.99	3.675E-01	1.075E-01	6.947E-02	1.188E-02	8.135E-02
2.0000	27.212	38.158	324.93	1.745E-01	8.222E-02	2.435E-02	1.081E-02	3.516E-02
3.0000	40.818	51.764	239.52	1.040E-01	6.354E-02	1.174E-02	8.754E-03	2.049E-02

KR VIII 12P EO= 5.3662E-01 (RYD) N*= 10.9209 MU= 1.0791

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.301	1698.17	2.101E+00	-7.568E-02	6.753E-01	1.752E-03	6.771E-01
.0200	.272	7.573	1637.15	1.977E+00	-5.305E-02	6.201E-01	8.928E-04	6.210E-01
.0400	.544	7.845	1580.36	1.864E+00	-3.339E-02	5.710E-01	3.664E-04	5.714E-01
.0600	.816	8.118	1527.39	1.761E+00	-1.627E-02	5.273E-01	8.998E-05	5.274E-01
.0800	1.088	8.390	1477.85	1.667E+00	-1.315E-03	4.882E-01	6.076E-07	4.882E-01
.1000	1.361	8.662	1431.42	1.580E+00	1.177E-02	4.531E-01	5.023E-05	4.531E-01
.2000	2.721	10.022	1237.10	1.238E+00	5.680E-02	3.220E-01	1.355E-03	3.233E-01
.6000	8.164	15.465	801.74	5.985E-01	1.014E-01	1.160E-01	6.662E-03	1.227E-01
.8000	10.885	18.186	681.77	4.556E-01	1.002E-01	7.908E-02	7.657E-03	8.673E-02
1.0000	13.606	20.907	593.03	3.602E-01	9.574E-02	5.682E-02	8.029E-03	6.485E-02
2.0000	27.212	34.513	359.25	1.543E-01	6.948E-02	1.720E-02	6.980E-03	2.418E-02
3.0000	40.818	48.119	257.67	8.769E-02	5.198E-02	7.750E-03	5.446E-03	1.320E-02

KR VIII 16P EO= 2.8741E-01 (RYD) N*= 14.9224 MU= 1.0776

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.910	3170.63	3.814E+00	-3.861E-01	1.191E+00	2.442E-02	1.216E+00
.0800	1.088	4.999	2480.26	2.532E+00	-1.399E-01	6.711E-01	4.099E-03	6.752E-01
.1000	1.361	5.271	2352.21	2.317E+00	-1.043E-01	5.928E-01	2.400E-03	5.952E-01
.2000	2.721	6.632	1869.62	1.578E+00	1.879E-03	3.459E-01	9.805E-07	3.459E-01
.3000	4.082	7.992	1551.33	1.154E+00	4.740E-02	2.230E-01	7.524E-04	2.238E-01
.4000	5.442	9.353	1325.66	8.865E-01	6.795E-02	1.540E-01	1.809E-03	1.558E-01
.8000	10.885	14.795	838.02	4.096E-01	7.889E-02	5.199E-02	3.858E-03	5.584E-02
1.0000	13.606	17.516	707.83	3.080E-01	7.413E-02	3.480E-02	4.033E-03	3.883E-02
2.0000	27.212	31.122	398.38	1.163E-01	5.012E-02	8.811E-03	3.275E-03	1.209E-02
3.0000	40.818	44.728	277.20	6.269E-02	3.611E-02	3.683E-03	2.443E-03	6.126E-03

KR VIII 20P EO= 1.7873E-01 (RYD) N*= 18.9231 MU= 1.0769

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.432	5098.61	5.978E+00	-8.319E-01	1.820E+00	7.051E-02	1.891E+00
.0800	1.088	3.520	3522.10	3.224E+00	-2.692E-01	7.665E-01	1.069E-02	7.772E-01
.1000	1.361	3.792	3269.37	2.847E+00	-2.040E-01	6.438E-01	6.613E-03	6.504E-01
.2000	2.721	5.153	2406.12	1.704E+00	-3.435E-02	3.133E-01	2.548E-04	3.136E-01
.3000	4.082	6.514	1903.52	1.150E+00	2.633E-02	1.804E-01	1.891E-04	1.806E-01
.4000	5.442	7.874	1574.60	8.361E-01	5.053E-02	1.153E-01	8.423E-04	1.161E-01
.8000	10.885	13.316	931.07	3.449E-01	6.228E-02	3.317E-02	2.164E-03	3.534E-02
1.0000	13.606	16.038	773.09	2.519E-01	5.787E-02	2.131E-02	2.250E-03	2.356E-02
2.0000	27.212	29.644	418.26	8.883E-02	3.755E-02	4.900E-03	1.751E-03	6.651E-03
3.0000	40.818	43.250	286.68	4.667E-02	2.654E-02	1.973E-03	1.276E-03	3.249E-03

KR VIII 4D EO= 5.8238E+00 (RYD) N*= 3.3150 MU= .6850

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	79.238	156.47	1.322E-01	1.963E-01	3.483E-02	1.151E-01	1.499E-01
1.0000	13.606	92.844	133.54	1.015E-01	1.936E-01	2.403E-02	1.313E-01	1.553E-01
2.0000	27.212	106.450	116.47	8.069E-02	1.824E-01	1.742E-02	1.335E-01	1.509E-01
3.0000	40.818	120.056	103.27	6.591E-02	1.686E-01	1.311E-02	1.287E-01	1.418E-01

KR VIII 5D EO= 3.4038E+00 (RYD) N*= 4.3362 MU= .6638

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	46.312	267.72	2.440E-01	1.591E-01	6.933E-02	4.418E-02	1.135E-01
1.0000	13.606	59.918	206.93	1.581E-01	1.804E-01	3.763E-02	7.352E-02	1.112E-01
2.0000	27.212	73.524	168.63	1.117E-01	1.718E-01	2.307E-02	8.180E-02	1.049E-01
3.0000	40.818	87.130	142.30	8.365E-02	1.563E-01	1.532E-02	8.028E-02	9.561E-02

KR VIII 6D EO= 2.2409E+00 (RYD) N*= 5.3442 MU= .6558

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	30.489	406.66	3.832E-01	9.768E-02	1.126E-01	1.097E-02	1.235E-01
.8000	10.885	41.374	299.67	2.291E-01	1.591E-01	5.457E-02	3.947E-02	9.404E-02
1.0000	13.606	44.095	281.18	2.057E-01	1.626E-01	4.688E-02	4.394E-02	9.082E-02
2.0000	27.212	57.701	214.88	1.302E-01	1.577E-01	2.460E-02	5.413E-02	7.873E-02
3.0000	40.818	71.307	173.88	9.065E-02	1.413E-01	1.473E-02	5.369E-02	6.842E-02
4.0000	54.424	84.913	146.02	6.711E-02	1.245E-01	9.613E-03	4.959E-02	5.920E-02

KR VIII 8D EO= 1.1845E+00 (RYD) N*= 7.3506 MU= .6494

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	16.116	769.33	7.373E-01	-9.492E-02	2.202E-01	5.475E-03	2.257E-01
.1000	1.361	17.477	709.44	6.436E-01	-3.639E-02	1.819E-01	8.724E-04	1.828E-01
.2000	2.721	18.837	658.20	5.675E-01	6.978E-03	1.525E-01	3.459E-05	1.525E-01
.4000	5.442	21.558	575.12	4.524E-01	6.393E-02	1.109E-01	3.323E-03	1.142E-01
.6000	8.164	24.280	510.66	3.703E-01	9.656E-02	8.370E-02	8.535E-03	9.224E-02
.8000	10.885	27.001	459.19	3.096E-01	1.152E-01	6.505E-02	1.351E-02	7.857E-02
1.0000	13.606	29.722	417.15	2.632E-01	1.255E-01	5.176E-02	1.765E-02	6.942E-02
2.0000	27.212	43.328	286.16	1.387E-01	1.284E-01	2.096E-02	2.694E-02	4.790E-02
3.0000	40.818	56.934	217.77	8.687E-02	1.120E-01	1.080E-02	2.691E-02	3.770E-02
4.0000	54.424	70.540	175.77	6.000E-02	9.570E-02	6.382E-03	2.436E-02	3.074E-02

KR VIII 10D EO= 7.3158E-01 (RYD) N*= 9.3532 MU= .6468

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.954	1245.61	1.186E+00	-3.746E-01	3.516E-01	5.268E-02	4.043E-01
.2000	2.721	12.675	978.19	7.912E-01	-1.232E-01	1.994E-01	7.253E-03	2.067E-01
.3000	4.082	14.036	883.37	6.669E-01	-5.527E-02	1.569E-01	1.616E-03	1.585E-01
.4000	5.442	15.396	805.30	5.711E-01	-7.928E-03	1.262E-01	3.648E-05	1.262E-01
1.0000	13.606	23.560	526.26	2.790E-01	9.558E-02	4.609E-02	8.116E-03	5.421E-02
2.0000	27.212	37.166	333.60	1.286E-01	1.037E-01	1.546E-02	1.506E-02	3.052E-02
3.0000	40.818	50.772	244.20	7.534E-02	8.863E-02	7.243E-03	1.504E-02	2.228E-02
4.0000	54.424	64.377	192.59	4.997E-02	7.433E-02	4.041E-03	1.341E-02	1.745E-02

KR VIII 12D EO= 4.9642E-01 (RYD) N*= 11.3544 MU= .6456

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.754	1835.69	1.723E+00	-7.365E-01	5.038E-01	1.381E-01	6.419E-01
.4000	5.442	12.197	1016.57	6.413E-01	-6.273E-02	1.261E-01	1.810E-03	1.279E-01
.5000	6.803	13.557	914.54	5.371E-01	-1.536E-02	9.829E-02	1.206E-04	9.841E-02
.6000	8.164	14.918	831.13	4.574E-01	1.694E-02	7.844E-02	1.614E-04	7.860E-02
1.0000	13.606	20.360	608.97	2.709E-01	7.388E-02	3.754E-02	4.190E-03	4.174E-02
2.0000	27.212	33.966	365.03	1.136E-01	8.459E-02	1.102E-02	9.164E-03	2.018E-02
3.0000	40.818	47.572	260.63	6.374E-02	7.132E-02	4.858E-03	9.123E-03	1.398E-02

KR VIII 16D EO= 2.7142E-01 (RYD) N*= 15.3556 MU= .6444

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.693	3357.39	3.049E+00	-1.693E+00	8.629E-01	3.992E-01	1.262E+00
.4000	5.442	9.135	1357.22	6.727E-01	-1.219E-01	1.039E-01	5.121E-03	1.090E-01
.5000	6.803	10.496	1181.28	5.331E-01	-5.737E-02	7.498E-02	1.303E-03	7.628E-02
.6000	8.164	11.856	1045.73	4.345E-01	-1.673E-02	5.628E-02	1.251E-04	5.640E-02
1.0000	13.606	17.299	716.73	2.301E-01	4.737E-02	2.302E-02	1.464E-03	2.449E-02
2.0000	27.212	30.905	401.19	8.595E-02	5.900E-02	5.739E-03	4.056E-03	9.795E-03
3.0000	40.818	44.511	278.55	4.597E-02	4.892E-02	2.364E-03	4.017E-03	6.381E-03
4.0000	54.424	58.117	213.34	2.897E-02	3.998E-02	1.226E-03	3.503E-03	4.729E-03

KR VIII 20D EO= 1.7082E-01 (RYD) N*= 19.3562 MU= .6438

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.324	5334.64	4.694E+00	-2.946E+00	1.287E+00	7.606E-01	2.048E+00
.4000	5.442	7.767	1596.42	6.285E-01	-1.382E-01	7.712E-02	5.589E-03	8.271E-02
.6000	8.164	10.488	1182.20	3.801E-01	-2.765E-02	3.808E-02	3.023E-04	3.838E-02
.8000	10.885	13.209	938.66	2.580E-01	1.485E-02	2.209E-02	1.099E-04	2.220E-02
1.0000	13.606	15.930	778.32	1.881E-01	3.311E-02	1.417E-02	6.583E-04	1.483E-02
2.0000	27.212	29.536	419.78	6.599E-02	4.360E-02	3.233E-03	2.117E-03	5.350E-03
3.0000	40.818	43.142	287.39	3.445E-02	3.583E-02	1.287E-03	2.089E-03	3.376E-03
4.0000	54.424	56.748	218.49	2.144E-02	2.908E-02	6.557E-04	1.809E-03	2.465E-03

KR VIII 4F EO= 4.0911E+00 (RYD) N*= 3.9552 MU= .0448

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	55.663	222.74	7.628E-02	4.476E-01	8.723E-03	4.004E-01	4.091E-01
2.0000	27.212	82.875	149.61	3.616E-02	1.830E-01	2.918E-03	9.962E-02	1.025E-01
4.0000	54.424	110.087	112.63	2.058E-02	9.582E-02	1.256E-03	3.629E-02	3.755E-02
6.0000	81.635	137.299	90.30	1.299E-02	5.783E-02	6.241E-04	1.649E-02	1.711E-02

KR VIII 5F EO= 2.6237E+00 (RYD) N*= 4.9389 MU= .0611

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	35.698	347.32	1.652E-01	7.905E-01	2.625E-02	8.010E-01	8.272E-01
2.0000	27.212	62.910	197.09	5.903E-02	2.549E-01	5.904E-03	1.468E-01	1.527E-01
4.0000	54.424	90.122	137.58	2.947E-02	1.199E-01	2.108E-03	4.649E-02	4.860E-02
6.0000	81.635	117.334	105.67	1.723E-02	6.800E-02	9.387E-04	1.948E-02	2.042E-02

KR VIII 6F EO= 1.8197E+00 (RYD) N*= 5.9305 MU= .0695

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	24.758	500.79	2.742E-01	1.142E+00	5.012E-02	1.159E+00	1.209E+00
2.0000	27.212	51.970	238.57	7.320E-02	2.870E-01	7.500E-03	1.537E-01	1.612E-01
4.0000	54.424	79.182	156.58	3.285E-02	1.234E-01	2.302E-03	4.331E-02	4.561E-02
6.0000	81.635	106.394	116.54	1.816E-02	6.689E-02	9.453E-04	1.709E-02	1.804E-02

KR VIII 8F EO= 1.0197E+00 (RYD) N*= 7.9225 MU= .0775

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	13.873	893.70	5.444E-01	1.898E+00	1.107E-01	1.794E+00	1.905E+00
1.0000	13.606	27.479	451.20	1.685E-01	5.992E-01	2.102E-02	3.543E-01	3.753E-01
2.0000	27.212	41.085	301.78	8.223E-02	2.898E-01	7.482E-03	1.239E-01	1.314E-01
3.0000	40.818	54.691	226.70	4.848E-02	1.689E-01	3.461E-03	5.605E-02	5.952E-02

KR VIII 10F EO= 6.5050E-01 (RYD) N*= 9.9189 MU= .0811

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.851	1400.86	8.765E-01	2.739E+00	1.831E-01	2.384E+00	2.567E+00
1.0000	13.606	22.457	552.11	1.809E-01	6.011E-01	1.980E-02	2.914E-01	3.112E-01
2.0000	27.212	36.063	343.81	7.832E-02	2.615E-01	5.957E-03	8.857E-02	9.453E-02
3.0000	40.818	49.668	249.63	4.355E-02	1.450E-01	2.537E-03	3.748E-02	4.002E-02
5.0000	68.030	76.880	161.27	1.886E-02	6.247E-02	7.368E-04	1.077E-02	1.151E-02

KR VIII 12F EO= 4.5066E-01 (RYD) N*= 11.9170 MU= .0830

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.132	2022.09	1.264E+00	3.669E+00	2.640E-01	2.964E+00	3.228E+00
1.0000	13.606	19.738	628.18	1.770E-01	5.653E-01	1.666E-02	2.265E-01	2.432E-01
2.0000	27.212	33.343	371.85	7.040E-02	2.280E-01	4.451E-03	6.224E-02	6.689E-02
4.0000	54.424	60.555	204.75	2.334E-02	7.567E-02	8.882E-04	1.245E-02	1.334E-02
5.0000	68.030	74.161	167.18	1.576E-02	5.113E-02	4.959E-04	6.961E-03	7.457E-03

KR VIII 16F EO= 2.5267E-01 (RYD) N*= 15.9151 MU= .0849

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.438	3606.51	2.192E+00	5.794E+00	4.449E-01	4.145E+00	4.589E+00
.5000	6.803	10.241	1210.71	3.607E-01	1.066E+00	3.588E-02	4.181E-01	4.540E-01
1.0000	13.606	17.044	727.46	1.522E-01	4.659E-01	1.063E-02	1.329E-01	1.435E-01
2.0000	27.212	30.650	404.53	5.450E-02	1.710E-01	2.452E-03	3.219E-02	3.464E-02
3.0000	40.818	44.256	280.16	2.795E-02	8.831E-02	9.313E-04	1.239E-02	1.333E-02
4.0000	54.424	57.862	214.28	1.690E-02	5.356E-02	4.452E-04	5.961E-03	6.406E-03

KR VIII 20F EO= 1.6138E-01 (RYD) N*= 19.9143 MU= .0857

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.196	5646.70	3.307E+00	8.263E+00	6.465E-01	5.384E+00	6.031E+00
.2000	2.721	4.917	2521.63	8.831E-01	2.408E+00	1.033E-01	1.024E+00	1.127E+00
.4000	5.442	7.638	1623.26	4.267E-01	1.212E+00	3.745E-02	4.027E-01	4.402E-01
1.0000	13.606	15.802	784.64	1.255E-01	3.766E-01	6.701E-03	8.045E-02	8.716E-02
2.0000	27.212	29.408	421.61	4.245E-02	1.312E-01	1.427E-03	1.818E-02	1.960E-02
3.0000	40.818	43.013	288.25	2.130E-02	6.645E-02	5.254E-04	6.820E-03	7.346E-03

RB IX 4S EO= 1.0816E+01 (RYD) N*= 2.7366 MU= 1.2634

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	147.162	84.25	.000	1.078E-01	.000	1.075E-01	1.075E-01
2.0000	27.212	174.374	71.10	.000	8.764E-02	.000	8.416E-02	8.416E-02
6.0000	81.635	228.797	54.19	.000	6.212E-02	.000	5.548E-02	5.548E-02

RB IX 5S EO= 5.7328E+00 (RYD) N*= 3.7589 MU= 1.2411

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	78.000	158.96	.000	1.754E-01	.000	1.508E-01	1.508E-01
2.0000	27.212	105.212	117.84	.000	1.190E-01	.000	9.367E-02	9.367E-02
6.0000	81.635	159.636	77.67	.000	6.789E-02	.000	4.624E-02	4.624E-02

RB IX 6S EO= 3.5645E+00 (RYD) N*= 4.7670 MU= 1.2330

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	48.498	255.65	.000	2.559E-01	.000	1.996E-01	1.996E-01
2.0000	27.212	75.709	163.77	.000	1.408E-01	.000	9.437E-02	9.437E-02
6.0000	81.635	130.133	95.28	.000	6.626E-02	.000	3.591E-02	3.591E-02

RB IX 8S EO= 1.7655E+00 (RYD) N*= 6.7733 MU= 1.2267

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	24.022	516.14	.000	4.515E-01	.000	3.077E-01	3.077E-01
2.0000	27.212	51.234	242.00	.000	1.567E-01	.000	7.906E-02	7.906E-02
6.0000	81.635	105.657	117.35	.000	5.523E-02	.000	2.025E-02	2.025E-02

RB IX 10S EO= 1.0518E+00 (RYD) N*= 8.7758 MU= 1.2242

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	14.310	866.43	.000	6.901E-01	.000	4.282E-01	4.282E-01
2.0000	27.212	41.522	298.60	.000	1.501E-01	.000	5.881E-02	5.881E-02
6.0000	81.635	95.946	129.23	.000	4.401E-02	.000	1.168E-02	1.168E-02

RB IX 12S EO= 6.9742E-01 (RYD) N*= 10.7770 MU= 1.2230

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.489	1306.63	.000	9.694E-01	.000	5.604E-01	5.604E-01
2.0000	27.212	36.701	337.83	.000	1.354E-01	.000	4.226E-02	4.226E-02
6.0000	81.635	91.124	136.06	.000	3.527E-02	.000	7.123E-03	7.123E-03

RB IX 16S EO= 3.7090E-01 (RYD) N*= 14.7780 MU= 1.2220

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.046	2456.94	.000	1.644E+00	.000	8.570E-01	8.570E-01
1.0000	13.606	18.652	664.72	.000	2.370E-01	.000	6.586E-02	6.586E-02
4.0000	54.424	59.470	208.49	.000	4.191E-02	.000	6.564E-03	6.564E-03

RB IX 20S EO= 2.2970E-01 (RYD) N*= 18.7785 MU= 1.2215

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.125	3967.19	.000	2.466E+00	.000	1.194E+00	1.194E+00
1.0000	13.606	16.731	741.05	.000	1.982E-01	.000	4.130E-02	4.130E-02
3.0000	40.818	43.943	282.15	.000	4.634E-02	.000	5.931E-03	5.931E-03

RB IX 4P EO= 9.4494E+00 (RYD) N*= 2.9278 MU= 1.0722

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	128.568	96.44	1.189E-01	1.040E-01	3.810E-02	5.821E-02	9.631E-02
.2000	2.721	131.289	94.44	1.150E-01	1.029E-01	3.635E-02	5.825E-02	9.459E-02
.4000	5.442	134.010	92.52	1.112E-01	1.018E-01	3.471E-02	5.821E-02	9.292E-02
1.0000	13.606	142.174	87.21	1.010E-01	9.844E-02	3.038E-02	5.771E-02	8.810E-02

RB IX 5P EO= 5.1744E+00 (RYD) N*= 3.9565 MU= 1.0435

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	70.402	176.11	2.213E-01	1.257E-01	7.224E-02	4.663E-02	1.189E-01
.4000	5.442	75.844	163.47	1.957E-01	1.220E-01	6.084E-02	4.725E-02	1.081E-01
.6000	8.164	78.565	157.81	1.846E-01	1.198E-01	5.608E-02	4.728E-02	1.034E-01
.8000	10.885	81.287	152.53	1.745E-01	1.177E-01	5.183E-02	4.715E-02	9.898E-02
1.0000	13.606	84.008	147.59	1.652E-01	1.154E-01	4.803E-02	4.690E-02	9.493E-02

RB IX 6P EO= 3.2825E+00 (RYD) N*= 4.9675 MU= 1.0325

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	44.662	277.61	3.519E-01	1.424E-01	1.159E-01	3.796E-02	1.538E-01
.4000	5.442	50.104	247.46	2.907E-01	1.372E-01	8.870E-02	3.949E-02	1.282E-01
.6000	8.164	52.826	234.71	2.662E-01	1.339E-01	7.841E-02	3.967E-02	1.181E-01
.8000	10.885	55.547	223.21	2.448E-01	1.304E-01	6.974E-02	3.957E-02	1.093E-01
1.0000	13.606	58.268	212.79	2.260E-01	1.268E-01	6.236E-02	3.927E-02	1.016E-01

RB IX 8P EO= 1.6643E+00 (RYD) N*= 6.9763 MU= 1.0237

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	22.645	547.53	6.931E-01	1.593E-01	2.278E-01	2.409E-02	2.519E-01
.4000	5.442	28.087	441.44	4.839E-01	1.544E-01	1.378E-01	2.804E-02	1.658E-01
.6000	8.164	30.808	402.45	4.146E-01	1.485E-01	1.109E-01	2.847E-02	1.394E-01
.8000	10.885	33.529	369.78	3.598E-01	1.421E-01	9.090E-02	2.835E-02	1.193E-01
1.0000	13.606	36.251	342.03	3.156E-01	1.355E-01	7.564E-02	2.787E-02	1.035E-01

RB IX 10P EO= 1.0045E+00 (RYD) N*= 8.9797 MU= 1.0203

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	13.667	907.16	1.136E+00	1.550E-01	3.693E-01	1.376E-02	3.831E-01
.4000	5.442	19.110	648.81	6.489E-01	1.590E-01	1.686E-01	2.023E-02	1.888E-01
.6000	8.164	21.831	567.94	5.192E-01	1.508E-01	1.233E-01	2.078E-02	1.440E-01
.8000	10.885	24.552	504.99	4.262E-01	1.414E-01	9.344E-02	2.056E-02	1.140E-01
1.0000	13.606	27.273	454.61	3.572E-01	1.321E-01	7.288E-02	1.994E-02	9.283E-02

RB IX 12P EO= 6.7169E-01 (RYD) N*= 10.9814 MU= 1.0186

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.139	1356.68	1.676E+00	1.303E-01	5.377E-01	6.504E-03	5.442E-01
.2000	2.721	11.860	1045.40	1.085E+00	1.585E-01	2.923E-01	1.249E-02	3.048E-01
.4000	5.442	14.581	850.31	7.677E-01	1.561E-01	1.800E-01	1.489E-02	1.949E-01
.6000	8.164	17.303	716.58	5.761E-01	1.458E-01	1.203E-01	1.542E-02	1.357E-01
.8000	10.885	20.024	619.20	4.506E-01	1.342E-01	8.517E-02	1.510E-02	1.003E-01
1.0000	13.606	22.745	545.12	3.636E-01	1.230E-01	6.298E-02	1.442E-02	7.740E-02

RB IX 16P EO= 3.6082E-01 (RYD) N*= 14.9830 MU= 1.0170

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.909	2525.56	3.036E+00	2.238E-02	9.481E-01	1.030E-04	9.482E-01
.2000	2.721	7.630	1624.89	1.454E+00	1.373E-01	3.377E-01	6.027E-03	3.438E-01
.4000	5.442	10.352	1197.75	8.717E-01	1.403E-01	1.648E-01	8.534E-03	1.733E-01
.6000	8.164	13.073	948.43	5.888E-01	1.274E-01	9.494E-02	8.890E-03	1.038E-01
.8000	10.885	15.794	785.02	4.282E-01	1.134E-01	6.066E-02	8.502E-03	6.916E-02
1.0000	13.606	18.515	669.65	3.274E-01	1.009E-01	4.158E-02	7.893E-03	4.947E-02

RB IX 20P EO= 2.2476E-01 (RYD) N*= 18.9837 MU= 1.0163

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.058	4054.35	4.755E+00	-1.608E-01	1.448E+00	3.313E-03	1.452E+00
.0400	.544	3.602	3441.83	3.619E+00	-3.190E-02	9.880E-01	1.536E-04	9.882E-01
.0600	.816	3.874	3200.09	3.204E+00	8.222E-03	8.333E-01	1.097E-05	8.333E-01
.0800	1.088	4.147	2990.09	2.861E+00	3.819E-02	7.109E-01	2.534E-04	7.111E-01
.2000	2.721	5.779	2145.36	1.642E+00	1.132E-01	3.262E-01	3.102E-03	3.293E-01
.4000	5.442	8.500	1458.58	8.591E-01	1.213E-01	1.314E-01	5.238E-03	1.366E-01
.6000	8.164	11.222	1104.88	5.383E-01	1.075E-01	6.812E-02	5.431E-03	7.355E-02
.8000	10.885	13.943	889.25	3.733E-01	9.328E-02	4.069E-02	5.083E-03	4.577E-02
1.0000	13.606	16.664	744.04	2.762E-01	8.136E-02	2.663E-02	4.621E-03	3.125E-02

RB IX 4D EO= 7.2285E+00 (RYD) N*= 3.3475 MU= .6525

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	98.351	126.07	1.088E-01	1.998E-01	2.928E-02	1.480E-01	1.773E-01
.6000	8.164	106.514	116.40	9.514E-02	1.939E-01	2.424E-02	1.510E-01	1.752E-01
.8000	10.885	109.235	113.50	9.118E-02	1.915E-01	2.283E-02	1.511E-01	1.739E-01
1.0000	13.606	111.956	110.75	8.746E-02	1.891E-01	2.153E-02	1.509E-01	1.724E-01
2.0000	27.212	125.562	98.74	7.203E-02	1.757E-01	1.637E-02	1.461E-01	1.625E-01

RB IX 5D EO= 4.2443E+00 (RYD) N*= 4.3686 MU= .6314

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	57.747	214.71	2.012E-01	1.959E-01	5.876E-02	8.356E-02	1.423E-01
1.0000	13.606	71.353	173.77	1.405E-01	1.907E-01	3.539E-02	9.787E-02	1.333E-01
2.0000	27.212	84.959	145.94	1.043E-01	1.749E-01	2.321E-02	9.796E-02	1.212E-01
3.0000	40.818	98.565	125.79	8.078E-02	1.575E-01	1.617E-02	9.219E-02	1.084E-01

RB IX 6D EO= 2.8020E+00 (RYD) N*= 5.3766 MU= .6234

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	38.124	325.22	3.167E-01	1.766E-01	9.610E-02	4.481E-02	1.409E-01
1.0000	13.606	51.730	239.68	1.886E-01	1.856E-01	4.627E-02	6.717E-02	1.134E-01
2.0000	27.212	65.336	189.77	1.265E-01	1.681E-01	2.630E-02	6.962E-02	9.592E-02
3.0000	40.818	78.942	157.06	9.138E-02	1.479E-01	1.657E-02	6.508E-02	8.165E-02

RB IX 8D EO= 1.4860E+00 (RYD) N*= 7.3830 MU= .6170

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	20.218	613.24	6.117E-01	9.264E-02	1.901E-01	6.543E-03	1.967E-01
.5000	6.803	27.021	458.85	3.749E-01	1.565E-01	9.547E-02	2.495E-02	1.204E-01
1.0000	13.606	33.824	366.56	2.562E-01	1.647E-01	5.579E-02	3.460E-02	9.039E-02
2.0000	27.212	47.430	261.41	1.438E-01	1.464E-01	2.466E-02	3.832E-02	6.298E-02
3.0000	40.818	61.036	203.14	9.315E-02	1.235E-01	1.331E-02	3.510E-02	4.841E-02
4.0000	54.424	74.642	166.11	6.570E-02	1.043E-01	8.099E-03	3.063E-02	3.873E-02

RB IX 10D EO= 9.1952E-01 (RYD) N*= 9.3856 MU= .6144

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	12.511	991.02	9.868E-01	-4.762E-02	3.062E-01	1.070E-03	3.073E-01
.0200	.272	12.783	969.93	9.518E-01	-3.292E-02	2.911E-01	5.223E-04	2.916E-01
.0600	.816	13.327	930.32	8.874E-01	-6.897E-03	2.638E-01	2.391E-05	2.638E-01
.0800	1.088	13.599	911.70	8.578E-01	4.619E-03	2.515E-01	1.094E-05	2.515E-01
.1000	1.361	13.872	893.82	8.297E-01	1.525E-02	2.400E-01	1.217E-04	2.401E-01
.2000	2.721	15.232	813.98	7.089E-01	5.754E-02	1.924E-01	1.902E-03	1.943E-01
.4000	5.442	17.953	690.60	5.375E-01	1.061E-01	1.304E-01	7.619E-03	1.380E-01
.6000	8.164	20.675	599.71	4.236E-01	1.286E-01	9.323E-02	1.289E-02	1.061E-01
1.0000	13.606	26.117	474.74	2.851E-01	1.409E-01	5.337E-02	1.954E-02	7.291E-02
2.0000	27.212	39.723	312.13	1.394E-01	1.235E-01	1.941E-02	2.285E-02	4.227E-02
3.0000	40.818	53.329	232.49	8.397E-02	1.010E-01	9.452E-03	2.051E-02	2.996E-02

RB IX 12D EO= 6.2471E-01 (RYD) N*= 11.3869 MU= .6131

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.500	1458.71	1.438E+00	-2.409E-01	4.416E-01	1.859E-02	4.602E-01
.0800	1.088	9.588	1293.12	1.175E+00	-1.252E-01	3.326E-01	5.670E-03	3.383E-01
.1000	1.361	9.860	1257.43	1.121E+00	-1.031E-01	3.114E-01	3.955E-03	3.154E-01
.2000	2.721	11.221	1104.96	9.024E-01	-2.022E-02	2.297E-01	1.730E-04	2.298E-01
1.0000	13.606	22.106	560.88	2.875E-01	1.195E-01	4.594E-02	1.190E-02	5.784E-02
2.0000	27.212	35.712	347.19	1.269E-01	1.038E-01	1.447E-02	1.450E-02	2.897E-02
3.0000	40.818	49.317	251.40	7.283E-02	8.296E-02	6.575E-03	1.280E-02	1.937E-02
4.0000	54.424	62.923	197.04	4.771E-02	6.728E-02	3.600E-03	1.074E-02	1.434E-02

RB IX 16D EO= 3.4207E-01 (RYD) N*= 15.3881 MU= .6119

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.654	2663.97	2.555E+00	-7.777E-01	7.636E-01	1.061E-01	8.698E-01
.2000	2.721	7.375	1681.08	1.183E+00	-1.554E-01	2.593E-01	6.716E-03	2.661E-01
.4000	5.442	10.097	1228.01	6.984E-01	6.132E-03	1.238E-01	1.432E-05	1.238E-01
.6000	8.164	12.818	967.30	4.674E-01	6.092E-02	7.039E-02	1.794E-03	7.218E-02
1.0000	13.606	18.260	679.00	2.571E-01	8.722E-02	3.033E-02	5.237E-03	3.557E-02
2.0000	27.212	31.866	389.09	9.957E-02	7.489E-02	7.940E-03	6.739E-03	1.468E-02
3.0000	40.818	45.472	272.67	5.399E-02	5.824E-02	3.332E-03	5.815E-03	9.147E-03

RB IX 20D EO= 2.1547E-01 (RYD) N*= 19.3886 MU= .6114

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.932	4229.16	3.946E+00	-1.505E+00	1.147E+00	2.505E-01	1.398E+00
.2000	2.721	5.653	2193.33	1.317E+00	-2.437E-01	2.466E-01	1.266E-02	2.593E-01
.4000	5.442	8.374	1480.60	6.819E-01	-2.436E-02	9.788E-02	1.873E-04	9.807E-02
.6000	8.164	11.095	1117.47	4.249E-01	3.856E-02	5.035E-02	6.219E-04	5.097E-02
1.0000	13.606	16.538	749.72	2.166E-01	6.603E-02	1.950E-02	2.718E-03	2.221E-02
2.0000	27.212	30.144	411.32	7.791E-02	5.633E-02	4.599E-03	3.607E-03	8.206E-03
3.0000	40.818	43.749	283.40	4.103E-02	4.316E-02	1.852E-03	3.073E-03	4.924E-03
4.0000	54.424	57.355	216.17	2.565E-02	3.404E-02	9.483E-04	2.505E-03	3.453E-03

RB IX 4F EO= 5.1996E+00 (RYD) N*= 3.9469 MU= .0531

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	70.745	175.26	6.632E-02	3.608E-01	8.381E-03	3.307E-01	3.391E-01
2.0000	27.212	97.957	126.57	3.567E-02	1.751E-01	3.357E-03	1.079E-01	1.113E-01
4.0000	54.424	125.169	99.06	2.187E-02	1.010E-01	1.613E-03	4.581E-02	4.742E-02

RB IX 5F EO= 3.3343E+00 (RYD) N*= 4.9288 MU= .0712

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	45.366	273.30	1.447E-01	6.328E-01	2.558E-02	6.524E-01	6.780E-01
2.0000	27.212	72.578	170.83	6.091E-02	2.512E-01	7.251E-03	1.644E-01	1.717E-01
4.0000	54.424	99.790	124.25	3.287E-02	1.305E-01	2.904E-03	6.105E-02	6.395E-02

RB IX 6F EO= 2.3115E+00 (RYD) N*= 5.9196 MU= .0804

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	31.450	394.23	2.417E-01	9.095E-01	4.949E-02	9.343E-01	9.838E-01
2.0000	27.212	58.662	211.36	7.855E-02	2.906E-01	9.748E-03	1.779E-01	1.877E-01
4.0000	54.424	85.874	144.38	3.802E-02	1.380E-01	3.343E-03	5.875E-02	6.210E-02

RB IX 8F EO= 1.2943E+00 (RYD) N*= 7.9110 MU= .0890

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	17.610	704.08	4.859E-01	1.502E+00	1.120E-01	1.427E+00	1.539E+00
1.0000	13.606	31.216	397.19	1.796E-01	5.804E-01	2.711E-02	3.777E-01	4.048E-01
4.0000	54.424	72.033	172.12	3.860E-02	1.273E-01	2.890E-03	4.190E-02	4.479E-02

RB IX 10F EO= 8.2525E-01 (RYD) N*= 9.9072 MU= .0928

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.228	1104.23	7.906E-01	2.159E+00	1.890E-01	1.879E+00	2.068E+00
1.0000	13.606	24.834	499.26	2.024E-01	6.040E-01	2.739E-02	3.254E-01	3.528E-01
2.0000	27.212	38.440	322.54	9.305E-02	2.860E-01	8.964E-03	1.129E-01	1.219E-01
4.0000	54.424	65.652	188.85	3.447E-02	1.084E-01	2.101E-03	2.770E-02	2.980E-02

RB IX 12F EO= 5.7150E-01 (RYD) N*= 11.9051 MU= .0949

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.776	1594.52	1.151E+00	2.884E+00	2.774E-01	2.322E+00	2.599E+00
1.0000	13.606	21.382	579.87	2.055E-01	5.848E-01	2.431E-02	2.625E-01	2.869E-01
2.0000	27.212	34.988	354.37	8.601E-02	2.549E-01	6.970E-03	8.163E-02	8.860E-02

RB IX 16F EO= 3.2027E-01 (RYD) N*= 15.9031 MU= .0969

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.358	2845.29	2.025E+00	4.536E+00	4.814E-01	3.220E+00	3.701E+00
.5000	6.803	11.161	1110.93	4.188E-01	1.071E+00	5.271E-02	4.595E-01	5.122E-01
1.0000	13.606	17.964	690.21	1.854E-01	5.013E-01	1.663E-02	1.621E-01	1.788E-01
2.0000	27.212	31.569	392.74	6.880E-02	1.963E-01	4.025E-03	4.368E-02	4.770E-02

RB IX 20F EO= 2.0449E-01 (RYD) N*= 19.9022 MU= .0978

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.782	4456.20	3.091E+00	6.452E+00	7.158E-01	4.159E+00	4.875E+00
.2000	2.721	5.504	2252.86	9.960E-01	2.290E+00	1.470E-01	1.036E+00	1.183E+00
.4000	5.442	8.225	1507.49	5.084E-01	1.233E+00	5.725E-02	4.487E-01	5.060E-01
1.0000	13.606	16.388	756.56	1.573E-01	4.148E-01	1.093E-02	1.012E-01	1.122E-01

MO XIV 4S EO= 2.1799E+01 (RYD) N*= 2.9985 MU= 1.0015

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	296.595	41.80	.000	6.087E-02	.000	6.905E-02	6.905E-02
4.0000	54.424	351.019	35.32	.000	4.882E-02	.000	5.258E-02	5.258E-02
8.0000	108.847	405.443	30.58	.000	4.030E-02	.000	4.139E-02	4.139E-02

MO XIV 5S EO= 1.2145E+01 (RYD) N*= 4.0173 MU= .9827

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	165.242	75.03	.000	9.615E-02	.000	9.600E-02	9.600E-02
5.0000	68.030	233.271	53.15	.000	5.996E-02	.000	5.270E-02	5.270E-02
10.0000	136.059	301.301	41.15	.000	4.193E-02	.000	3.329E-02	3.329E-02

MO XIV 6S EO= 7.7637E+00 (RYD) N*= 5.0245 MU= .9755

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	105.632	117.38	.000	1.382E-01	.000	1.268E-01	1.268E-01
5.0000	68.030	173.662	71.40	.000	6.869E-02	.000	5.149E-02	5.149E-02
10.0000	136.059	241.692	51.30	.000	4.276E-02	.000	2.777E-02	2.777E-02

MO XIV 8S EO= 3.9656E+00 (RYD) N*= 7.0303 MU= .9697

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	53.955	229.80	.000	2.407E-01	.000	1.964E-01	1.964E-01
4.0000	54.424	108.379	114.40	.000	8.764E-02	.000	5.231E-02	5.231E-02
8.0000	108.847	162.802	76.16	.000	4.814E-02	.000	2.371E-02	2.371E-02

MO XIV 10S EO= 2.4023E+00 (RYD) N*= 9.0326 MU= .9674

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	32.686	379.33	.000	3.661E-01	.000	2.753E-01	2.753E-01
4.0000	54.424	87.109	142.33	.000	8.610E-02	.000	4.058E-02	4.058E-02
8.0000	108.847	141.533	87.60	.000	4.167E-02	.000	1.545E-02	1.545E-02

MO XIV 12S EO= 1.6099E+00 (RYD) N*= 11.0338 MU= .9662

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	21.905	566.03	.000	5.134E-01	.000	3.628E-01	3.628E-01
4.0000	54.424	76.328	162.44	.000	7.932E-02	.000	3.018E-02	3.018E-02
8.0000	108.847	130.752	94.83	.000	3.522E-02	.000	1.019E-02	1.019E-02

MO XIV 16S EO= 8.6708E-01 (RYD) N*= 15.0348 MU= .9652

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.797	1050.96	.000	8.700E-01	.000	5.612E-01	5.612E-01
3.0000	40.818	52.615	235.65	.000	8.966E-02	.000	2.658E-02	2.658E-02
6.0000	81.635	93.433	132.70	.000	3.736E-02	.000	8.196E-03	8.196E-03

MO XIV 20S EO= 5.4092E-01 (RYD) N*= 19.0353 MU= .9647

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.360	1684.65	.000	1.306E+00	.000	7.887E-01	7.887E-01
2.0000	27.212	34.572	358.64	.000	1.214E-01	.000	3.200E-02	3.200E-02
4.0000	54.424	61.783	200.68	.000	4.975E-02	.000	9.609E-03	9.609E-03

MO XIV 4P EO= 1.9786E+01 (RYD) N*= 3.1474 MU= .8526

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	269.204	46.06	5.443E-02	7.567E-02	1.671E-02	6.458E-02	8.129E-02
2.0000	27.212	296.416	41.83	4.651E-02	6.848E-02	1.343E-02	5.824E-02	7.167E-02
4.0000	54.424	323.628	38.31	4.028E-02	6.228E-02	1.100E-02	5.258E-02	6.358E-02

MO XIV 5P EO= 1.1262E+01 (RYD) N*= 4.1718 MU= .8282

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	153.224	80.92	9.800E-02	1.033E-01	3.083E-02	6.852E-02	9.935E-02
3.0000	40.818	194.042	63.90	6.619E-02	8.030E-02	1.781E-02	5.242E-02	7.023E-02
6.0000	81.635	234.859	52.79	4.812E-02	6.457E-02	1.139E-02	4.102E-02	5.241E-02

MO XIV 6P EO= 7.3002E+00 (RYD) N*= 5.1816 MU= .8184

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	99.326	124.83	1.532E-01	1.329E-01	4.882E-02	7.350E-02	1.223E-01
3.0000	40.818	140.144	88.47	8.618E-02	9.126E-02	2.180E-02	4.890E-02	7.070E-02
6.0000	81.635	180.961	68.52	5.605E-02	6.759E-02	1.191E-02	3.463E-02	4.654E-02

MO XIV 8P EO= 3.7919E+00 (RYD) N*= 7.1895 MU= .8105

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	51.592	240.32	2.964E-01	1.964E-01	9.496E-02	8.340E-02	1.784E-01
3.0000	40.818	92.410	134.17	1.115E-01	1.012E-01	2.407E-02	3.967E-02	6.374E-02
6.0000	81.635	133.227	93.06	5.999E-02	6.467E-02	1.004E-02	2.334E-02	3.339E-02

MO XIV 10P EO= 2.3193E+00 (RYD) N*= 9.1927 MU= .8073

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	31.557	392.90	4.816E-01	2.651E-01	1.533E-01	9.294E-02	2.462E-01
2.0000	27.212	58.769	210.97	1.697E-01	1.291E-01	3.547E-02	4.103E-02	7.650E-02
4.0000	54.424	85.980	144.20	8.915E-02	8.076E-02	1.431E-02	2.350E-02	3.781E-02

MO XIV 12P EO= 1.5641E+00 (RYD) N*= 11.1944 MU= .8056

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	21.281	582.62	7.069E-01	3.386E-01	2.228E-01	1.022E-01	3.250E-01
2.0000	27.212	48.493	255.68	1.774E-01	1.273E-01	3.198E-02	3.294E-02	6.492E-02
4.0000	54.424	75.704	163.78	8.338E-02	7.269E-02	1.103E-02	1.676E-02	2.778E-02

MO XIV 16P EO= 8.4880E-01 (RYD) N*= 15.1959 MU= .8041

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.549	1073.60	1.273E+00	4.991E-01	3.923E-01	1.205E-01	5.128E-01
2.0000	27.212	38.761	319.88	1.665E-01	1.124E-01	2.252E-02	2.050E-02	4.302E-02
4.0000	54.424	65.972	187.94	6.748E-02	5.657E-02	6.293E-03	8.846E-03	1.514E-02

MO XIV 20P EO= 5.3188E-01 (RYD) N*= 19.1965 MU= .8035

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.237	1713.31	1.988E+00	6.764E-01	5.993E-01	1.387E-01	7.380E-01
.5000	6.803	14.040	883.12	6.562E-01	2.991E-01	1.266E-01	5.263E-02	1.792E-01
1.0000	13.606	20.843	594.87	3.375E-01	1.809E-01	4.974E-02	2.857E-02	7.832E-02

MO XIV 4D EO= 1.6357E+01 (RYD) N*= 3.4616 MU= .5384

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	222.553	55.71	4.872E-02	1.358E-01	1.328E-02	1.546E-01	1.679E-01
5.0000	68.030	290.582	42.67	3.056E-02	9.923E-02	6.821E-03	1.079E-01	1.147E-01
10.0000	136.059	358.612	34.57	2.105E-02	7.494E-02	3.993E-03	7.594E-02	7.993E-02

MO XIV 5D EO= 9.7573E+00 (RYD) N*= 4.4819 MU= .5181

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	132.757	93.39	9.059E-02	1.692E-01	2.738E-02	1.433E-01	1.707E-01
5.0000	68.030	200.787	61.75	4.389E-02	1.080E-01	9.723E-03	8.822E-02	9.794E-02
10.0000	136.059	268.816	46.12	2.608E-02	7.446E-02	4.596E-03	5.620E-02	6.080E-02

MO XIV 6D EO= 6.5039E+00 (RYD) N*= 5.4896 MU= .5104

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	88.491	140.11	1.435E-01	2.020E-01	4.580E-02	1.361E-01	1.819E-01
5.0000	68.030	156.521	79.21	5.304E-02	1.105E-01	1.107E-02	7.210E-02	8.317E-02
10.0000	136.059	224.550	55.22	2.785E-02	7.025E-02	4.378E-03	4.178E-02	4.616E-02

MO XIV 8D EO= 3.4883E+00 (RYD) N*= 7.4958 MU= .5042

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	47.462	261.24	2.804E-01	2.646E-01	9.377E-02	1.253E-01	2.191E-01
5.0000	68.030	115.491	107.36	5.995E-02	1.043E-01	1.043E-02	4.735E-02	5.778E-02
10.0000	136.059	183.521	67.56	2.626E-02	5.832E-02	3.181E-03	2.353E-02	2.671E-02

MO XIV 10D EO= 2.1725E+00 (RYD) N*= 9.4983 MU= .5017

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	29.559	419.46	4.564E-01	3.238E-01	1.548E-01	1.168E-01	2.716E-01
5.0000	68.030	97.588	127.05	5.798E-02	9.209E-02	8.246E-03	3.120E-02	3.945E-02
10.0000	136.059	165.618	74.86	2.260E-02	4.727E-02	2.127E-03	1.395E-02	1.608E-02

MO XIV 12D EO= 1.4821E+00 (RYD) N*= 11.4996 MU= .5004

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	20.166	614.83	6.699E-01	3.799E-01	2.275E-01	1.098E-01	3.372E-01
5.0000	68.030	88.195	140.58	5.272E-02	7.954E-02	6.163E-03	2.104E-02	2.720E-02
10.0000	136.059	156.225	79.36	1.906E-02	3.856E-02	1.426E-03	8.759E-03	1.019E-02

MO XIV 16D EO= 8.1573E-01 (RYD) N*= 15.5008 MU= .4992

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.099	1117.12	1.204E+00	4.839E-01	4.044E-01	9.798E-02	5.024E-01
4.0000	54.424	65.522	189.23	5.755E-02	7.438E-02	5.454E-03	1.367E-02	1.912E-02
8.0000	108.847	119.946	103.37	1.978E-02	3.507E-02	1.179E-03	5.562E-03	6.741E-03

MO XIV 20D EO= 5.1538E-01 (RYD) N*= 19.5013 MU= .4987

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.012	1768.15	1.875E+00	5.773E-01	6.195E-01	8.811E-02	7.077E-01
2.0000	27.212	34.224	362.28	1.268E-01	1.148E-01	1.383E-02	1.702E-02	3.084E-02
4.0000	54.424	61.436	201.81	4.595E-02	5.768E-02	3.260E-03	7.706E-03	1.097E-02

MO XIV 4F EO= 1.2793E+01 (RYD) N*= 3.9143 MU= .0857

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	174.054	71.23	3.208E-02	1.589E-01	4.825E-03	1.579E-01	1.627E-01
4.0000	54.424	228.477	54.27	1.858E-02	8.833E-02	2.125E-03	6.401E-02	6.613E-02
8.0000	108.847	282.901	43.83	1.189E-02	5.535E-02	1.077E-03	3.113E-02	3.220E-02

MO XIV 5F EO= 8.1863E+00 (RYD) N*= 4.8931 MU= .1069

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	111.382	111.32	7.082E-02	2.711E-01	1.504E-02	2.939E-01	3.090E-01
4.0000	54.424	165.806	74.78	3.291E-02	1.269E-01	4.837E-03	9.593E-02	1.008E-01
8.0000	108.847	220.229	56.30	1.857E-02	7.216E-02	2.045E-03	4.117E-02	4.322E-02

MO XIV 6F EO= 5.6628E+00 (RYD) N*= 5.8832 MU= .1168

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	77.047	160.92	1.199E-01	3.832E-01	2.985E-02	4.062E-01	4.360E-01
4.0000	54.424	131.471	94.31	4.396E-02	1.485E-01	6.843E-03	1.041E-01	1.110E-01
8.0000	108.847	185.895	66.70	2.218E-02	7.728E-02	2.462E-03	3.986E-02	4.233E-02

MO XIV 8F EO= 3.1610E+00 (RYD) N*= 7.8744 MU= .1256

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	43.008	288.29	2.477E-01	6.207E-01	7.104E-02	5.950E-01	6.660E-01
4.0000	54.424	97.432	127.25	5.559E-02	1.612E-01	8.110E-03	9.090E-02	9.901E-02
8.0000	108.847	151.855	81.65	2.357E-02	7.292E-02	2.272E-03	2.899E-02	3.126E-02

MO XIV 10F EO= 2.0117E+00 (RYD) N*= 9.8706 MU= .1294

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	27.371	452.98	4.124E-01	8.820E-01	1.254E-01	7.645E-01	8.899E-01
4.0000	54.424	81.795	151.58	5.747E-02	1.537E-01	7.277E-03	6.937E-02	7.665E-02
8.0000	108.847	136.219	91.02	2.165E-02	6.310E-02	1.719E-03	1.948E-02	2.120E-02

MO XIV 12F EO= 1.3914E+00 (RYD) N*= 11.8687 MU= .1313

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	18.931	654.93	6.123E-01	1.169E+00	1.911E-01	9.286E-01	1.120E+00
3.0000	40.818	59.749	207.51	7.979E-02	1.955E-01	1.025E-02	8.203E-02	9.227E-02
6.0000	81.635	100.567	123.29	3.017E-02	8.152E-02	2.465E-03	2.400E-02	2.646E-02

MO XIV 16F EO= 7.7853E-01 (RYD) N*= 15.8668 MU= .1332

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.593	1170.49	1.112E+00	1.819E+00	3.528E-01	1.259E+00	1.611E+00
2.0000	27.212	37.804	327.97	1.211E-01	2.625E-01	1.494E-02	9.357E-02	1.085E-01
4.0000	54.424	65.016	190.70	4.524E-02	1.097E-01	3.583E-03	2.808E-02	3.166E-02

MO XIV 20F EO= 4.9663E-01 (RYD) N*= 19.8660 MU= .1340

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.757	1834.89	1.738E+00	2.569E+00	5.494E-01	1.602E+00	2.151E+00
1.0000	13.606	20.363	608.88	2.612E-01	4.891E-01	3.740E-02	1.749E-01	2.123E-01
2.0000	27.212	33.969	365.00	1.060E-01	2.216E-01	1.027E-02	5.991E-02	7.018E-02

Appendice 4 : Séquence de Ag

AG I 5S EO= 5.5484E-01 (RYD) N*= 1.3425 MU= 3.6575

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.549	1642.40	.000	-4.263E-01	.000	8.621E-02	8.621E-02
.0400	.544	8.093	1531.95	.000	-2.163E-01	.000	2.380E-02	2.380E-02
.0800	1.088	8.638	1435.43	.000	-6.332E-02	.000	2.177E-03	2.177E-03
.1000	1.361	8.910	1391.59	.000	-3.056E-03	.000	5.228E-06	5.228E-06
.2000	2.721	10.270	1207.23	.000	1.895E-01	.000	2.317E-02	2.317E-02
.4000	5.442	12.991	954.37	.000	3.052E-01	.000	7.606E-02	7.606E-02
.5000	6.803	14.352	863.89	.000	3.103E-01	.000	8.685E-02	8.685E-02
.6000	8.164	15.713	789.09	.000	3.025E-01	.000	9.035E-02	9.035E-02
.7000	9.524	17.073	726.20	.000	2.888E-01	.000	8.946E-02	8.946E-02
1.0000	13.606	21.155	586.08	.000	2.407E-01	.000	7.702E-02	7.702E-02
4.0000	54.424	61.973	200.07	.000	8.108E-02	.000	2.560E-02	2.560E-02
10.0000	136.059	143.608	86.34	.000	3.224E-02	.000	9.381E-03	9.381E-03

AG I 6S EO= 1.7716E-01 (RYD) N*= 2.3758 MU= 3.6242

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.410	5143.68	.000	-3.047E+00	.000	1.406E+00	1.406E+00
.0400	.544	2.955	4196.25	.000	-1.476E+00	.000	4.043E-01	4.043E-01
.0800	1.088	3.499	3543.55	.000	-6.636E-01	.000	9.683E-02	9.683E-02
.1000	1.361	3.771	3287.85	.000	-4.060E-01	.000	3.907E-02	3.907E-02
.2000	2.721	5.132	2416.11	.000	2.117E-01	.000	1.445E-02	1.445E-02
.3000	4.082	6.492	1909.76	.000	3.802E-01	.000	5.897E-02	5.897E-02
.4000	5.442	7.853	1578.88	.000	4.116E-01	.000	8.362E-02	8.362E-02
.5000	6.803	9.213	1345.71	.000	3.957E-01	.000	9.066E-02	9.066E-02
.6000	8.164	10.574	1172.56	.000	3.637E-01	.000	8.788E-02	8.788E-02
1.0000	13.606	16.016	774.12	.000	2.318E-01	.000	5.407E-02	5.407E-02
4.0000	54.424	56.834	218.15	.000	3.762E-02	.000	5.056E-03	5.056E-03

AG I 8S EO= 5.1829E-02 (RYD) N*= 4.3925 MU= 3.6075

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.705	17582.27	.000	-1.263E+01	.000	7.072E+00	7.072E+00
.0400	.544	1.249	9923.55	.000	-3.292E+00	.000	8.507E-01	8.507E-01
.0800	1.088	1.794	6912.51	.000	-1.168E+00	.000	1.537E-01	1.537E-01
.1000	1.361	2.066	6001.94	.000	-7.062E-01	.000	6.474E-02	6.474E-02
.2000	2.721	3.426	3618.60	.000	8.141E-02	.000	1.427E-03	1.427E-03
.3000	4.082	4.787	2590.09	.000	2.183E-01	.000	1.433E-02	1.433E-02
.4000	5.442	6.148	2016.84	.000	2.345E-01	.000	2.124E-02	2.124E-02
.5000	6.803	7.508	1651.36	.000	2.201E-01	.000	2.286E-02	2.286E-02
.6000	8.164	8.869	1398.02	.000	1.980E-01	.000	2.186E-02	2.186E-02
1.0000	13.606	14.311	866.37	.000	1.194E-01	.000	1.283E-02	1.283E-02
2.0000	27.212	27.917	444.12	.000	4.058E-02	.000	2.888E-03	2.888E-03
4.0000	54.424	55.129	224.90	.000	1.529E-02	.000	8.104E-04	8.104E-04

AG I 10S EO= 2.4445E-02 (RYD) N*= 6.3959 MU= 3.6041

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.333	37278.14	.000	-2.719E+01	.000	1.545E+01	1.545E+01
.0200	.272	.605	20503.22	.000	-7.983E+00	.000	2.422E+00	2.422E+00
.0400	.544	.877	14140.22	.000	-3.508E+00	.000	6.779E-01	6.779E-01
.0800	1.088	1.421	8724.85	.000	-1.020E+00	.000	9.295E-02	9.295E-02
.1000	1.361	1.693	7322.65	.000	-5.883E-01	.000	3.683E-02	3.683E-02
.2000	2.721	3.054	4060.09	.000	4.631E-02	.000	4.116E-04	4.116E-04
.3000	4.082	4.414	2808.70	.000	1.377E-01	.000	5.258E-03	5.258E-03
.4000	5.442	5.775	2146.96	.000	1.461E-01	.000	7.751E-03	7.751E-03
.5000	6.803	7.136	1737.58	.000	1.358E-01	.000	8.264E-03	8.264E-03
.6000	8.164	8.496	1459.32	.000	1.212E-01	.000	7.847E-03	7.847E-03
1.0000	13.606	13.939	889.52	.000	7.200E-02	.000	4.541E-03	4.541E-03
2.0000	27.212	27.544	450.13	.000	2.395E-02	.000	9.930E-04	9.930E-04

AG I 12S EO= 1.4182E-02 (RYD) N*= 8.3972 MU= 3.6028

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.193	64255.78	.000	-4.655E+01	.000	2.628E+01	2.628E+01
.0200	.272	.465	26659.38	.000	-8.328E+00	.000	2.027E+00	2.027E+00
.0400	.544	.737	16818.68	.000	-3.140E+00	.000	4.566E-01	4.566E-01
.0800	1.088	1.281	9675.62	.000	-8.131E-01	.000	5.324E-02	5.324E-02
.1000	1.361	1.554	7980.84	.000	-4.568E-01	.000	2.037E-02	2.037E-02
.2000	2.721	2.914	4254.64	.000	3.106E-02	.000	1.766E-04	1.766E-04
.3000	4.082	4.275	2900.45	.000	9.553E-02	.000	2.451E-03	2.451E-03
.4000	5.442	5.635	2200.16	.000	1.007E-01	.000	3.590E-03	3.590E-03
.5000	6.803	6.996	1772.27	.000	9.310E-02	.000	3.810E-03	3.810E-03
.6000	8.164	8.357	1483.71	.000	8.287E-02	.000	3.607E-03	3.607E-03
1.0000	13.606	13.799	898.53	.000	4.891E-02	.000	2.075E-03	2.075E-03

AG I 16S EO= 6.5057E-03 (RYD) N*= 12.3981 MU= 3.6019

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.089	140073.27	.000	-9.906E+01	.000	5.459E+01	5.459E+01
.0100	.136	.225	55209.44	.000	-1.774E+01	.000	4.443E+00	4.443E+00
.0400	.544	.633	19594.78	.000	-2.264E+00	.000	2.037E-01	2.037E-01
.0800	1.088	1.177	10534.20	.000	-5.244E-01	.000	2.034E-02	2.034E-02
.1000	1.361	1.449	8556.05	.000	-2.875E-01	.000	7.528E-03	7.528E-03
.2000	2.721	2.810	4412.80	.000	1.722E-02	.000	5.237E-05	5.237E-05
.3000	4.082	4.170	2973.09	.000	5.490E-02	.000	7.899E-04	7.899E-04
.4000	5.442	5.531	2241.71	.000	5.763E-02	.000	1.154E-03	1.154E-03
.5000	6.803	6.891	1799.13	.000	5.318E-02	.000	1.225E-03	1.225E-03
.6000	8.164	8.252	1502.49	.000	4.720E-02	.000	1.155E-03	1.155E-03
.8000	10.885	10.973	1129.90	.000	3.620E-02	.000	9.038E-04	9.038E-04
1.0000	13.606	13.694	905.38	.000	2.778E-02	.000	6.640E-04	6.640E-04

AG I 20S EO= 3.7187E-03 (RYD) N*= 16.3984 MU= 3.6016

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.051	245047.03	.000	-1.690E+02	.000	9.084E+01	9.084E+01
.0025	.034	.085	146535.61	.000	-6.736E+01	.000	2.413E+01	2.413E+01
.0050	.068	.119	104518.21	.000	-3.658E+01	.000.	9.975E+00	9.975E+00
.0100	.136	.187	66425.00	.000	-1.592E+01	.000	2.973E+00	2.973E+00
.0200	.272	.323	38419.73	.000	-5.652E+00	.000	6.478E-01	6.478E-01
.0400	.544	.595	20843.87	.000	-1.650E+00	.000	1.018E-01	1.018E-01
.0800	1.088	1.139	10884.87	.000	-3.640E-01	.000	9.485E-03	9.485E-03
.1000	1.361	1.411	8785.95	.000	-1.980E-01	.000	3.475E-03	3.475E-03
.2000	2.721	2.772	4473.17	.000	1.169E-02	.000	2.379E-05	2.379E-05
.3000	4.082	4.132	3000.37	.000	3.656E-02	.000	3.471E-04	3.471E-04
.4000	5.442	5.493	2257.18	.000	3.849E-02	.000	5.114E-04	5.114E-04
.5000	6.803	6.854	1809.08	.000	3.525E-02	.000	5.350E-04	5.350E-04
.6000	8.164	8.214	1509.42	.000	3.111E-02	.000	4.997E-04	4.997E-04

AG I 5P EO= 2.8345E-01 (RYD) N*= 1.8783 MU= 3.1217

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.857	3214.89	2.764E+00	-8.524E+00	6.171E-01	1.174E+01	1.236E+01
.0200	.272	4.129	3003.00	2.452E+00	-7.280E+00	5.198E-01	9.167E+00	9.687E+00
.1000	1.361	5.217	2376.48	1.622E+00	-4.094E+00	2.877E-01	3.664E+00	3.951E+00
.6000	8.164	12.020	1031.48	3.655E-01	-4.418E-01	3.364E-02	9.827E-02	1.319E-01
1.0000	13.606	17.463	710.01	2.000E-01	-1.568E-01	1.462E-02	1.798E-02	3.261E-02
2.0000	27.212	31.068	399.07	9.849E-02	-3.300E-02	6.313E-03	1.417E-03	7.730E-03
3.0000	40.818	44.674	277.53	6.599E-02	8.161E-04	4.075E-03	1.246E-06	4.076E-03
4.0000	54.424	58.280	212.74	4.748E-02	1.400E-02	2.752E-03	4.786E-04	3.231E-03
6.0000	81.635	85.492	145.03	2.812E-02	1.901E-02	1.416E-03	1.294E-03	2.710E-03
8.0000	108.847	112.704	110.01	1.904E-02	1.752E-02	8.562E-04	1.449E-03	2.305E-03
10.0000	136.059	139.916	88.61	1.404E-02	1.541E-02	5.773E-04	1.392E-03	1.969E-03

AG I 6P EO= 1.1789E-01 (RYD) N*= 2.9125 MU= 3.0875

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.604	7730.09	6.960E+00	-1.904E+01	1.628E+00	2.436E+01	2.599E+01
.0500	.680	2.284	5427.91	3.908E+00	-1.008E+01	7.309E-01	9.715E+00	1.045E+01
.1000	1.361	2.965	4182.32	2.557E+00	-6.083E+00	4.060E-01	4.595E+00	5.001E+00
.4000	5.442	7.046	1759.59	5.958E-01	-8.912E-01	5.239E-02	2.345E-01	2.869E-01
.6000	8.164	9.767	1269.38	3.319E-01	-3.647E-01	2.254E-02	5.443E-02	7.697E-02
1.0000	13.606	15.210	815.17	1.484E-01	-8.974E-02	7.015E-03	5.131E-03	1.215E-02
2.0000	27.212	28.816	430.27	5.619E-02	-1.226E-02	1.906E-03	1.816E-04	2.087E-03
3.0000	40.818	42.422	292.27	3.632E-02	8.364E-04	1.172E-03	1.243E-06	1.174E-03
4.0000	54.424	56.028	221.30	2.621E-02	7.308E-03	8.059E-04	1.254E-04	9.313E-04
6.0000	81.635	83.239	148.95	1.537E-02	1.020E-02	4.117E-04	3.626E-04	7.743E-04
8.0000	108.847	110.451	112.25	1.028E-02	9.360E-03	2.445E-04	4.054E-04	6.499E-04
10.0000	136.059	137.663	90.07	7.519E-03	8.195E-03	1.630E-04	3.873E-04	5.503E-04

AG I 8P EO= 4.1240E-02 (RYD) N*= 4.9242 MU= 3.0758

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.561	22096.56	1.831E+01	-4.500E+01	3.941E+00	4.761E+01	5.155E+01
.0500	.680	1:241	9987.56	5.054E+00	-1.250E+01	6.643E-01	8.124E+00	8.788E+00
.1000	1.361	1.922	6451.90	2.512E+00	-5.817E+00	2.541E-01	2.724E+00	2.978E+00
.2000	2.721	3.282	3777.43	1.062E+00	-2.127E+00	7.747E-02	6.222E-01	6.997E-01
.4000	5.442	6.003	2065.24	3.882E-01	-5.741E-01	1.895E-02	8.291E-02	1.019E-01
.6000	8.164	8.725	1421.10	2.009E-01	-2.176E-01	7.380E-03	1.731E-02	2.469E-02
1.0000	13.606	14.167	875.18	8.230E-02	-4.606E-02	2.010E-03	1.259E-03	3.269E-03
2.0000	27.212	27.773	446.43	2.723E-02	-4.149E-03	4.315E-04	2.003E-05	4.515E-04
3.0000	40.818	41.379	299.64	1.703E-02	6.420E-04	2.514E-04	7.146E-07	2.522E-04
4.0000	54.424	54.985	225.49	1.228E-02	3.364E-03	1.736E-04	2.606E-05	1.996E-04
6.0000	81.635	82.197	150.84	7.184E-03	4.720E-03	8.886E-05	7.670E-05	1.656E-04
8.0000	108.847	109.408	113.32	4.778E-03	4.331E-03	5.232E-05	8.597E-05	1.383E-04
10.0000	136.059	136.620	90.75	3.482E-03	3.783E-03	3.470E-05	8.190E-05	1.166E-04

AG I 10P EO= 2.0841E-02 (RYD) N*= 6.9269 MU= 3.0731

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.284	43724.59	3.369E+01	-7.844E+01	6.741E+00	7.309E+01	7.983E+01
.0200	.272	.556	22312.53	1.121E+01	-2.762E+01	1.463E+00	1.775E+01	1.922E+01
.0600	.816	1.100	11272.34	3.744E+00	-9.059E+00	3.229E-01	3.781E+00	4.104E+00
.2000	2.721	3.005	4126.35	7.496E-01	-1.494E+00	3.537E-02	2.811E-01	3.165E-01
.4000	5.442	5.726	2165.35	2.576E-01	-3.802E-01	7.960E-03	3.467E-02	4.263E-02
.6000	8.164	8.447	1467.80	1.304E-01	-1.409E-01	3.007E-03	7.028E-03	1.003E-02
1.0000	13.606	13.889	892.66	5.214E-02	-2.875E-02	7.908E-04	4.808E-04	1.272E-03
2.0000	27.212	27.495	450.93	1.664E-02	-2.235E-03	1.594E-04	5.755E-06	1.652E-04
3.0000	40.818	41.101	301.66	1.030E-02	4.401E-04	9.128E-05	3.335E-07	9.161E-05
4.0000	54.424	54.707	226.64	7.417E-03	2.027E-03	6.304E-05	9.413E-06	7.245E-05
6.0000	81.635	81.919	151.35	4.338E-03	2.843E-03	3.230E-05	2.773E-05	6.003E-05
8.0000	108.847	109.131	113.61	2.881E-03	2.608E-03	1.897E-05	3.110E-05	5.008E-05
10.0000	136.059	136.343	90.94	2.097E-03	2.278E-03	1.255E-05	2.965E-05	4.221E-05

AG I 12P E0= 1.2546E-02 (RYD) N*= 8.9280 MU= 3.0720

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.171	72635.60	5.281E+01	-1.190E+02	9.974E+00	1.013E+02	1.113E+02
.0050	.068	.239	51936.68	3.037E+01	-7.113E+01	4.611E+00	5.060E+01	5.521E+01
.0600	.816	.987	12561.29	3.066E+00	-7.389E+00	1.943E-01	2.258E+00	2.452E+00
.1000	1.361	1.531	8096.87	1.522E+00	-3.486E+00	7.429E-02	7.796E-01	8.539E-01
.2000	2.721	2.892	4287.40	5.497E-01	-1.093E+00	1.831E-02	1.449E-01	1.632E-01
.4000	5.442	5.613	2208.89	1.837E-01	-2.708E-01	3.966E-03	1.725E-02	2.121E-02
.6000	8.164	8.334	1487.67	9.204E-02	-9.941E-02	1.479E-03	3.451E-03	4.930E-03
1.0000	13.606	13.777	899.98	3.645E-02	-1.999E-02	3.834E-04	2.307E-04	6.141E-04
2.0000	27.212	27.383	452.79	1.146E-02	-1.453E-03	7.539E-05	2.423E-06	7.781E-05
3.0000	40.818	40.988	302.49	7.058E-03	3.261E-04	4.277E-05	1.826E-07	4.296E-05
4.0000	54.424	54.594	227.10	5.086E-03	1.386E-03	2.958E-05	4.395E-06	3.397E-05
6.0000	81.635	81.806	151.56	2.974E-03	1.947E-03	1.516E-05	1.299E-05	2.814E-05
8.0000	108.847	109.018	113.73	1.970E-03	1.785E-03	8.859E-06	1.456E-05	2.342E-05
10.0000	136.059	136.230	91.01	1.437E-03	1.562E-03	5.894E-06	1.392E-05	1.982E-05

AG I 16P E0= 5.9826E-03 (RYD) N*= 12.9287 MU= 3.0713

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.081	152320.67	1.015E+02	-2.205E+02	1.758E+01	1.657E+02	1.833E+02
.0025	.034	.115	107428.38	5.697E+01	-1.285E+02	7.847E+00	7.988E+01	8.773E+01
.0075	.102	.183	67588.63	2.665E+01	-6.258E+01	2.728E+00	3.009E+01	3.282E+01
.0200	.272	.354	35072.28	9.189E+00	-2.237E+01	6.252E-01	7.410E+00	8.035E+00
.0600	.816	.898	13810.74	2.060E+00	-4.952E+00	7.979E-02	9.222E-01	1.002E+00
.1000	1.361	1.442	8598.28	9.677E-01	-2.211E+00	2.829E-02	2.954E-01	3.237E-01
.2000	2.721	2.803	4424.00	3.341E-01	-6.634E-01	6.553E-03	5.167E-02	5.822E-02
.4000	5.442	5.524	2244.60	1.090E-01	-1.607E-01	1.376E-03	5.974E-03	7.350E-03
.6000	8.164	8.245	1503.79	5.419E-02	-5.857E-02	5.072E-04	1.185E-03	1.692E-03
1.0000	13.606	13.687	905.85	2.130E-02	-1.164E-02	1.301E-04	7.764E-05	2.078E-04
2.0000	27.212	27.293	454.28	6.622E-03	-7.911E-04	2.507E-05	7.156E-07	2.579E-05
3.0000	40.818	40.899	303.15	4.071E-03	1.883E-04	1.420E-05	6.073E-08	1.426E-05
4.0000	54.424	54.505	227.48	2.932E-03	7.853E-04	9.817E-06	1.408E-06	1.123E-05
6.0000	81.635	81.717	151.73	1.711E-03	1.130E-03	5.008E-06	4.374E-06	9.382E-06
8.0000	108.847	108.929	113.82	1.136E-03	1.029E-03	2.943E-06	4.828E-06	7.771E-06
10.0000	136.059	136.141	91.07	8.286E-04	8.931E-04	1.958E-06	4.549E-06	6.507E-06

AG I 20P E0= 3.4893E-03 (RYD) N*= 16.9290 MU= 3.0710

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.047	261162.55	1.634E+02	-3.474E+02	2.655E+01	2.400E+02	2.666E+02
.0025	.034	.081	152149.95	6.683E+01	-1.498E+02	7.624E+00	7.657E+01	8.419E+01
.0062	.085	.133	93566.29	3.013E+01	-7.008E+01	2.519E+00	2.726E+01	2.978E+01
.0200	.272	.320	38795.06	7.221E+00	-1.757E+01	3.491E-01	4.132E+00	4.482E+00
.0600	.816	.864	14353.10	1.466E+00	-3.520E+00	3.886E-02	4.484E-01	4.873E-01
.2000	2.721	2.769	4478.21	2.281E-01	-4.526E-01	3.018E-03	2.376E-02	2.678E-02
.4000	5.442	5.490	2258.47	7.370E-02	-1.086E-01	6.246E-04	2.713E-03	3.337E-03
.6000	8.164	8.211	1510.00	3.644E-02	-3.934E-02	2.284E-04	5.325E-04	7.609E-04
1.0000	13.606	13.653	908.10	1.441E-02	-7.823E-03	5.941E-05	3.500E-05	9.442E-05
2.0000	27.212	27.259	454.84	4.433E-03	-5.576E-04	1.122E-05	3.550E-07	1.158E-05
3.0000	40.818	40.865	303.40	2.657E-03	1.556E-04	6.045E-06	4.144E-08	6.087E-06
4.0000	54.424	54.471	227.62	2.018E-03	5.647E-04	4.647E-06	7.278E-07	5.375E-06
6.0000	81.635	81.683	151.79	1.093E-03	7.331E-04	2.043E-06	1.839E-06	3.882E-06
8.0000	108.847	108.895	113.86	7.384E-04	7.533E-04	1.244E-06	2.589E-06	3.832E-06
10.0000	136.059	136.107	91.09	5.200E-04	5.803E-04	7.708E-07	1.920E-06	2.691E-06

AG I 5D E0= 1.1585E-01 (RYD) N*= 2.9379 MU= 2.0621

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.576	7865.65	-3.118E+00	1.825E+01	3.851E-01	1.980E+01	2.019E+01
.0600	.816	2.393	5181.95	-1.392E+00	6.995E+00	1.165E-01	4.414E+00	4.530E+00
.1000	1.361	2.937	4221.68	-9.305E-01	4.229E+00	6.391E-02	1.981E+00	2.044E+00
.2000	2.721	4.297	2885.09	-4.449E-01	1.525E+00	2.138E-02	3.770E-01	3.984E-01
.4000	5.442	7.019	1766.52	-1.813E-01	3.017E-01	5.800E-03	2.409E-02	2.989E-02
.6000	8.164	9.740	1272.98	-1.003E-01	6.146E-02	2.462E-03	1.387E-03	3.850E-03
.8000	10.885	12.461	994.99	-6.102E-02	2.541E-03	1.166E-03	3.034E-06	1.169E-03
1.0000	13.606	15.182	816.66	-3.772E-02	-1.013E-02	5.430E-04	5.876E-05	6.017E-04
1.5000	20.409	21.985	563.95	-8.955E-03	-7.618E-03	4.432E-05	4.811E-05	9.243E-05
2.0000	27.212	28.788	430.69	1.450E-03	-1.391E-02	1.522E-06	2.101E-04	2.116E-04
2.5000	34.015	35.591	348.36	4.706E-03	-3.966E-02	1.981E-05	2.111E-03	2.130E-03
3.0000	40.818	42.394	292.46	5.203E-03	2.582E-02	2.885E-05	1.065E-03	1.094E-03

AG I 6D E0= 6.4409E-02 (RYD) N*= 3.9403 MU= 2.0597

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.876	14148.25	-7.423E+00	3.369E+01	1.214E+00	3.750E+01	3.872E+01
.0200	.272	1.148	10795.92	-4.443E+00	2.019E+01	5.698E-01	1.765E+01	1.822E+01
.0600	.816	1.693	7324.80	-2.072E+00	9.238E+00	1.826E-01	5.447E+00	5.630E+00
.1000	1.361	2.237	5542.70	-1.180E+00	5.059E+00	7.830E-02	2.158E+00	2.237E+00
.2000	2.721	3.598	3446.44	-4.506E-01	1.628E+00	1.836E-02	3.597E-01	3.780E-01
.4000	5.442	6.319	1962.21	-1.531E-01	3.103E-01	3.725E-03	2.294E-02	2.667E-02
.6000	8.164	9.040	1371.55	-8.005E-02	6.966E-02	1.456E-03	1.654E-03	3.110E-03
.8000	10.885	11.761	1054.21	-4.815E-02	8.981E-03	6.855E-04	3.577E-05	7.212E-04
1.0000	13.606	14.482	856.13	-3.005E-02	-6.315E-03	3.287E-04	2.178E-05	3.504E-04
1.5000	20.409	21.285	582.50	-7.917E-03	-7.445E-03	3.354E-05	4.449E-05	7.802E-05
2.0000	27.212	28.088	441.42	3.719E-04	-1.164E-02	9.764E-08	1.435E-04	1.436E-04
2.5000	34.015	34.891	355.35	3.184E-03	-2.987E-02	8.891E-06	1.173E-03	1.182E-03
3.0000	40.818	41.694	297.37	3.780E-03	1.928E-02	1.498E-05	5.846E-04	5.996E-04

AG I 8D EO= 2.8327E-02 (RYD) N*= 5.9416 MU= 2.0584

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.385	32169.64	-2.141E+01	6.912E+01	4.441E+00	6.942E+01	7.386E+01
.0800	.816	1.202	10316.98	-2.453E+00	9.397E+00	1.817E-01	4.001E+00	4.183E+00
.1000	1.361	1.746	7101.14	-1.148E+00	4.488E+00	5.786E-02	1.326E+00	1.384E+00
.2000	2.721	3.107	3991.07	-3.481E-01	1.261E+00	9.463E-03	1.862E-01	1.957E-01
.4000	5.442	5.828	2127.51	-1.001E-01	2.271E-01	1.467E-03	1.133E-02	1.279E-02
.6000	8.164	8.549	1450.31	-4.958E-02	5.292E-02	5.283E-04	9.027E-04	1.431E-03
.8000	10.885	11.270	1100.13	-2.940E-02	8.965E-03	2.448E-04	3.415E-05	2.790E-04
1.0000	13.606	13.991	886.17	-1.840E-02	-2.858E-03	1.191E-04	4.308E-06	1.234E-04
1.5000	20.409	20.794	596.25	-5.106E-03	-5.057E-03	1.363E-05	2.005E-05	3.368E-05
2.0000	27.212	27.597	449.27	-7.028E-05	-7.390E-03	3.426E-09	5.682E-05	5.683E-05
2.5000	34.015	34.400	360.42	1.732E-03	-1.770E-02	2.593E-06	4.064E-04	4.090E-04
3.0000	40.818	41.203	300.91	2.173E-03	1.134E-02	4.892E-06	1.998E-04	2.047E-04

AG I 10D EO= 1.5854E-02 (RYD) N*= 7.9419 MU= 2.0581

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.216	57477.45	-4.241E+01	1.115E+02	9.751E+00	1.011E+02	1.108E+02
.0100	.136	.352	35246.20	-1.753E+01	5.109E+01	2.718E+00	3.462E+01	3.734E+01
.0600	.816	1.032	12013.39	-2.227E+00	7.953E+00	1.287E-01	2.461E+00	2.590E+00
.1000	1.361	1.576	7865.83	-9.422E-01	3.525E+00	3.517E-02	7.387E-01	7.738E-01
.2000	2.721	2.937	4221.68	-2.579E-01	9.281E-01	4.911E-03	9.539E-02	1.003E-01
.4000	5.442	5.658	2191.31	-6.931E-02	1.627E-01	6.832E-04	5.647E-03	6.330E-03
.6000	8.164	8.379	1479.68	-3.359E-02	3.826E-02	2.377E-04	4.624E-04	7.001E-04
.8000	10.885	11.100	1116.95	-1.983E-02	6.885E-03	1.098E-04	1.984E-05	1.296E-04
1.0000	13.606	13.822	897.05	-1.242E-02	-1.662E-03	5.356E-05	1.440E-06	5.500E-05
1.5000	20.409	20.625	601.16	-3.529E-03	-3.512E-03	6.456E-06	9.593E-06	1.605E-05
2.0000	27.212	27.428	452.05	-1.131E-04	-5.041E-03	8.813E-09	2.628E-05	2.629E-05
2.5000	34.015	34.230	362.21	1.121E-03	-1.180E-02	1.080E-06	1.799E-04	1.809E-04
3.0000	40.818	41.033	302.16	1.437E-03	7.545E-03	2.129E-06	8.808E-05	9.021E-05

AG I 12D EO= 1.0117E-02 (RYD) N*= 9.9421 MU= 2.0579

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.138	90074.28	-7.019E+01	1.607E+02	1.705E+01	1.340E+02	1.510E+02
.0025	.034	.172	72226.26	-4.753E+01	1.140E+02	9.748E+00	8.415E+01	9.390E+01
.0075	.102	.240	51727.06	-2.610E+01	6.736E+01	4.106E+00	4.100E+01	4.511E+01
.0200	.272	.410	30257.74	-9.707E+00	2.820E+01	9.706E-01	1.229E+01	1.326E+01
.0600	.816	.954	12996.42	-1.891E+00	6.510E+00	8.571E-02	1.524E+00	1.610E+00
.1000	1.361	1.498	8275.46	-7.561E-01	2.766E+00	2.153E-02	4.323E-01	4.539E-01
.2000	2.721	2.859	4336.96	-1.965E-01	7.038E-01	2.775E-03	5.339E-02	5.617E-02
.4000	5.442	5.580	2221.97	-5.103E-02	1.217E-01	3.652E-04	3.116E-03	3.481E-03
.6000	8.164	8.301	1493.60	-2.448E-02	2.873E-02	1.250E-04	2.584E-04	3.834E-04
.8000	10.885	11.022	1124.86	-1.440E-02	5.323E-03	5.748E-05	1.177E-05	6.923E-05
1.0000	13.606	13.744	902.14	-8.993E-03	-1.097E-03	2.794E-05	6.236E-07	2.856E-05
1.5000	20.409	20.547	603.44	-2.571E-03	-2.584E-03	3.415E-06	5.171E-06	8.585E-06
2.0000	27.212	27.349	453.34	-1.116E-04	-3.692E-03	8.562E-09	1.406E-05	1.407E-05
2.5000	34.015	34.152	363.04	7.870E-04	-8.538E-03	5.317E-07	9.388E-05	9.441E-05
3.0000	40.818	40.955	302.74	1.030E-03	5.446E-03	1.092E-06	4.579E-05	4.688E-05

AG I 16D EO= 5.1444E-03 (RYD) N*= 13.9422 MU= 2.0578

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.070	177137.09	-1.455E+02	2.788E+02	3.723E+01	2.052E+02	2.424E+02
.0025	.034	.104	119206.90	-7.282E+01	1.512E+02	1.386E+01	8.961E+01	1.035E+02
.0037	.051	.121	102453.86	-5.572E+01	1.194E+02	9.443E+00	6.506E+01	7.450E+01
.0075	.102	.172	72068.76	-2.989E+01	6.872E+01	3.812E+00	3.064E+01	3.445E+01
.0200	.272	.342	36241.35	-8.401E+00	2.276E+01	6.069E-01	6.679E+00	7.286E+00
.0600	.816	.886	13988.42	-1.337E+00	4.450E+00	3.983E-02	6.618E-01	7.016E-01
.1000	1.361	1.431	8666.82	-5.061E-01	1.814E+00	9.212E-03	1.775E-01	1.867E-01
.2000	2.721	2.791	4442.08	-1.255E-01	4.469E-01	1.106E-03	2.102E-02	2.213E-02
.4000	5.442	5.512	2249.24	-3.168E-02	7.632E-02	1.391E-04	1.211E-03	1.350E-03
.6000	8.164	8.234	1505.87	-1.501E-02	1.803E-02	4.665E-05	1.009E-04	1.475E-04
.8000	10.885	10.955	1131.81	-8.771E-03	3.436E-03	2.119E-05	4.876E-06	2.606E-05
1.0000	13.606	13.676	906.60	-5.513E-03	-5.836E-04	1.045E-05	1.756E-07	1.062E-05
1.5000	20.409	20.479	605.44	-1.570E-03	-1.559E-03	1.269E-06	1.877E-06	3.146E-06
2.0000	27.212	27.282	454.46	-7.977E-05	-2.268E-03	4.364E-09	5.290E-06	5.295E-06
2.5000	34.015	34.085	363.76	4.901E-04	-5.200E-03	2.058E-07	3.475E-05	3.496E-05
3.0000	40.818	40.888	303.24	5.957E-04	3.316E-03	3.647E-07	1.695E-05	1.731E-05

AG I 20D EO= 3.1063E-03 (RYD) N*= 17.9423 MU= 2.0577

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.042	293359.70	-2.460E+02	4.220E+02	6.430E+01	2.838E+02	3.481E+02
.0025	.034	.076	162543.08	-8.820E+01	1.691E+02	1.491E+01	8.220E+01	9.711E+01
.0037	.051	.093	132909.26	-6.185E+01	1.235E+02	8.971E+00	5.367E+01	6.264E+01
.0075	.102	.144	85917.47	-2.839E+01	6.228E+01	2.925E+00	2.111E+01	2.403E+01
.0200	.272	.314	39438.04	-6.812E+00	1.787E+01	3.667E-01	3.787E+00	4.153E+00
.0600	.816	.859	14440.20	-9.817E-01	3.219E+00	2.080E-02	3.355E-01	3.563E-01
.1000	1.361	1.403	8838.14	-3.627E-01	1.288E+00	4.639E-03	8.776E-02	9.240E-02
.2000	2.721	2.763	4486.65	-8.780E-02	3.128E-01	5.355E-04	1.020E-02	1.073E-02
.4000	5.442	5.485	2260.61	-2.190E-02	5.314E-02	6.610E-05	5.839E-04	6.500E-04
.6000	8.164	8.206	1510.96	-1.046E-02	1.254E-02	2.256E-05	4.866E-05	7.122E-05
.8000	10.885	10.927	1134.68	-6.067E-03	2.429E-03	1.011E-05	2.430E-06	1.254E-05
1.0000	13.606	13.648	908.45	-3.776E-03	-4.309E-04	4.892E-06	9.554E-08	4.988E-06
1.5000	20.409	20.451	606.26	-1.101E-03	-1.100E-03	6.233E-07	9.338E-07	1.557E-06
2.0000	27.212	27.254	454.93	-5.993E-05	-1.571E-03	2.460E-09	2.536E-06	2.538E-06
2.5000	34.015	34.057	364.05	3.076E-04	-3.573E-03	8.101E-08	1.639E-05	1.647E-05
3.0000	40.818	40.860	303.44	4.456E-04	2.289E-03	2.039E-07	8.074E-06	8.278E-06

AG I 4F EO= 6.2985E-02 (RYD) N*= 3.9846 MU= .0154

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.857	14467.97	3.512E+00	2.536E+01	2.847E-01	1.978E+01	2.007E+01
.0200	.272	1.129	10981.09	1.952E+00	1.297E+01	1.159E-01	6.819E+00	6.934E+00
.0600	.816	1.673	7409.57	8.302E-01	4.752E+00	3.106E-02	1.357E+00	1.388E+00
.1000	1.361	2.218	5591.11	4.270E-01	2.221E+00	1.089E-02	3.929E-01	4.038E-01
.2000	2.721	3.578	3465.09	1.278E-01	5.402E-01	1.573E-03	3.749E-02	3.906E-02
.3000	4.082	4.939	2510.48	5.911E-02	1.775E-01	4.647E-04	5.585E-03	6.050E-03
.4000	5.442	6.299	1968.24	3.540E-02	6.259E-02	2.126E-04	8.860E-04	1.099E-03

AG I 5F EO= 4.0273E-02 (RYD) N*= 4.9830 MU= .0170

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.548	22627.02	8.079E+00	4.621E+01	9.631E-01	4.202E+01	4.299E+01
.0200	.272	.820	15118.90	3.519E+00	1.964E+01	2.735E-01	1.136E+01	1.163E+01
.0600	.816	1.364	9087.83	1.184E+00	6.088E+00	5.148E-02	1.816E+00	1.867E+00
.1000	1.361	1.909	6496.37	5.431E-01	2.638E+00	1.516E-02	4.770E-01	4.921E-01
.2000	2.721	3.269	3792.63	1.418E-01	5.962E-01	1.769E-03	4.172E-02	4.349E-02
.3000	4.082	4.630	2678.05	6.107E-02	1.930E-01	4.651E-04	6.194E-03	6.659E-03
.4000	5.442	5.990	2069.78	3.496E-02	6.951E-02	1.972E-04	1.039E-03	1.236E-03

AG I 6F EO= 2.7944E-02 (RYD) N*= 5.9822 MU= .0178

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.380	32611.06	1.428E+01	6.843E+01	2.088E+00	6.393E+01	6.602E+01
.0200	.272	.652	19007.11	4.808E+00	2.376E+01	4.061E-01	1.322E+01	1.363E+01
.0600	.816	1.197	10361.97	1.330E+00	6.375E+00	5.699E-02	1.746E+00	1.803E+00
.1000	1.361	1.741	7122.42	5.622E-01	2.611E+00	1.482E-02	4.261E-01	4.409E-01
.2000	2.721	3.101	3997.78	1.344E-01	5.606E-01	1.508E-03	3.499E-02	3.650E-02
.3000	4.082	4.462	2778.73	5.551E-02	1.793E-01	3.702E-04	5.153E-03	5.523E-03
.4000	5.442	5.823	2129.41	3.095E-02	6.507E-02	1.502E-04	8.851E-04	1.035E-03

AG I 8F EO= 1.5698E-02 (RYD) N*= 7.9814 MU= .0186

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.214	58050.11	3.166E+01	1.179E+02	5.765E+00	1.065E+02	1.123E+02
.0100	.136	.350	35460.72	1.218E+01	4.951E+01	1.398E+00	3.077E+01	3.217E+01
.0200	.272	.486	25527.17	6.310E+00	2.682E+01	5.209E-01	1.254E+01	1.306E+01
.0600	.816	1.030	12038.21	1.308E+00	5.786E+00	4.748E-02	1.238E+00	1.285E+00
.1000	1.361	1.574	7876.27	4.994E-01	2.204E+00	1.057E-02	2.745E-01	2.851E-01
.2000	2.721	2.935	4224.74	1.080E-01	4.451E-01	9.219E-04	2.088E-02	2.180E-02
.3000	4.082	4.295	2886.52	4.265E-02	1.403E-01	2.104E-04	3.036E-03	3.247E-03

AG I 10F EO= 1.0038E-02 (RYD) N*= 9.9810 MU= .0190

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.137	90781.41	5.562E+01	1.742E+02	1.138E+01	1.489E+02	1.602E+02
.0025	.034	.171	72680.22	3.671E+01	1.207E+02	6.191E+00	8.926E+01	9.545E+01
.0100	.136	.273	45476.88	1.493E+01	5.417E+01	1.636E+00	2.873E+01	3.037E+01
.0200	.272	.409	30337.12	6.692E+00	2.612E+01	4.929E-01	1.002E+01	1.051E+01
.0400	.544	.681	18211.50	2.352E+00	9.775E+00	1.015E-01	2.336E+00	2.437E+00
.0600	.816	.953	13011.04	1.150E+00	4.878E+00	3.394E-02	8.141E-01	8.480E-01
.1000	1.361	1.497	8281.39	4.147E-01	1.783E+00	6.935E-03	1.709E-01	1.779E-01
.2000	2.721	2.858	4338.58	8.520E-02	3.487E-01	5.587E-04	1.248E-02	1.304E-02
.3000	4.082	4.218	2939.21	3.291E-02	1.090E-01	1.231E-04	1.801E-03	1.924E-03

AG I 12F EO= 6.9667E-03 (RYD) N*= 11.9808 MU= .0192

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.095	130804.01	8.608E+01	2.375E+02	1.891E+01	1.919E+02	2.109E+02
.0025	.034	.129	96260.70	4.892E+01	1.447E+02	8.301E+00	9.682E+01	1.051E+02
.0062	.085	.180	68948.39	2.608E+01	8.328E+01	3.294E+00	4.479E+01	4.808E+01
.0200	.272	.367	33792.38	6.472E+00	2.400E+01	4.139E-01	7.591E+00	8.005E+00
.0400	.544	.639	19402.44	2.085E+00	8.388E+00	7.478E-02	1.614E+00	1.689E+00
.0600	.816	.911	13607.78	9.826E-01	4.068E+00	2.369E-02	5.416E-01	5.653E-01
.0800	1.088	1.183	10478.36	5.513E-01	2.317E+00	9.684E-03	2.281E-01	2.377E-01
.1000	1.361	1.455	8519.18	3.431E-01	1.451E+00	4.613E-03	1.100E-01	1.147E-01
.2000	2.721	2.816	4402.97	6.821E-02	2.784E-01	3.529E-04	7.837E-03	8.190E-03
.3000	4.082	4.177	2968.62	2.603E-02	8.683E-02	7.621E-05	1.131E-03	1.207E-03

AG I 16F EO= 3.9157E-03 (RYD) N*= 15.9807 MU= .0193

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.053	232720.90	1.660E+02	3.840E+02	3.953E+01	2.821E+02	3.216E+02
.0025	.034	.087	142036.91	6.781E+01	1.754E+02	1.081E+01	9.640E+01	1.072E+02
.0037	.051	.104	118875.84	4.881E+01	1.316E+02	6.693E+00	6.490E+01	7.160E+01
.0087	.119	.172	71947.62	1.894E+01	5.757E+01	1.664E+00	2.051E+01	2.217E+01
.0200	.272	.325	38103.31	5.476E+00	1.918E+01	2.628E-01	4.300E+00	4.563E+00
.0400	.544	.598	20750.38	1.592E+00	6.178E+00	4.079E-02	8.189E-01	8.597E-01
.0600	.816	.870	14257.34	7.190E-01	2.903E+00	1.211E-02	2.632E-01	2.753E-01
.0800	1.088	1.142	10859.32	3.953E-01	1.625E+00	4.806E-03	1.083E-01	1.131E-01
.1000	1.361	1.414	8769.30	2.410E-01	1.009E+00	2.212E-03	5.170E-02	5.391E-02
.2000	2.721	2.774	4468.85	4.640E-02	1.900E-01	1.608E-04	3.597E-03	3.757E-03

AG I 20F EO= 2.5049E-03 (RYD) N*= 19.9806 MU= .0194

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.034	363799.37	2.707E+02	5.565E+02	6.725E+01	3.790E+02	4.462E+02
.0019	.026	.060	208058.49	9.951E+01	2.307E+02	1.589E+01	1.139E+02	1.298E+02
.0025	.034	.068	182076.45	7.808E+01	1.866E+02	1.118E+01	8.517E+01	9.635E+01
.0031	.043	.077	161863.21	6.296E+01	1.546E+02	8.178E+00	6.576E+01	7.394E+01
.0062	.085	.119	104087.04	2.773E+01	7.568E+01	2.468E+00	2.450E+01	2.697E+01
.0100	.136	.170	72873.07	1.410E+01	4.194E+01	9.104E-01	1.075E+01	1.166E+01
.0200	.272	.306	40492.04	4.473E+00	1.523E+01	1.650E-01	2.551E+00	2.716E+00
.0400	.544	.578	21439.14	1.229E+00	4.698E+00	2.351E-02	4.583E-01	4.818E-01
.0600	.816	.850	14579.15	5.457E-01	2.174E+00	6.822E-03	1.443E-01	1.512E-01
.0800	1.088	1.123	11045.02	2.943E-01	1.206E+00	2.618E-03	5.860E-02	6.122E-02
.2000	2.721	2.755	4499.98	3.394E-02	1.387E-01	8.546E-05	1.902E-03	1.988E-03

CD II 5S EO= 1.2247E+00 (RYD) N*= 1.8072 MU= 3.1928

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	16.663	744.08	.000	4.250E-01	.000	1.892E-01	1.892E-01
.0500	.680	17.343	714.89	.000	4.197E-01	.000	1.920E-01	1.920E-01
.1000	1.361	18.024	687.91	.000	4.128E-01	.000	1.930E-01	1.930E-01
.2000	2.721	19.384	639.62	.000	3.958E-01	.000	1.909E-01	1.909E-01
1.0000	13.606	30.269	409.61	.000	2.533E-01	.000	1.220E-01	1.220E-01
2.0000	27.212	43.875	282.59	.000	1.565E-01	.000	6.751E-02	6.751E-02
8.0000	108.847	125.510	98.79	.000	4.365E-02	.000	1.502E-02	1.502E-02

CD II 6S EO= 4.8376E-01 (RYD) N*= 2.8755 MU= 3.1245

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.582	1883.72	.000	7.366E-01	.000	2.244E-01	2.244E-01
.1000	1.361	7.943	1561.03	.000	7.209E-01	.000	2.594E-01	2.594E-01
.2000	2.721	9.303	1332.73	.000	6.678E-01	.000	2.607E-01	2.607E-01
.6000	8.164	14.746	840.84	.000	4.461E-01	.000	1.844E-01	1.844E-01
1.0000	13.606	20.188	614.16	.000	3.026E-01	.000	1.162E-01	1.162E-01
2.0000	27.212	33.794	366.89	.000	1.367E-01	.000	3.967E-02	3.967E-02
6.0000	81.635	88.217	140.55	.000	3.274E-02	.000	5.943E-03	5.943E-03

CD II 8S EO= 1.6649E-01 (RYD) N*= 4.9015 MU= 3.0985

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.265	5473.26	.000	8.308E-01	.000	9.827E-02	9.827E-02
.0500	.680	2.946	4209.20	.000	9.096E-01	.000	1.532E-01	1.532E-01
.1000	1.361	3.626	3419.46	.000	8.568E-01	.000	1.673E-01	1.673E-01
.2000	2.721	4.986	2486.44	.000	7.041E-01	.000	1.554E-01	1.554E-01
.5000	6.803	9.068	1367.25	.000	4.090E-01	.000	9.532E-02	9.532E-02
1.0000	13.606	15.871	781.20	.000	2.125E-01	.000	4.506E-02	4.506E-02
4.0000	54.424	56.689	218.71	.000	2.701E-02	.000	2.599E-03	2.599E-03
8.0000	108.847	111.113	111.59	.000	1.114E-02	.000	8.668E-04	8.668E-04

CD II 10S EO= 8.3829E-02 (RYD) N*= 6.9077 MU= 3.0923

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.141	10870.59	.000	7.560E-01	.000	4.096E-02	4.096E-02
.0600	.816	1.957	6335.79	.000	9.724E-01	.000	1.163E-01	1.163E-01
.0800	1.088	2.229	5562.32	.000	9.172E-01	.000	1.178E-01	1.178E-01
.1000	1.361	2.501	4957.16	.000	8.576E-01	.000	1.156E-01	1.156E-01
.2000	2.721	3.862	3210.63	.000	6.130E-01	.000	9.119E-02	9.119E-02
.6000	8.164	9.304	1332.60	.000	2.522E-01	.000	3.719E-02	3.719E-02
1.0000	13.606	14.746	840.79	.000	1.446E-01	.000	1.937E-02	1.937E-02
2.0000	27.212	28.352	437.30	.000	5.494E-02	.000	5.378E-03	5.378E-03
4.0000	54.424	55.564	223.14	.000	1.683E-02	.000	9.892E-04	9.892E-04
6.0000	81.635	82.776	149.79	.000	9.480E-03	.000	4.674E-04	4.674E-04

CD II 12S EO= 5.0384E-02 (RYD) N*= 8.9101 MU= 3.0899

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.686	18086.45	.000	5.023E-01	.000	1.087E-02	1.087E-02
.0200	.272	.958	12947.08	.000	1.021E+00	.000	6.279E-02	6.279E-02
.0400	.544	1.230	10082.18	.000	1.043E+00	.000	8.402E-02	8.402E-02
.0600	.816	1.502	8255.43	.000	9.660E-01	.000	8.806E-02	8.806E-02
.0800	1.088	1.774	6989.11	.000	8.751E-01	.000	8.537E-02	8.537E-02
.6000	8.164	8.849	1401.12	.000	1.865E-01	.000	1.934E-02	1.934E-02
1.0000	13.606	14.291	867.56	.000	1.042E-01	.000	9.757E-03	9.757E-03
2.0000	27.212	27.897	444.44	.000	3.888E-02	.000	2.651E-03	2.651E-03
3.0000	40.818	41.503	298.74	.000	1.929E-02	.000	9.706E-04	9.706E-04

CD II 16S EO= 2.3992E-02 (RYD) N*= 12.9120 MU= 3.0880

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.326	37981.54	.000	-5.804E-01	.000	6.911E-03	6.911E-03
.0025	.034	.360	34397.34	.000	-2.410E-02	.000	1.315E-05	1.315E-05
.0050	.068	.394	31431.28	.000	3.454E-01	.000	2.957E-03	2.957E-03
.0075	.102	.428	28936.13	.000	5.940E-01	.000	9.501E-03	9.501E-03
.0100	.136	.462	26808.00	.000	7.621E-01	.000	1.688E-02	1.688E-02
.0200	.272	.599	20714.22	.000	1.028E+00	.000	3.979E-02	3.979E-02
.0400	.544	.871	14240.25	.000	9.837E-01	.000	5.294E-02	5.294E-02
.0600	.816	1.143	10849.41	.000	8.387E-01	.000	5.052E-02	5.052E-02
.6000	8.164	8.490	1460.38	.000	1.142E-01	.000	6.962E-03	6.962E-03
1.0000	13.606	13.932	889.92	.000	6.244E-02	.000	3.414E-03	3.414E-03
2.0000	27.212	27.538	450.23	.000	2.294E-02	.000	9.109E-04	9.109E-04

CD II 20S EO= 1.3984E-02 (RYD) N*= 16.9127 MU= 3.0873

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.190	65164.57	.000	-2.438E+00	.000	7.104E-02	7.104E-02
.0025	.034	.224	55281.63	.000	-9.309E-01	.000	1.221E-02	1.221E-02
.0050	.068	.258	48001.64	.000	-1.081E-01	.000	1.898E-04	1.898E-04
.0075	.102	.292	42415.92	.000	3.617E-01	.000	2.403E-03	2.403E-03
.0100	.136	.326	37994.67	.000	6.368E-01	.000	8.316E-03	8.316E-03
.0200	.272	.462	26814.54	.000	9.693E-01	.000	2.730E-02	2.730E-02
.0400	.544	.735	16880.30	.000	8.537E-01	.000	3.364E-02	3.364E-02
.0600	.816	1.007	12317.08	.000	6.853E-01	.000	2.970E-02	2.970E-02
.6000	8.164	8.354	1484.19	.000	7.834E-02	.000	3.222E-03	3.222E-03
1.0000	13.606	13.796	898.70	.000	4.237E-02	.000	1.556E-03	1.556E-03
2.0000	27.212	27.402	452.47	.000	1.548E-02	.000	4.127E-04	4.127E-04

CD II 5P EO= 8.5491E-01 (RYD) N*= 2.1631 MU= 2.8369

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.632	1065.92	1.349E+00	-1.980E+00	4.432E-01	1.910E+00	2.354E+00
.2000	2.721	14.353	863.83	9.418E-01	-1.170E+00	2.666E-01	8.225E-01	1.089E+00
.6000	8.164	19.795	626.34	5.412E-01	-4.952E-01	1.215E-01	2.033E-01	3.248E-01
1.0000	13.606	25.238	491.27	3.572E-01	-2.467E-01	6.744E-02	6.435E-02	1.318E-01
2.0000	27.212	38.844	319.19	1.771E-01	-6.144E-02	2.553E-02	6.144E-03	3.167E-02
3.0000	40.818	52.450	236.39	1.133E-01	-1.358E-02	1.410E-02	4.049E-04	1.450E-02
4.0000	54.424	66.056	187.70	8.154E-02	5.828E-03	9.200E-03	9.399E-05	9.294E-03
5.0000	68.030	79.661	155.64	6.245E-02	1.506E-02	6.507E-03	7.573E-04	7.264E-03
6.0000	81.635	93.267	132.94	4.969E-02	1.943E-02	4.823E-03	1.475E-03	6.298E-03
10.0000	136.059	147.691	83.95	2.496E-02	2.076E-02	1.927E-03	2.666E-03	4.594E-03
11.0000	149.665	161.297	76.87	2.183E-02	1.995E-02	1.611E-03	2.690E-03	4.301E-03
12.0000	163.271	174.903	70.89	1.931E-02	1.908E-02	1.366E-03	2.668E-03	4.033E-03

CD II 6P EO= 3.8125E-01 (RYD) N*= 3.2391 MU= 2.7609

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.187	2390.22	3.063E+00	-4.629E+00	1.020E+00	4.656E+00	5.676E+00
.2000	2.721	7.908	1567.78	1.529E+00	-1.925E+00	3.874E-01	1.228E+00	1.615E+00
.6000	8.164	13.351	928.68	6.277E-01	-5.499E-01	1.102E-01	1.691E-01	2.793E-01
1.0000	13.606	18.793	659.74	3.419E-01	-2.065E-01	4.601E-02	3.356E-02	7.957E-02
2.0000	27.212	32.399	382.68	1.276E-01	-2.831E-02	1.105E-02	1.087E-03	1.213E-02
3.0000	40.818	46.005	269.51	7.124E-02	-3.291E-03	4.891E-03	2.087E-05	4.912E-03
4.0000	54.424	59.611	207.99	4.868E-02	4.335E-03	2.959E-03	4.692E-05	3.006E-03
5.0000	68.030	73.217	169.34	3.661E-02	8.358E-03	2.056E-03	2.143E-04	2.270E-03
8.0000	108.847	114.035	108.73	1.940E-02	1.190E-02	8.991E-04	6.769E-04	1.576E-03

CD II 8P EO= 1.4411E-01 (RYD) N*= 5.2685 MU= 2.7315

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.961	6323.62	7.728E+00	-1.160E+01	2.453E+00	1.106E+01	1.351E+01
.2000	2.721	4.682	2648.22	1.857E+00	-2.374E+00	3.380E-01	1.105E+00	1.444E+00
.6000	8.164	10.124	1224.65	5.136E-01	-4.599E-01	5.594E-02	8.972E-02	1.457E-01
1.0000	13.606	15.567	796.49	2.423E-01	-1.465E-01	1.914E-02	1.400E-02	3.313E-02
2.0000	27.212	29.173	425.01	7.615E-02	-1.298E-02	3.543E-03	2.058E-04	3.749E-03
3.0000	40.818	42.778	289.83	3.859E-02	4.402E-04	1.334E-03	3.473E-07	1.335E-03
4.0000	54.424	56.384	219.89	2.512E-02	3.002E-03	7.454E-04	2.129E-05	7.667E-04
6.0000	81.635	83.596	148.32	1.454E-02	5.223E-03	3.703E-04	9.553E-05	4.658E-04
8.0000	108.847	110.808	111.89	9.719E-03	5.833E-03	2.192E-04	1.579E-04	3.772E-04

CD II 10P EO= 7.5554E-02 (RYD) N*= 7.2762 MU= 2.7238

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.028	12061.22	1.414E+01	-2.076E+01	4.307E+00	1.856E+01	2.287E+01
.1000	1.361	2.389	5190.83	3.527E+00	-4.869E+00	6.225E-01	2.372E+00	2.995E+00
.2000	2.721	3.749	3307.04	1.682E+00	-2.148E+00	2.222E-01	7.249E-01	9.470E-01
.6000	8.164	9.192	1348.92	3.792E-01	-3.422E-01	2.769E-02	4.509E-02	7.278E-02
1.0000	13.606	14.634	847.25	1.692E-01	-1.030E-01	8.772E-03	6.509E-03	1.528E-02
2.0000	27.212	28.240	439.05	5.034E-02	-8.021E-03	1.499E-03	7.612E-05	1.575E-03
3.0000	40.818	41.846	296.29	2.475E-02	7.108E-04	5.369E-04	8.857E-07	5.378E-04
4.0000	54.424	55.452	223.59	1.584E-02	2.074E-03	2.915E-04	9.989E-06	3.015E-04
6.0000	81.635	82.663	149.99	9.085E-03	3.252E-03	1.429E-04	3.661E-05	1.795E-04
8.0000	108.847	109.875	112.84	6.064E-03	3.615E-03	8.463E-05	6.017E-05	1.448E-04

CD II 12P EO= 4.6455E-02 (RYD) N*= 9.2793 MU= 2.7207

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.632	19616.23	2.224E+01	-3.204E+01	6.551E+00	2.719E+01	3.374E+01
.1000	1.361	1.993	6222.18	3.337E+00	-4.579E+00	4.647E-01	1.751E+00	2.215E+00
.2000	2.721	3.353	3697.51	1.417E+00	-1.806E+00	1.410E-01	4.580E-01	5.990E-01
.6000	8.164	8.796	1409.64	2.858E-01	-2.587E-01	1.505E-02	2.466E-02	3.970E-02
1.0000	13.606	14.238	870.81	1.241E-01	-7.589E-02	4.596E-03	3.435E-03	8.031E-03
2.0000	27.212	27.844	445.29	3.605E-02	-5.597E-03	7.581E-04	3.655E-05	7.946E-04
3.0000	40.818	41.450	299.12	1.750E-02	6.283E-04	2.658E-04	6.855E-07	2.665E-04
4.0000	54.424	55.056	225.20	1.112E-02	1.512E-03	1.425E-04	5.271E-06	1.478E-04
6.0000	81.635	82.268	150.71	6.348E-03	2.269E-03	6.945E-05	1.774E-05	8.719E-05

CD II 16P EO= 2.2675E-02 (RYD) N*= 13.2818 MU= 2.7182

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.309	40188.29	4.325E+01	-6.066E+01	1.209E+01	4.757E+01	5.965E+01
.0200	.272	.581	21353.69	1.513E+01	-2.138E+01	2.786E+00	1.111E+01	1.390E+01
.0600	.816	1.125	11022.30	5.060E+00	-7.058E+00	6.034E-01	2.348E+00	2.951E+00
.1000	1.361	1.669	7428.31	2.636E+00	-3.594E+00	2.429E-01	9.034E-01	1.146E+00
.2000	2.721	3.030	4092.37	9.859E-01	-1.253E+00	6.169E-02	1.994E-01	2.611E-01
.6000	8.164	8.472	1463.47	1.789E-01	-1.623E-01	5.678E-03	9.352E-03	1.503E-02
1.0000	13.606	13.914	891.06	7.593E-02	-4.656E-02	1.680E-03	1.264E-03	2.944E-03
2.0000	27.212	27.520	450.53	2.161E-02	-3.293E-03	2.691E-04	1.250E-05	2.816E-04
3.0000	40.818	41.126	301.48	1.038E-02	4.355E-04	9.274E-05	3.267E-07	9.307E-05
4.0000	54.424	54.732	226.53	6.551E-03	9.169E-04	4.919E-05	1.928E-06	5.112E-05
8.0000	108.847	109.156	113.59	2.484E-03	1.473E-03	1.411E-05	9.917E-06	2.402E-05
10.0000	136.059	136.368	90.92	1.776E-03	1.409E-03	9.008E-06	1.133E-05	2.034E-05

CD II 20P EO= 1.3392E-02 (RYD) N*= 17.2828 MU= 2.7172

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.182	68047.50	7.034E+01	-9.695E+01	1.888E+01	7.175E+01	9.064E+01
.0100	.136	.318	38956.98	2.782E+01	-3.882E+01	5.160E+00	2.010E+01	2.526E+01
.0200	.272	.454	27290.30	1.540E+01	-2.158E+01	2.258E+00	8.860E+00	1.112E+01
.0600	.816	.999	12416.51	4.172E+00	-5.793E+00	3.640E-01	1.404E+00	1.768E+00
.1000	1.361	1.543	8036.46	2.031E+00	-2.761E+00	1.333E-01	4.927E-01	6.260E-01
.2000	2.721	2.903	4270.40	7.149E-01	-9.077E-01	3.109E-02	1.002E-01	1.313E-01
.6000	8.164	8.346	1485.62	1.239E-01	-1.126E-01	2.684E-03	4.429E-03	7.113E-03
1.0000	13.606	13.788	899.23	5.215E-02	-3.208E-02	7.853E-04	5.945E-04	1.380E-03
2.0000	27.212	27.394	452.60	1.469E-02	-2.191E-03	1.237E-04	5.509E-06	1.293E-04
3.0000	40.818	41.000	302.41	7.046E-03	3.026E-04	4.264E-05	1.573E-07	4.280E-05
4.0000	54.424	54.606	227.06	4.424E-03	6.159E-04	2.239E-05	8.678E-07	2.326E-05
6.0000	81.635	81.818	151.54	2.520E-03	8.820E-04	1.089E-05	2.666E-06	1.355E-05
8.0000	108.847	109.030	113.72	1.682E-03	1.012E-03	6.461E-06	4.676E-06	1.114E-05

CD II 5D EO= 4.2091E-01 (RYD) N*= 3.0827 MU= 1.9173

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.727	2165.00	3.954E-02	9.192E-01	2.251E-04	1.824E-01	1.826E-01
.0200	.272	5.999	2066.80	4.499E-02	6.188E-01	3.052E-04	8.662E-02	8.693E-02
.0400	.544	6.271	1977.11	4.945E-02	3.694E-01	3.855E-04	3.227E-02	3.266E-02
.0600	.816	6.543	1894.89	5.308E-02	1.616E-01	4.634E-04	6.442E-03	6.906E-03
.0800	1.088	6.815	1819.23	5.602E-02	-1.207E-02	5.376E-04	3.743E-05	5.750E-04
.1000	1.361	7.087	1749.38	5.837E-02	-1.575E-01	6.070E-04	6.626E-03	7.233E-03
.1500	2.041	7.768	1596.17	6.227E-02	-4.263E-01	7.571E-04	5.323E-02	5.399E-02
.2000	2.721	8.448	1467.64	6.417E-02	-5.991E-01	8.744E-04	1.143E-01	1.152E-01
.6000	8.164	13.890	892.60	5.834E-02	-8.013E-01	1.188E-03	3.363E-01	3.375E-01
1.0000	13.606	19.333	641.33	5.148E-02	-6.258E-01	1.288E-03	2.855E-01	2.868E-01
2.0000	27.212	32.939	376.42	4.424E-02	-3.375E-01	1.621E-03	1.415E-01	1.431E-01
3.0000	40.818	46.545	266.38	3.787E-02	-2.174E-01	1.678E-03	8.294E-02	8.462E-02
4.0000	54.424	60.151	206.13	3.111E-02	-1.523E-01	1.463E-03	5.260E-02	5.406E-02
6.0000	81.635	87.362	141.92	2.060E-02	-7.473E-02	9.317E-04	1.840E-02	1.933E-02
8.0000	108.847	114.574	108.21	1.446E-02	-3.270E-02	6.020E-04	4.618E-03	5.220E-03
10.0000	136.059	141.786	87.45	1.083E-02	-1.102E-02	4.181E-04	6.497E-04	1.068E-03
12.0000	163.271	168.998	73.37	8.504E-03	-1.424E-04	3.072E-04	1.292E-07	3.073E-04
14.0000	190.483	196.210	63.19	6.901E-03	5.261E-03	2.349E-04	2.048E-04	4.396E-04
18.0000	244.906	250.633	49.47	4.863E-03	9.020E-03	1.490E-04	7.689E-04	9.179E-04

CD II 6D EO= 2.3668E-01 (RYD) N*= 4.1110 MU= 1.8890

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.220	3850.26	-2.481E-01	3.849E+00	4.982E-03	1.798E+00	1.803E+00
.0600	.816	4.037	3071.58	-1.025E-01	1.671E+00	1.065E-03	4.250E-01	4.261E-01
.1000	1.361	4.581	2706.65	-4.961E-02	8.835E-01	2.833E-04	1.348E-01	1.351E-01
.1500	2.041	5.261	2356.66	-9.375E-03	2.756E-01	1.162E-05	1.507E-02	1.508E-02
.2000	2.721	5.941	2086.82	1.418E-02	-9.050E-02	3.002E-05	1.835E-03	1.865E-03
.2500	3.401	6.622	1872.43	2.806E-02	-3.156E-01	1.311E-04	2.487E-02	2.500E-02
.4000	5.442	8.663	1431.29	4.303E-02	-5.886E-01	4.031E-04	1.132E-01	1.136E-01
.8000	10.885	14.105	879.03	3.885E-02	-5.580E-01	5.351E-04	1.656E-01	1.661E-01
1.0000	13.606	16.826	736.87	3.523E-02	-4.848E-01	5.248E-04	1.491E-01	1.496E-01
3.0000	40.818	44.038	281.54	2.417E-02	-1.480E-01	6.469E-04	3.638E-02	3.703E-02
5.0000	68.030	71.250	174.02	1.683E-02	-7.154E-02	5.072E-04	1.375E-02	1.426E-02
6.0000	81.635	84.856	146.11	1.379E-02	-4.963E-02	4.055E-04	7.881E-03	8.287E-03
8.0000	108.847	112.068	110.64	9.602E-03	-2.168E-02	2.597E-04	1.986E-03	2.245E-03
10.0000	136.059	139.279	89.02	7.128E-03	-7.334E-03	1.779E-04	2.825E-04	4.603E-04
12.0000	163.271	166.491	74.47	5.564E-03	-1.897E-04	1.295E-04	2.258E-07	1.298E-04
14.0000	190.483	193.703	64.01	4.498E-03	3.337E-03	9.850E-05	8.134E-05	1.798E-04
16.0000	217.695	220.915	56.12	3.730E-03	5.034E-03	7.725E-05	2.110E-04	2.883E-04

CD II 8D EO= 1.0656E-01 (RYD) N*= 6.1267 MU= 1.8733

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.450	8551.56	-1.566E+00	1.138E+01	8.932E-02	7.077E+00	7.166E+00
.0600	.816	2.266	5471.06	-5.341E-01	3.895E+00	1.625E-02	1.296E+00	1.313E+00
.1000	1.361	2.810	4411.60	-2.890E-01	2.087E+00	5.901E-03	4.614E-01	4.673E-01
.2000	2.721	4.171	2972.54	-6.341E-02	3.610E-01	4.215E-04	2.049E-02	2.091E-02
.2500	3.401	4.851	2555.71	-2.317E-02	3.627E-02	6.544E-05	2.406E-04	3.061E-04
.3000	4.082	5.532	2241.40	-6.288E-04	-1.512E-01	5.498E-08	4.769E-03	4.769E-03
.4000	5.442	6.892	1798.93	1.965E-02	-3.262E-01	6.687E-05	2.765E-02	2.771E-02
.8000	10.885	12.335	1005.19	2.484E-02	-3.550E-01	1.913E-04	5.862E-02	5.881E-02
1.0000	13.606	15.056	823.51	2.181E-02	-3.069E-01	1.801E-04	5.346E-02	5.364E-02
3.0000	40.818	42.268	293.34	1.315E-02	-8.516E-02	1.838E-04	1.156E-02	1.174E-02
5.0000	68.030	69.479	178.45	9.442E-03	-4.016E-02	1.557E-04	4.225E-03	4.381E-03
6.0000	81.635	83.085	149.23	7.775E-03	-2.786E-02	1.263E-04	2.431E-03	2.558E-03
8.0000	108.847	110.297	112.41	5.396E-03	-1.217E-02	8.072E-05	6.155E-04	6.962E-04
10.0000	136.059	137.509	90.17	3.979E-03	-4.125E-03	5.474E-05	8.823E-05	1.430E-04
12.0000	163.271	164.721	75.27	3.094E-03	-1.433E-04	3.963E-05	1.276E-07	3.976E-05
14.0000	190.483	191.933	64.60	2.493E-03	1.814E-03	2.999E-05	2.381E-05	5.380E-05
18.0000	244.906	246.356	50.33	1.741E-03	3.166E-03	1.877E-05	9.308E-05	1.118E-04
20.0000	272.118	273.566	45.32	1.493E-03	3.302E-03	1.534E-05	1.125E-04	1.278E-04

CD II 10D EO= 6.0493E-02 (RYD) N*= 8.1316 MU= 1.8684

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.823	15064.00	-3.870E+00	2.106E+01	3.098E-01	1.377E+01	1.408E+01
.0200	.272	1.095	11321.07	-2.153E+00	1.191E+01	1.276E-01	5.861E+00	5.988E+00
.0600	.816	1.639	7562.82	-8.699E-01	4.953E+00	3.119E-02	1.516E+00	1.548E+00
.1000	1.361	2.184	5677.93	-4.216E-01	2.425E+00	9.758E-03	4.841E-01	4.938E-01
.2000	2.721	3.544	3498.24	-9.052E-02	4.479E-01	7.300E-04	2.680E-02	2.753E-02
.2500	3.401	4.225	2934.91	-4.047E-02	1.271E-01	1.740E-04	2.573E-03	2.747E-03
.3000	4.082	4.905	2527.84	-1.383E-02	-4.952E-02	2.357E-05	4.535E-04	4.771E-04
.4000	5.442	6.265	1976.90	9.374E-03	-2.084E-01	1.384E-05	1.026E-02	1.027E-02
.6000	8.164	8.987	1379.68	1.854E-02	-2.676E-01	7.766E-05	2.427E-02	2.434E-02
.8000	10.885	11.708	1059.01	1.738E-02	-2.455E-01	8.886E-05	2.660E-02	2.669E-02
1.0000	13.606	14.429	859.29	1.514E-02	-2.117E-01	8.314E-05	2.439E-02	2.447E-02
3.0000	40.818	41.641	297.75	8.571E-03	-5.673E-02	7.888E-05	5.054E-03	5.130E-03
8.0000	108.847	109.670	113.05	3.563E-03	-8.026E-03	3.500E-05	2.664E-04	3.013E-04
10.0000	136.059	136.882	90.58	2.620E-03	-2.722E-03	2.362E-05	3.825E-05	6.187E-05
12.0000	163.271	164.094	75.56	2.032E-03	-1.038E-04	1.703E-05	6.666E-08	1.710E-05
14.0000	190.483	191.306	64.81	1.637E-03	1.183E-03	1.288E-05	1.009E-05	2.297E-05
18.0000	244.906	245.730	50.46	1.143E-03	2.070E-03	8.066E-06	3.969E-05	4.775E-05

CD II 12D EO= 3.8951E-02 (RYD) N*=. 10.1338 MU= 1.8662

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.530	23395.39	-7.147E+00	3.283E+01	6.805E-01	2.154E+01	2.222E+01
.0200	.272	.802	15458.12	-3.165E+00	1.504E+01	2.020E-01	6.843E+00	7.045E+00
.0600	.816	1.346	9209.31	-1.039E+00	5.211E+00	3.654E-02	1.378E+00	1.415E+00
.1000	1.361	1.891	6558.21	-4.588E-01	2.362E+00	1.001E-02	3.978E-01	4.078E-01
.2000	2.721	3.251	3813.62	-9.215E-02	4.252E-01	6.939E-04	2.216E-02	2.286E-02
.2500	3.401	3.931	3153.71	-4.246E-02	1.399E-01	1.782E-04	2.902E-03	3.080E-03
.3000	4.082	4.612	2688.50	-1.687E-02	-1.276E-02	3.298E-05	2.831E-05	6.129E-05
.4000	5.442	5.972	2076.01	4.895E-03	-1.469E-01	3.596E-06	4.859E-03	4.863E-03
.6000	8.164	8.694	1426.19	1.358E-02	-1.971E-01	4.032E-05	1.273E-02	1.278E-02
.8000	10.885	11.415	1086.20	1.291E-02	-1.812E-01	4.785E-05	1.414E-02	1.419E-02
1.0000	13.606	14.136	877.10	1.119E-02	-1.561E-01	4.453E-05	1.299E-02	1.304E-02
3.0000	40.818	41.348	299.86	6.155E-03	-4.115E-02	3.938E-05	2.640E-03	2.680E-03
5.0000	68.030	68.560	180.84	4.485E-03	-1.911E-02	3.467E-05	9.444E-04	9.790E-04
8.0000	108.847	109.377	113.36	2.571E-03	-5.788E-03	1.817E-05	1.382E-04	1.563E-04
10.0000	136.059	136.589	90.77	1.889E-03	-1.964E-03	1.225E-05	1.985E-05	3.210E-05
12.0000	163.271	163.801	75.69	1.465E-03	-7.715E-05	8.836E-06	3.676E-08	8.873E-06
14.0000	190.483	191.013	64.91	1.181E-03	8.518E-04	6.692E-06	5.225E-06	1.192E-05
16.0000	217.695	218.225	56.82	9.760E-04	1.291E-03	5.225E-06	1.371E-05	1.893E-05

CD II 16D EO= 2.0018E-02 (RYD) N*= 14.1356 MU= 1.8644

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.272	45521.61	-1.657E+01	6.231E+01	1.880E+00	3.987E+01	4.175E+01
.0100	.136	.408	30357.02	-7.800E+00	3.044E+01	6.246E-01	1.427E+01	1.490E+01
.0200	.272	.544	22771.24	-4.472E+00	1.805E+01	2.737E-01	6.690E+00	6.963E+00
.0600	.816	1.089	11388.23	-1.062E+00	4.706E+00	3.086E-02	9.091E-01	9.400E-01
.1000	1.361	1.633	7592.74	-4.154E-01	1.929E+00	7.084E-03	2.291E-01	2.362E-01
.2000	2.721	2.994	4141.78	-7.588E-02	3.288E-01	4.332E-04	1.220E-02	1.263E-02
.2500	3.401	3.674	3374.84	-3.534E-02	1.170E-01	1.153E-04	1.897E-03	2.012E-03
.3000	4.082	4.354	2847.55	-1.508E-02	7.135E-03	2.487E-05	8.359E-06	3.323E-05
.4000	5.442	5.715	2169.59	1.882E-03	-8.714E-02	4.062E-07	1.636E-03	1.637E-03
.6000	8.164	8.436	1469.74	8.366E-03	-1.223E-01	1.484E-05	4.757E-03	4.771E-03
.8000	10.885	11.157	1111.28	8.082E-03	-1.127E-01	1.832E-05	5.342E-03	5.360E-03
1.0000	13.606	13.878	893.38	7.002E-03	-9.698E-02	1.710E-05	4.921E-03	4.938E-03
3.0000	40.818	41.090	301.74	3.732E-03	-2.518E-02	1.439E-05	9.826E-04	9.970E-04
5.0000	68.030	68.302	181.53	2.740E-03	-1.164E-02	1.289E-05	3.492E-04	3.621E-04
8.0000	108.847	109.120	113.62	1.567E-03	-3.543E-03	6.738E-06	5.164E-05	5.837E-05
10.0000	136.059	136.332	90.94	1.147E-03	-1.195E-03	4.512E-06	7.337E-06	1.185E-05
12.0000	163.271	163.543	75.81	8.905E-04	-5.008E-05	3.260E-06	1.547E-08	3.275E-06
14.0000	190.483	190.755	65.00	7.141E-04	5.145E-04	2.445E-06	1.904E-06	4.349E-06
18.0000	244.906	245.179	50.57	4.939E-04	9.076E-04	1.503E-06	7.615E-06	9.119E-06

CD II 20D EO= 1.2161E-02 (RYD) N*= 18.1364 MU= 1.8636

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.165	74935.63	-2.974E+01	9.933E+01	3.678E+00	6.156E+01	6.523E+01
.0100	.136	.302	41120.94	-9.930E+00	3.517E+01	7.474E-01	1.407E+01	1.481E+01
.0200	.272	.438	28334.85	-4.880E+00	1.813E+01	2.619E-01	5.424E+00	5.685E+00
.0600	.816	.982	12628.32	-9.343E-01	3.914E+00	2.154E-02	5.671E-01	5.886E-01
.1000	1.361	1.526	8124.66	-3.417E-01	1.517E+00	4.479E-03	1.324E-01	1.369E-01
.2000	2.721	2.887	4295.18	-5.937E-02	2.502E-01	2.557E-04	6.813E-03	7.068E-03
.2500	3.401	3.567	3475.99	-2.759E-02	9.116E-02	6.823E-05	1.118E-03	1.186E-03
.3000	4.082	4.247	2919.23	-1.201E-02	9.795E-03	1.541E-05	1.536E-05	3.077E-05
.4000	5.442	5.608	2210.95	7.287E-04	-5.924E-02	7.484E-08	7.420E-04	7.421E-04
.6000	8.164	8.329	1488.61	5.801E-03	-8.493E-02	7.045E-06	2.265E-03	2.272E-03
.8000	10.885	11.050	1122.03	5.627E-03	-7.833E-02	8.794E-06	2.556E-03	2.565E-03
1.0000	13.606	13.771	900.32	4.870E-03	-6.739E-02	8.211E-06	2.358E-03	2.366E-03
3.0000	40.818	40.983	302.53	2.559E-03	-1.740E-02	6.744E-06	4.678E-04	4.745E-04
6.0000	81.635	81.801	151.57	1.538E-03	-5.558E-03	4.864E-06	9.527E-05	1.001E-04
8.0000	108.847	109.013	113.74	1.080E-03	-2.427E-03	3.198E-06	2.422E-05	2.742E-05
10.0000	136.059	136.225	91.02	7.976E-04	-8.284E-04	2.178E-06	3.525E-06	5.704E-06
12.0000	163.271	163.436	75.86	6.142E-04	-2.985E-05	1.550E-06	5.490E-09	1.555E-06
14.0000	190.483	190.648	65.03	4.942E-04	3.545E-04	1.170E-06	9.035E-07	2.074E-06
16.0000	217.695	217.860	56.91	4.113E-04	5.377E-04	9.265E-07	2.375E-06	3.301E-06

CD II 4F EO= 2.5714E-01 (RYD) N*= 3.9441 MU= .0559

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.499	3543.89	-3.017E-01	6.677E+00	8.578E-03	5.601E+00	5.610E+00
.2000	2.721	6.220	1993.42	-1.529E-01	1.585E+00	3.918E-03	5.612E-01	5.851E-01
.6000	8.164	11.662	1063.15	-4.423E-02	2.517E-01	6.143E-04	2.652E-02	2.714E-02
1.0000	13.606	17.105	724.88	-1.235E-02	6.907E-02	7.028E-05	2.930E-03	3.001E-03

CD II 5F EO= 1.6428E-01 (RYD) N*= 4.9344 MU= .0656

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.235	5546.90	-5.610E-01	1.219E+01	1.894E-02	1.193E+01	1.195E+01
.0200	.272	2.507	4944.90	-5.071E-01	9.675E+00	1.737E-02	8.428E+00	8.445E+00
.1000	1.361	3.596	3448.06	-3.492E-01	4.517E+00	1.181E-02	2.634E+00	2.646E+00
.2000	2.721	4.956	2501.53	-2.318E-01	2.177E+00	7.174E-03	8.433E-01	8.505E-01
.6000	8.164	10.399	1192.32	-6.233E-02	3.091E-01	1.088E-03	3.568E-02	3.676E-02
1.0000	13.606	15.841	782.68	-1.957E-02	8.178E-02	1.634E-04	3.804E-03	3.968E-03

CD II 6F EO= 1.1377E-01 (RYD) N*= 5.9295 MU= .0705

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.548	8009.83	-7.617E-01	1.787E+01	2.419E-02	1.775E+01	1.777E+01
.0600	.816	2.364	5244.14	-5.273E-01	8.066E+00	1.770E-02	5.523E+00	5.541E+00
.2000	2.721	4.269	2904.27	-2.628E-01	2.365E+00	7.939E-03	8.573E-01	8.652E-01
.6000	8.164	9.711	1276.70	-6.521E-02	3.064E-01	1.112E-03	3.274E-02	3.385E-02
1.0000	13.606	15.154	818.18	-2.096E-02	7.931E-02	1.793E-04	3.423E-03	3.602E-03

CD II 8F EO= 6.3690E-02 (RYD) N*= 7.9249 MU= .0751

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.867	14307.90	-9.128E-01	3.011E+01	1.944E-02	2.821E+01	2.823E+01
.0200	.272	1.139	10888.63	-8.073E-01	1.908E+01	1.999E-02	1.488E+01	1.490E+01
.0600	.816	1.683	7367.36	-6.014E-01	9.624E+00	1.639E-02	5.597E+00	5.613E+00
.2000	2.721	3.588	3455.83	-2.570E-01	2.232E+00	6.382E-03	6.416E-01	6.480E-01
.6000	8.164	9.030	1373.03	-5.688E-02	2.555E-01	7.868E-04	2.117E-02	2.196E-02
1.0000	13.606	14.472	856.70	-1.837E-02	6.453E-02	1.316E-04	2.164E-03	2.296E-03
1.5000	20.409	21.275	582.77	-4.689E-03	1.972E-02	1.260E-05	2.972E-04	3.098E-04
2.0000	27.212	28.078	441.57	-9.732E-04	1.063E-02	7.163E-07	1.138E-04	1.146E-04

CD II 10F EO= 4.0624E-02 (RYD) N*= 9.9229 MU= .0771

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.553	22431.65	-6.584E-01	4.377E+01	6.453E-03	3.803E+01	3.803E+01
.0200	.272	.825	15031.42	-7.566E-01	2.300E+01	1.272E-02	1.567E+01	1.568E+01
.0600	.816	1.369	9056.15	-5.753E-01	9.779E+00	1.220E-02	4.701E+00	4.713E+00
.1000	1.361	1.913	6480.16	-4.224E-01	5.381E+00	9.192E-03	1.989E+00	1.998E+00
.2000	2.721	3.274	3787.10	-2.242E-01	1.919E+00	4.431E-03	4.330E-01	4.374E-01
.6000	8.164	8.716	1422.47	-4.637E-02	2.045E-01	5.048E-04	1.309E-02	1.359E-02
1.0000	13.606	14.159	875.69	-1.495E-02	5.099E-02	8.526E-05	1.322E-03	1.407E-03
1.5000	20.409	20.962	591.49	-3.933E-03	1.531E-02	8.731E-06	1.764E-04	1.851E-04
2.0000	27.212	27.765	446.56	-8.906E-04	8.021E-03	5.931E-07	6.415E-05	6.474E-05

CD II 12F EO= 2.8143E-02 (RYD) N*= 11.9218 MU= .0782

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.383	32379.40	4.967E-02	5.892E+01	2.545E-05	4.773E+01	4.773E+01
.0200	.272	.655	18928.18	-6.110E-01	2.526E+01	6.587E-03	1.501E+01	1.502E+01
.0600	.816	1.199	10338.46	-5.163E-01	9.273E+00	8.610E-03	3.703E+00	3.712E+00
.1000	1.361	1.744	7111.31	-3.727E-01	4.811E+00	6.522E-03	1.449E+00	1.456E+00
.2000	2.721	3.104	3994.28	-1.905E-01	1.619E+00	3.033E-03	2.923E-01	2.953E-01
.6000	8.164	8.546	1450.73	-3.780E-02	1.651E-01	3.290E-04	8.370E-03	8.699E-03
1.0000	13.606	13.989	886.32	-1.216E-02	4.087E-02	5.574E-05	8.393E-04	8.950E-04
1.5000	20.409	20.792	596.32	-3.249E-03	1.216E-02	5.911E-06	1.105E-04	1.164E-04
2.0000	27.212	27.595	449.31	-7.497E-04	6.277E-03	4.177E-07	3.904E-05	3.946E-05

CD II 16F EO= 1.5781E-02 (RYD) N*= 15.9207 MU= .0793

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.215	57744.63	2.921E+00	9.364E+01	4.935E-02	6.761E+01	6.766E+01
.0200	.272	.487	25467.93	-2.753E-01	2.623E+01	9.938E-04	1.202E+01	1.202E+01
.0600	.816	1.031	12025.02	-3.956E-01	7.720E+00	4.346E-03	2.207E+00	2.211E+00
.1000	1.361	1.575	7870.62	-2.819E-01	3.716E+00	3.372E-03	7.813E-01	7.847E-01
.2000	2.721	2.936	4223.11	-1.386E-01	1.169E+00	1.518E-03	1.442E-01	1.457E-01
.6000	8.164	8.378	1479.86	-2.629E-02	1.137E-01	1.560E-04	3.893E-03	4.049E-03
1.0000	13.606	13.821	897.11	-8.494E-03	2.795E-02	2.685E-05	3.878E-04	4.146E-04
1.5000	20.409	20.624	601.19	-2.263E-03	8.268E-03	2.844E-06	5.062E-05	5.347E-05
2.0000	27.212	27.427	452.07	-5.335E-04	4.177E-03	2.103E-07	1.718E-05	1.739E-05

CD II 20F EO= 1.0080E-02 (RYD) N*= 19.9202 MU= .0798

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.137	90401.31	7.795E+00	1.341E+02	2.244E-01	8.857E+01	8.880E+01
.0100	.136	.273	45381.30	9.822E-01	4.642E+01	7.099E-03	2.114E+01	2.115E+01
.0200	.272	.409	30294.56	-3.297E-02	2.466E+01	1.198E-05	8.939E+00	8.939E+00
.0600	.816	.954	13003.20	-3.053E-01	6.273E+00	2.394E-03	1.347E+00	1.350E+00
.1000	1.361	1.498	8278.21	-2.174E-01	2.896E+00	1.906E-03	4.510E-01	4.529E-01
.2000	2.721	2.858	4337.71	-1.043E-01	8.794E-01	8.381E-04	7.938E-02	8.022E-02
.6000	8.164	8.301	1493.69	-1.939E-02	8.356E-02	8.405E-05	2.081E-03	2.165E-03
1.0000	13.606	13.743	902.17	-6.222E-03	2.047E-02	1.433E-05	2.068E-04	2.211E-04
1.5000	20.409	20.546	603.46	-1.683E-03	6.022E-03	1.568E-06	2.675E-05	2.832E-05
2.0000	27.212	27.349	453.35	-3.840E-04	3.029E-03	1.086E-07	9.012E-06	9.121E-06

IN III 5S EO= 2.0338E+00 (RYD) N*= 2.1036 MU= 2.8964

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	27.672	448.05	.000	3.311E-01	.000	1.907E-01	1.907E-01
1.0000	13.606	41.278	300.37	.000	2.184E-01	.000	1.237E-01	1.237E-01
2.0000	27.212	54.884	225.91	.000	1.537E-01	.000	8.152E-02	8.152E-02
6.0000	81.635	109.308	113.43	.000	6.556E-02	.000	2.952E-02	2.952E-02

IN III 6S EO= 8.9567E-01 (RYD) N*= 3.1699 MU= 2.8301

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	12.186	1017.41	.000	6.440E-01	.000	3.176E-01	3.176E-01
1.0000	13.606	25.792	480.71	.000	2.889E-01	.000	1.353E-01	1.353E-01
2.0000	27.212	39.398	314.70	.000	1.561E-01	.000	6.033E-02	6.033E-02
7.0000	95.241	107.428	115.41	.000	3.654E-02	.000	9.013E-03	9.013E-03

IN III 8S EO= 3.3312E-01 (RYD) N*= 5.1978 MU= 2.8022

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.532	2735.58	.000	1.120E+00	.000	3.572E-01	3.572E-01
1.0000	13.606	18.138	683.56	.000	2.555E-01	.000	7.439E-02	7.439E-02
3.0000	40.818	45.350	273.40	.000	6.474E-02	.000	1.194E-02	1.194E-02
4.0000	54.424	58.956	210.30	.000	4.184E-02	.000	6.486E-03	6.486E-03
10.0000	136.059	140.592	88.19	.000	1.243E-02	.000	1.365E-03	1.365E-03

IN III 10S EO= 1.7337E-01 (RYD) N*= 7.2050 MU= 2.7950

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.359	5256.14	.000	1.650E+00	.000	4.038E-01	4.038E-01
1.0000	13.606	15.965	776.62	.000	1.941E-01	.000	3.778E-02	3.778E-02
3.0000	40.818	43.177	287.16	.000	4.407E-02	.000	5.270E-03	5.270E-03

IN III 12S EO= 1.0615E-01 (RYD) N*= 9.2078 MU= 2.7922

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.444	8584.59	.000	2.247E+00	.000	4.583E-01	4.583E-01
.5000	6.803	8.247	1503.37	.000	3.188E-01	.000	5.268E-02	5.268E-02
1.0000	13.606	15.050	823.82	.000	1.483E-01	.000	2.079E-02	2.079E-02
2.0000	27.212	28.656	432.67	.000	5.970E-02	.000	6.417E-03	6.417E-03
4.0000	54.424	55.868	221.93	.000	1.989E-02	.000	1.388E-03	1.388E-03

IN III 16S EO= 5.1574E-02 (RYD) N*= 13.2101 MU= 2.7899

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.702	17669.25	.000	3.603E+00	.000	5.726E-01	5.726E-01
.2000	2.721	3.423	3622.27	.000	5.809E-01	.000	7.259E-02	7.259E-02
.6000	8.164	8.865	1398.56	.000	1.747E-01	.000	1.701E-02	1.701E-02
1.0000	13.606	14.308	866.58	.000	9.388E-02	.000	7.924E-03	7.924E-03
2.0000	27.212	27.914	444.18	.000	3.654E-02	.000	2.342E-03	2.342E-03

IN III 20S EO= 3.0383E-02 (RYD) N*= 17.2110 MU= 2.7890

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.413	29992.75	.000	5.144E+00	.000	6.875E-01	6.875E-01
.2000	2.721	3.135	3955.45	.000	4.510E-01	.000	4.006E-02	4.006E-02
.6000	8.164	8.577	1445.58	.000	1.240E-01	.000	8.285E-03	8.285E-03
1.0000	13.606	14.019	884.40	.000	6.532E-02	.000	3.758E-03	3.758E-03

IN III 5P EO= 1.5525E+00 (RYD) N*= 2.4077 MU= 2.5923

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	21.123	586.97	7.598E-01	-7.222E-01	2.555E-01	4.615E-01	7.170E-01
.6000	8.164	29.287	423.35	4.389E-01	-2.762E-01	1.182E-01	9.363E-02	2.118E-01
1.0000	13.606	34.729	357.01	3.304E-01	-1.566E-01	7.942E-02	3.569E-02	1.151E-01
2.0000	27.212	48.335	256.51	1.931E-01	-3.745E-02	3.773E-02	2.841E-03	4.057E-02
2.5000	34.015	55.138	224.87	1.569E-01	-1.366E-02	2.843E-02	4.311E-04	2.886E-02
3.0000	40.818	61.941	200.17	1.311E-01	9.665E-04	2.229E-02	2.424E-06	2.229E-02
3.5000	47.621	68.744	180.36	1.118E-01	1.040E-02	1.800E-02	3.114E-04	1.831E-02
4.0000	54.424	75.547	164.12	9.694E-02	1.668E-02	1.487E-02	8.801E-04	1.575E-02
6.0000	81.635	102.759	120.66	6.107E-02	2.694E-02	8.027E-03	3.124E-03	1.115E-02

IN III 6P EO= 7.4184E-01 (RYD) N*= 3.4831 MU= 2.5169

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.093	1228.38	1.617E+00	-1.680E+00	5.531E-01	1.194E+00	1.747E+00
.0600	.816	10.910	1136.46	1.422E+00	-1.405E+00	4.620E-01	9.017E-01	1.364E+00
.6000	8.164	18.257	679.12	5.964E-01	-3.742E-01	1.360E-01	1.071E-01	2.431E-01
1.0000	13.606	23.699	523.16	3.790E-01	-1.657E-01	7.131E-02	2.726E-02	9.857E-02
2.0000	27.212	37.305	332.36	1.702E-01	-2.162E-02	2.265E-02	7.306E-04	2.338E-02
2.5000	34.015	44.108	281.10	1.273E-01	-3.368E-03	1.498E-02	2.096E-05	1.500E-02
3.0000	40.818	50.911	243.53	1.000E-01	5.423E-03	1.067E-02	6.271E-05	1.073E-02
3.5000	47.621	57.714	214.83	8.153E-02	1.004E-02	8.037E-03	2.439E-04	8.281E-03
6.0000	81.635	91.729	135.17	4.030E-02	1.669E-02	3.121E-03	1.071E-03	4.191E-03

IN III 8P EO= 2.9593E-01 (RYD) N**= 5.5148 MU= 2.4852

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.026	3079.35	3.942E+00	-4.440E+00	1.311E+00	3.325E+00	4.636E+00
.0600	.816	4.843	2560.25	2.910E+00	-3.110E+00	8.593E-01	1.963E+00	2.822E+00
.2000	2.721	6.748	1837.50	1.686E+00	-1.599E+00	4.016E-01	7.232E-01	1.125E+00
.6000	8.164	12.190	1017.12	6.297E-01	-4.247E-01	1.013E-01	9.210E-02	1.934E-01
1.0000	13.606	17.632	703.18	3.351E-01	-1.550E-01	4.148E-02	1.775E-02	5.923E-02
2.0000	27.212	31.238	396.91	1.212E-01	-1.277E-02	9.617E-03	2.134E-04	9.830E-03
2.5000	34.015	38.041	325.93	8.486E-02	7.814E-04	5.738E-03	9.730E-07	5.739E-03
3.0000	40.818	44.844	276.48	6.324E-02	6.050E-03	3.757E-03	6.877E-05	3.825E-03
3.5000	47.621	51.647	240.06	4.946E-02	8.076E-03	2.646E-03	1.411E-04	2.788E-03
6.0000	81.635	85.662	144.74	2.219E-02	9.161E-03	8.837E-04	3.012E-04	1.185E-03
10.0000	136.059	140.086	88.51	1.067E-02	8.274E-03	3.343E-04	4.018E-04	7.361E-04

IN III 10P EO= 1.5900E-01 (RYD) N**= 7.5235 MU= 2.4765

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.163	5731.22	7.096E+00	-8.113E+00	2.282E+00	5.965E+00	8.247E+00
.1000	1.361	3.524	3518.40	3.170E+00	-3.323E+00	7.419E-01	1.630E+00	2.372E+00
.2000	2.721	4.885	2538.35	1.849E+00	-1.784E+00	3.498E-01	6.510E-01	1.001E+00
.6000	8.164	10.327	1200.62	5.329E-01	-3.679E-01	6.143E-02	5.855E-02	1.200E-01
1.0000	13.606	15.769	786.25	2.596E-01	-1.234E-01	2.226E-02	1.006E-02	3.231E-02
2.0000	27.212	29.375	422.08	8.620E-02	-9.008E-03	4.572E-03	9.986E-05	4.671E-03
2.5000	34.015	36.178	342.71	5.896E-02	9.447E-04	2.635E-03	1.353E-06	2.636E-03
3.0000	40.818	42.981	288.47	4.315E-02	4.597E-03	1.676E-03	3.806E-05	1.714E-03
4.0000	54.424	56.587	219.11	2.670E-02	6.192E-03	8.448E-04	9.088E-05	9.357E-04
6.0000	81.635	83.799	147.96	1.438E-02	5.964E-03	3.628E-04	1.249E-04	4.876E-04

IN III 12P EO= 9.9154E-02 (RYD) N**= 9.5272 MU= 2.4728

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.349	9190.43	1.106E+01	-1.267E+01	3.458E+00	9.071E+00	1.253E+01
.0600	.816	2.165	5725.70	5.050E+00	-5.488E+00	1.157E+00	2.732E+00	3.889E+00
.1000	1.361	2.710	4575.70	3.484E+00	-3.661E+00	6.890E-01	1.521E+00	2.210E+00
.2000	2.721	4.070	3046.15	1.776E+00	-1.721E+00	2.690E-01	5.048E-01	7.738E-01
.6000	8.164	9.513	1303.39	4.332E-01	-3.018E-01	3.739E-02	3.631E-02	7.370E-02
1.0000	13.606	14.955	829.06	2.012E-01	-9.680E-02	1.268E-02	5.870E-03	1.855E-02
2.0000	27.212	28.561	434.11	6.406E-02	-6.729E-03	2.455E-03	5.418E-05	2.509E-03
2.5000	34.015	35.364	350.60	4.336E-02	7.890E-04	1.393E-03	9.224E-07	1.394E-03
3.0000	40.818	42.167	294.04	3.147E-02	3.486E-03	8.749E-04	2.146E-05	8.963E-04
6.0000	81.635	82.985	149.41	1.024E-02	4.260E-03	1.822E-04	6.309E-05	2.453E-04
10.0000	136.059	137.408	90.23	4.845E-03	3.715E-03	6.756E-05	7.944E-05	1.470E-04

IN III 16P EO= 4.9162E-02 (RYD) N**= 13.5302 MU= 2.4698

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.669	18535.94	2.132E+01	-2.432E+01	6.369E+00	1.657E+01	2.294E+01
.0200	.272	.941	13175.81	1.209E+01	-1.355E+01	2.881E+00	7.236E+00	1.012E+01
.0600	.816	1.485	8347.83	5.662E+00	-6.136E+00	9.973E-01	2.343E+00	3.340E+00
.1000	1.361	2.029	6109.24	3.370E+00	-3.536E+00	4.829E-01	1.063E+00	1.546E+00
.2000	2.721	3.390	3657.33	1.438E+00	-1.394E+00	1.468E-01	2.760E-01	4.227E-01
.6000	8.164	8.832	1403.76	2.922E-01	-2.050E-01	1.579E-02	1.556E-02	3.135E-02
1.0000	13.606	14.275	868.57	1.297E-01	-6.301E-02	5.027E-03	2.374E-03	7.401E-03
2.0000	27.212	27.881	444.70	3.975E-02	-4.207E-03	9.228E-04	2.067E-05	9.435E-04
2.5000	34.015	34.684	357.48	2.666E-02	5.190E-04	5.165E-04	3.914E-07	5.169E-04
3.0000	40.818	41.487	298.86	1.923E-02	2.189E-03	3.212E-04	8.331E-06	3.295E-04
3.5000	47.621	48.290	256.76	1.462E-02	2.725E-03	2.163E-04	1.502E-05	2.314E-04
6.0000	81.635	82.304	150.64	6.124E-03	2.548E-03	6.466E-05	2.239E-05	8.705E-05

IN III 20P EO= 2.9282E-02 (RYD) N**= 17.5314 MU= 2.4686

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.398	31119.89	3.454E+01	-3.920E+01	9.954E+00	2.565E+01	3.560E+01
.0200	.272	.671	18490.70	1.452E+01	-1.621E+01	2.961E+00	7.378E+00	1.034E+01
.0600	.816	1.215	10206.57	5.400E+00	-5.835E+00	7.419E-01	1.733E+00	2.475E+00
.1000	1.361	1.759	7048.66	2.916E+00	-3.054E+00	3.133E-01	6.873E-01	1.001E+00
.2000	2.721	3.120	3974.43	1.125E+00	-1.090E+00	8.264E-02	1.553E-01	2.379E-01
.6000	8.164	8.562	1448.11	2.094E-01	-1.473E-01	7.863E-03	7.784E-03	1.565E-02
1.0000	13.606	14.004	885.34	9.112E-02	-4.447E-02	2.435E-03	1.160E-03	3.595E-03
2.0000	27.212	27.610	449.06	2.750E-02	-2.919E-03	4.373E-04	9.855E-06	4.471E-04
2.5000	34.015	34.413	360.29	1.838E-02	3.701E-04	2.435E-04	1.975E-07	2.437E-04
3.0000	40.818	41.216	300.82	1.322E-02	1.517E-03	1.508E-04	3.973E-06	1.548E-04
4.0000	54.424	54.822	226.16	7.957E-03	1.948E-03	7.271E-05	8.718E-06	8.143E-05
6.0000	81.635	82.034	151.14	4.172E-03	1.743E-03	2.991E-05	1.045E-05	4.036E-05

IN III 5D EO= 8.7863E-01 (RYD) N**= 3.2005 MU= 1.7995

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.955	1037.14	3.409E-01	-1.426E+00	3.493E-02	9.165E-01	9.514E-01
.1000	1.361	13.315	931.17	2.920E-01	-1.410E+00	2.854E-02	9.987E-01	1.027E+00
.2000	2.721	14.676	844.84	2.544E-01	-1.356E+00	2.387E-02	1.018E+00	1.042E+00
.3000	4.082	16.036	773.16	2.248E-01	-1.285E+00	2.036E-02	9.984E-01	1.019E+00
1.0000	13.606	25.560	485.07	1.219E-01	-7.980E-01	9.549E-03	6.137E-01	6.233E-01
4.0000	54.424	66.378	186.79	4.399E-02	-1.762E-01	3.229E-03	7.770E-02	8.093E-02
6.0000	81.635	93.590	132.48	2.923E-02	-7.930E-02	2.010E-03	2.219E-02	2.420E-02
8.0000	108.847	120.802	102.64	2.074E-02	-3.267E-02	1.306E-03	4.861E-03	6.167E-03
10.0000	136.059	148.014	83.77	1.556E-02	-9.268E-03	9.008E-04	4.793E-04	1.380E-03
11.0000	149.665	161.620	76.71	1.371E-02	-2.345E-03	7.636E-04	3.351E-05	7.971E-04
12.0000	163.271	175.226	70.76	1.219E-02	2.587E-03	6.550E-04	4.421E-05	6.992E-04
14.0000	190.483	202.437	61.25	9.876E-03	8.572E-03	4.963E-04	5.608E-04	1.057E-03
16.0000	217.695	229.649	53.99	8.199E-03	1.149E-02	3.880E-04	1.143E-03	1.531E-03

IN III 6D EO= 5.0099E-01 (RYD) N*= 4.2385 MU= 1.7615

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.816	1818.95	5.080E-01	-1.183E+00	4.421E-02	3.594E-01	4.036E-01
.2000	2.721	9.538	1299.98	3.199E-01	-1.321E+00	2.454E-02	6.276E-01	6.521E-01
.3000	4.082	10.898	1137.68	2.660E-01	-1.256E+00	1.938E-02	6.486E-01	6.680E-01
.4000	5.442	12.259	1011.41	2.258E-01	-1.171E+00	1.571E-02	6.340E-01	6.497E-01
.8000	10.885	17.701	700.44	1.345E-01	-8.389E-01	8.046E-03	4.696E-01	4.777E-01
1.0000	13.606	20.422	607.11	1.100E-01	-7.097E-01	6.211E-03	3.878E-01	3.940E-01
6.0000	81.635	88.452	140.17	2.029E-02	-5.501E-02	9.152E-04	1.009E-02	1.101E-02
10.0000	136.059	142.876	86.78	1.059E-02	-6.623E-03	4.026E-04	2.363E-04	6.389E-04
11.0000	149.665	156.481	79.23	9.275E-03	-1.907E-03	3.384E-04	2.146E-05	3.598E-04
12.0000	163.271	170.087	72.90	8.208E-03	1.431E-03	2.880E-04	1.313E-05	3.012E-04
16.0000	217.695	224.511	55.23	5.443E-03	7.393E-03	1.672E-04	4.627E-04	6.299E-04

IN III 8D EO= 2.2975E-01 (RYD) N*= 6.2588 MU= 1.7412

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.126	3966.30	7.706E-01	-8.913E-02	4.666E-02	9.363E-04	4.760E-02
.0200	.272	3.398	3648.88	6.947E-01	-3.996E-01	4.122E-02	2.046E-02	6.168E-02
.0600	.816	3.942	3144.99	5.787E-01	-7.778E-01	3.319E-02	8.993E-02	1.231E-01
.0800	1.088	4.214	2941.92	5.334E-01	-8.900E-01	3.014E-02	1.259E-01	1.560E-01
.2000	2.721	5.847	2120.45	3.565E-01	-1.100E+00	1.868E-02	2.668E-01	2.855E-01
.3000	4.082	7.208	1720.18	2.739E-01	-1.056E+00	1.359E-02	3.031E-01	3.166E-01
.4000	5.442	8.568	1447.03	2.189E-01	-9.685E-01	1.032E-02	3.030E-01	3.134E-01
.6000	8.164	11.290	1098.24	1.510E-01	-7.877E-01	6.474E-03	2.641E-01	2.706E-01
1.0000	13.606	16.732	741.02	8.651E-02	-5.237E-01	3.147E-03	1.730E-01	1.762E-01
2.0000	27.212	30.338	408.69	3.708E-02	-2.279E-01	1.049E-03	5.942E-02	6.046E-02
6.0000	81.635	84.761	146.28	1.186E-02	-3.226E-02	2.999E-04	3.326E-03	3.626E-03
10.0000	136.059	139.185	89.08	6.141E-03	-3.974E-03	1.319E-04	8.289E-05	2.148E-04
11.0000	149.665	152.791	81.15	5.357E-03	-1.236E-03	1.102E-04	8.794E-06	1.190E-04
12.0000	163.271	166.397	74.51	4.723E-03	6.949E-04	9.329E-05	3.030E-06	9.632E-05
16.0000	217.695	220.821	56.15	3.099E-03	4.113E-03	5.329E-05	1.408E-04	1.941E-04

IN III 10D EO= 1.3175E-01 (RYD) N*= 8.2651 MU= 1.7349

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.793	6916.78	9.042E-01	1.654E+00	3.684E-02	1.849E-01	2.218E-01
.0200	.272	2.065	6005.16	7.727E-01	7.216E-01	3.099E-02	4.053E-02	7.152E-02
.0400	.544	2.337	5305.86	6.748E-01	1.449E-01	2.675E-02	1.851E-03	2.860E-02
.0500	.680	2.473	5013.92	6.345E-01	-5.942E-02	2.502E-02	3.291E-04	2.535E-02
.0600	.816	2.609	4752.44	5.985E-01	-2.240E-01	2.349E-02	4.934E-03	2.843E-02
.1000	1.361	3.153	3932.16	4.865E-01	-6.244E-01	1.876E-02	4.636E-02	6.512E-02
.2000	2.721	4.514	2746.87	3.251E-01	-8.803E-01	1.199E-02	1.319E-01	1.439E-01
.3000	4.082	5.874	2110.65	2.382E-01	-8.506E-01	8.380E-03	1.602E-01	1.686E-01
.4000	5.442	7.235	1713.72	1.842E-01	-7.689E-01	6.173E-03	1.613E-01	1.674E-01
.5000	6.803	8.596	1442.46	1.477E-01	-6.838E-01	4.716E-03	1.515E-01	1.563E-01
1.0000	13.606	15.398	805.19	6.608E-02	-3.880E-01	1.690E-03	8.740E-02	8.909E-02
2.0000	27.212	29.004	427.47	2.633E-02	-1.613E-01	5.055E-04	2.846E-02	2.897E-02
6.0000	81.635	83.428	148.61	7.959E-03	-2.168E-02	1.329E-04	1.478E-03	1.611E-03
10.0000	136.059	137.852	89.94	4.112E-03	-2.695E-03	5.860E-05	3.774E-05	9.634E-05
11.0000	149.665	151.458	81.86	3.583E-03	-8.587E-04	4.887E-05	4.211E-06	5.308E-05
12.0000	163.271	165.064	75.11	3.154E-03	4.328E-04	4.129E-05	1.166E-06	4.245E-05
16.0000	217.695	219.487	56.49	2.061E-03	2.712E-03	2.343E-05	6.086E-05	8.429E-05
20.0000	272.118	273.911	45.27	1.474E-03	3.121E-03	1.496E-05	1.006E-04	1.156E-04

IN III 12D EO= 8.5364E-02 (RYD) N*= 10.2680 MU= 1.7320

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.161	10675.14	9.021E-01	3.994E+00	2.376E-02	6.986E-01	7.224E-01
.0400	.544	1.706	7269.00	6.333E-01	8.369E-01	1.719E-02	4.505E-02	6.224E-02
.0600	.816	1.978	6268.89	5.517E-01	2.213E-01	1.513E-02	3.652E-03	1.878E-02
.0800	1.088	2.250	5510.69	4.879E-01	-1.463E-01	1.346E-02	1.816E-03	1.528E-02
.1000	1.361	2.522	4916.11	4.365E-01	-3.730E-01	1.208E-02	1.323E-02	2.531E-02
.2000	2.721	3.883	3193.36	2.791E-01	-7.083E-01	7.602E-03	7.343E-02	8.104E-02
.3000	4.082	5.243	2364.70	1.990E-01	-6.872E-01	5.219E-03	9.336E-02	9.857E-02
.4000	5.442	6.604	1877.50	1.510E-01	-6.145E-01	3.786E-03	9.401E-02	9.780E-02
.5000	6.803	7.964	1556.76	1.194E-01	-5.406E-01	2.854E-03	8.777E-02	9.063E-02
1.0000	13.606	14.767	839.60	5.140E-02	-2.972E-01	9.806E-04	4.919E-02	5.017E-02
2.0000	27.212	28.373	436.98	1.976E-02	-1.207E-01	2.785E-04	1.559E-02	1.587E-02
6.0000	81.635	82.797	149.75	5.792E-03	-1.580E-02	6.981E-05	7.797E-04	8.495E-04
10.0000	136.059	137.221	90.36	2.994E-03	-1.972E-03	3.092E-05	2.012E-05	5.104E-05
11.0000	149.665	150.827	82.20	2.607E-03	-6.357E-04	2.576E-05	2.298E-06	2.806E-05
12.0000	163.271	164.432	75.40	2.293E-03	3.037E-04	2.173E-05	5.720E-07	2.230E-05
16.0000	217.695	218.856	56.65	1.495E-03	1.959E-03	1.230E-05	3.166E-05	4.396E-05
20.0000	272.118	273.280	45.37	1.069E-03	2.256E-03	7.850E-06	5.245E-05	6.030E-05

IN III 16D EO= 4.4195E-02 (RYD) N*= 14.2704 MU= 1.7296

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.601	20619.44	4.741E-01	1.037E+01	3.397E-03	2.438E+00	2.442E+00
.0200	.272	.873	14195.40	4.951E-01	4.055E+00	5.382E-03	5.415E-01	5.469E-01
.0600	.816	1.418	8745.83	4.064E-01	7.236E-01	5.884E-03	2.799E-02	3.387E-02
.0700	.952	1.554	7979.96	3.836E-01	4.167E-01	5.748E-03	1.017E-02	1.592E-02
.0800	1.088	1.690	7337.42	3.618E-01	1.918E-01	5.561E-03	2.345E-03	7.905E-03
.0900	1.225	1.826	6790.64	3.418E-01	2.438E-02	5.362E-03	4.092E-05	5.403E-03
.1000	1.361	1.962	6319.71	3.233E-01	-1.018E-01	5.154E-03	7.673E-04	5.922E-03
.2000	2.721	3.322	3731.73	2.007E-01	-4.817E-01	3.363E-03	2.907E-02	3.243E-02
.3000	4.082	4.683	2647.54	1.394E-01	-4.694E-01	2.288E-03	3.890E-02	4.119E-02
.4000	5.442	6.044	2051.51	1.039E-01	-4.142E-01	1.638E-03	3.909E-02	4.073E-02
.5000	6.803	7.404	1674.53	8.099E-02	-3.599E-01	1.221E-03	3.617E-02	3.739E-02
.6000	8.164	8.765	1414.58	6.527E-02	-3.135E-01	9.386E-04	3.249E-02	3.342E-02
1.0000	13.606	14.207	872.70	3.360E-02	-1.916E-01	4.031E-04	1.966E-02	2.006E-02
2.0000	27.212	27.813	445.78	1.249E-02	-7.609E-02	1.091E-04	6.071E-03	6.180E-03
6.0000	81.635	82.237	150.77	3.559E-03	-9.732E-03	2.619E-05	2.937E-04	3.199E-04
10.0000	136.059	136.660	90.73	1.846E-03	-1.228E-03	1.171E-05	7.775E-06	1.948E-05
11.0000	149.665	150.266	82.51	1.605E-03	-4.001E-04	9.725E-06	9.068E-07	1.063E-05
12.0000	163.271	163.872	75.66	1.418E-03	1.812E-04	8.284E-06	2.029E-07	8.487E-06
16.0000	217.695	218.296	56.80	9.154E-04	1.194E-03	4.598E-06	1.174E-05	1.633E-05

IN III 20D EO= 2.6959E-02 (RYD) N*= 18.2714 MU= 1.7286

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.367	33802.44	-5.332E-01	1.890E+01	2.621E-03	4.940E+00	4.943E+00
.0050	.068	.435	28513.97	-2.087E-01	1.317E+01	4.762E-04	2.842E+00	2.842E+00
.0100	.136	.503	24656.42	-1.498E-02	9.562E+00	2.838E-06	1.734E+00	1.734E+00
.0200	.272	.639	19405.75	1.793E-01	5.479E+00	5.160E-04	7.231E-01	7.237E-01
.0600	.816	1.183	10479.32	2.847E-01	8.780E-01	2.410E-03	3.439E-02	3.680E-02
.0700	.952	1.319	9398.52	2.752E-01	5.386E-01	2.511E-03	1.443E-02	1.694E-02
.0800	1.088	1.455	8519.81	2.636E-01	3.003E-01	2.542E-03	4.948E-03	7.491E-03
.0900	1.225	1.591	7791.37	2.513E-01	1.290E-01	2.527E-03	9.979E-04	3.525E-03
.1000	1.361	1.727	7177.67	2.391E-01	3.605E-03	2.482E-03	8.462E-07	2.483E-03
.2000	2.721	3.088	4015.13	1.488E-01	-3.494E-01	1.719E-03	1.422E-02	1.594E-02
.3000	4.082	4.449	2787.10	1.022E-01	-3.412E-01	1.169E-03	1.952E-02	2.069E-02
.4000	5.442	5.809	2134.32	7.551E-02	-2.989E-01	8.326E-04	1.957E-02	2.040E-02
.5000	6.803	7.170	1729.30	5.855E-02	-2.583E-01	6.177E-04	1.804E-02	1.865E-02
1.0000	13.606	13.973	887.35	2.390E-02	-1.353E-01	2.006E-04	9.651E-03	9.851E-03
2.0000	27.212	27.579	449.57	8.758E-03	-5.324E-02	5.317E-05	2.948E-03	3.001E-03
6.0000	81.635	82.002	151.20	2.469E-03	-6.752E-03	1.256E-05	1.410E-04	1.535E-04
10.0000	136.059	136.426	90.88	1.271E-03	-8.444E-04	5.542E-06	3.668E-06	9.209E-06
11.0000	149.665	150.032	82.64	1.100E-03	-2.731E-04	4.563E-06	4.218E-07	4.985E-06

IN III 4F EO= 5.9828E-01 (RYD) N*= 3.8785 MU= .1215

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.140	1523.14	-5.213E-01	3.262E+00	5.957E-02	3.111E+00	3.170E+00
2.0000	27.212	35.352	350.72	-1.762E-02	1.018E-01	2.956E-04	1.315E-02	1.345E-02
4.0000	54.424	62.564	198.18	-4.713E-03	3.580E-02	3.742E-05	2.880E-03	2.917E-03
6.0000	81.635	89.776	138.11	-2.404E-03	1.723E-02	1.397E-05	9.572E-04	9.712E-04
8.0000	108.847	116.987	105.98	-1.213E-03	9.715E-03	4.636E-06	3.965E-04	4.011E-04
12.0000	163.271	171.411	72.33	-2.995E-04	4.450E-03	4.140E-07	1.219E-04	1.223E-04
14.0000	190.483	198.623	62.42	-1.435E-04	3.345E-03	1.101E-07	7.982E-05	7.993E-05
16.0000	217.695	225.835	54.90	-5.891E-05	2.617E-03	2.111E-08	5.556E-05	5.558E-05
18.0000	244.906	253.047	49.00	-1.278E-05	2.108E-03	1.113E-09	4.038E-05	4.038E-05
20.0000	272.118	280.258	44.24	1.289E-05	1.735E-03	1.253E-09	3.028E-05	3.028E-05

IN III 5F EO= 3.8113E-01 (RYD) N*= 4.8594 MU= .1406

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.186	2390.94	-1.155E+00	5.789E+00	1.864E-01	6.241E+00	6.427E+00
.5000	6.803	11.989	1034.20	-2.523E-01	1.022E+00	2.055E-02	4.497E-01	4.703E-01
1.0000	13.606	18.792	659.80	-9.634E-02	3.590E-01	4.697E-03	8.699E-02	9.168E-02
2.0000	27.212	32.397	382.70	-2.325E-02	1.032E-01	4.717E-04	1.239E-02	1.286E-02
4.0000	54.424	59.609	208.00	-4.510E-03	3.369E-02	3.265E-05	2.430E-03	2.462E-03
6.0000	81.635	86.821	142.81	-2.193E-03	1.653E-02	1.125E-05	8.523E-04	8.635E-04
8.0000	108.847	114.033	108.73	-1.149E-03	9.311E-03	4.058E-06	3.550E-04	3.591E-04
12.0000	163.271	168.457	73.60	-2.840E-04	4.205E-03	3.660E-07	1.070E-04	1.073E-04
14.0000	190.483	195.668	63.37	-1.345E-04	3.153E-03	9.529E-08	6.984E-05	6.993E-05
16.0000	217.695	222.880	55.63	-5.503E-05	2.462E-03	1.818E-08	4.850E-05	4.852E-05
18.0000	244.906	250.092	49.58	-1.138E-05	1.979E-03	8.729E-10	3.518E-05	3.518E-05
20.0000	272.118	277.304	44.71	1.293E-05	1.627E-03	1.248E-09	2.637E-05	2.637E-05

IN III 6F EO= 2.6295E-01 (RYD) N*= 5.8504 MU= .1496

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.578	3465.59	-1.916E+00	8.267E+00	3.536E-01	8.779E+00	9.133E+00
.5000	6.803	10.381	1194.40	-2.913E-01	1.088E+00	2.372E-02	4.414E-01	4.651E-01
1.0000	13.606	17.184	721.54	-1.033E-01	3.545E-01	4.942E-03	7.753E-02	8.247E-02
2.0000	27.212	30.789	402.69	-2.384E-02	9.345E-02	4.712E-04	9.654E-03	1.013E-02
4.0000	54.424	58.001	213.76	-4.006E-03	2.884E-02	2.506E-05	1.732E-03	1.757E-03
6.0000	81.635	85.213	145.50	-1.841E-03	1.427E-02	7.774E-06	6.229E-04	6.307E-04
10.0000	136.059	139.637	88.79	-4.974E-04	5.134E-03	9.303E-07	1.322E-04	1.331E-04
12.0000	163.271	166.849	74.31	-2.443E-04	3.608E-03	2.683E-07	7.798E-05	7.825E-05
14.0000	190.483	194.060	63.89	-1.149E-04	2.700E-03	6.897E-08	5.080E-05	5.087E-05
16.0000	217.695	221.272	56.03	-4.659E-05	2.107E-03	1.293E-08	3.527E-05	3.528E-05
18.0000	244.906	248.484	49.90	-9.467E-06	1.691E-03	5.997E-10	2.551E-05	2.551E-05
20.0000	272.118	275.696	44.97	1.128E-05	1.390E-03	9.450E-10	1.912E-05	1.912E-05

IN III 8F EO= 1.4634E-01 (RYD) N*= 7.8421 MU= .1579

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.991	6226.85	-3.790E+00	1.339E+01	7.704E-01	1.282E+01	1.359E+01
.2000	2.721	4.712	2631.10	-8.856E-01	3.226E+00	9.953E-02	1.761E+00	1.861E+00
.4000	5.442	7.434	1667.94	-3.951E-01	1.390E+00	3.125E-02	5.159E-01	5.471E-01
.8000	10.885	12.876	962.93	-1.384E-01	4.524E-01	6.646E-03	9.462E-02	1.013E-01
1.0000	13.606	15.597	794.93	-9.290E-02	2.968E-01	3.625E-03	4.933E-02	5.295E-02
2.0000	27.212	29.203	424.57	-2.037E-02	7.171E-02	3.264E-04	5.392E-03	5.718E-03
4.0000	54.424	56.415	219.78	-3.038E-03	2.073E-02	1.403E-05	8.708E-04	8.848E-04
6.0000	81.635	83.627	148.26	-1.300E-03	1.032E-02	3.804E-06	3.197E-04	3.235E-04
10.0000	136.059	138.050	89.81	-3.592E-04	3.709E-03	4.796E-07	6.819E-05	6.867E-05
14.0000	190.483	192.474	64.42	-8.213E-05	1.940E-03	3.497E-08	2.600E-05	2.604E-05
16.0000	217.695	219.686	56.44	-3.223E-05	1.512E-03	6.144E-09	1.803E-05	1.804E-05
18.0000	244.906	246.898	50.22	-5.021E-06	1.214E-03	1.676E-10	1.306E-05	1.306E-05
20.0000	272.118	274.109	45.23	8.673E-06	9.960E-04	5.554E-10	9.765E-06	9.765E-06

IN III 10F EO= 9.2980E-02 (RYD) N*= 9.8384 MU= .1616

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.265	9800.65	-6.096E+00	1.894E+01	1.266E+00	1.629E+01	1.756E+01
.1000	1.361	2.626	4722.08	-1.811E+00	6.105E+00	2.320E-01	3.514E+00	3.746E+00
.2000	2.721	3.986	3110.34	-8.908E-01	3.050E+00	8.519E-02	1.332E+00	1.417E+00
.4000	5.442	6.707	1848.49	-3.569E-01	1.202E+00	2.301E-02	3.482E-01	3.712E-01
.6000	8.164	9.429	1315.00	-1.904E-01	6.213E-01	9.202E-03	1.307E-01	1.399E-01
.8000	10.885	12.150	1020.48	-1.163E-01	3.685E-01	4.428E-03	5.925E-02	6.368E-02
1.0000	13.606	14.871	833.75	-7.688E-02	2.383E-01	2.367E-03	3.034E-02	3.270E-02
2.0000	27.212	28.477	435.39	-1.642E-02	5.529E-02	2.068E-04	3.126E-03	3.332E-03
4.0000	54.424	55.689	222.64	-2.341E-03	1.547E-02	8.217E-06	4.785E-04	4.867E-04
6.0000	81.635	82.901	149.56	-9.622E-04	7.710E-03	2.067E-06	1.769E-04	1.790E-04
8.0000	108.847	110.112	112.60	-5.195E-04	4.367E-03	8.004E-07	7.541E-05	7.621E-05
10.0000	136.059	137.324	90.29	-2.677E-04	2.772E-03	2.650E-07	3.789E-05	3.816E-05
12.0000	163.271	164.536	75.36	-1.320E-04	1.938E-03	7.723E-08	2.219E-05	2.227E-05
14.0000	190.483	191.748	64.66	-6.119E-05	1.449E-03	1.933E-08	1.447E-05	1.448E-05
16.0000	217.695	218.960	56.63	-2.343E-05	1.124E-03	3.238E-09	9.932E-06	9.936E-06
18.0000	244.906	246.172	50.37	-5.338E-06	9.038E-04	1.889E-10	7.221E-06	7.221E-06
20.0000	272.118	273.383	45.35	6.142E-06	7.387E-04	2.778E-10	5.357E-06	5.357E-06

IN III 12F EO= 6.4239E-02 (RYD) N*= 11.8365 MU= .1635

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.874	14185.62	-8.791E+00	2.498E+01	1.819E+00	1.959E+01	2.141E+01
.0500	.680	1.554	7976.86	-3.405E+00	1.052E+01	4.852E-01	6.182E+00	6.667E+00
.2000	2.721	3.595	3448.65	-8.310E-01	2.745E+00	6.687E-02	9.725E-01	1.039E+00
.4000	5.442	6.316	1962.93	-3.097E-01	1.018E+00	1.631E-02	2.350E-01	2.513E-01
.6000	8.164	9.038	1371.90	-1.604E-01	5.135E-01	6.260E-03	8.558E-02	9.184E-02
1.0000	13.606	14.480	856.26	-6.321E-02	1.929E-01	1.558E-03	1.934E-02	2.090E-02
2.0000	27.212	28.086	441.45	-1.329E-02	4.372E-02	1.336E-04	1.928E-03	2.062E-03
4.0000	54.424	55.298	224.22	-1.847E-03	1.202E-02	5.080E-06	2.867E-04	2.918E-04
8.0000	108.847	109.721	113.00	-4.033E-04	3.398E-03	4.807E-07	4.550E-05	4.598E-05
12.0000	163.271	164.145	75.53	-1.019E-04	1.506E-03	4.588E-08	1.336E-05	1.341E-05
14.0000	190.483	191.357	64.79	-4.712E-05	1.121E-03	1.144E-08	8.640E-06	8.652E-06
16.0000	217.695	218.569	56.73	-1.991E-05	8.745E-04	2.332E-09	6.003E-06	6.005E-06
18.0000	244.906	245.780	50.45	-3.444E-06	7.008E-04	7.853E-11	4.334E-06	4.334E-06
20.0000	272.118	272.992	45.42	4.776E-06	5.777E-04	1.677E-10	3.271E-06	3.272E-06

IN III 16F EO= 3.5895E-02 (RYD) N*= 15.8346 MU= .1654

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.488	25387.26	-1.525E+01	3.861E+01	3.057E+00	2.614E+01	2.919E+01
.0400	.544	1.033	12007.00	-4.474E+00	1.271E+01	5.568E-01	5.989E+00	6.545E+00
.2000	2.721	3.210	3863.03	-6.722E-01	2.137E+00	3.905E-02	5.263E-01	5.654E-01
.4000	5.442	5.931	2090.57	-2.301E-01	7.375E-01	8.455E-03	1.158E-01	1.243E-01
.6000	8.164	8.652	1433.05	-1.153E-01	3.622E-01	3.100E-03	4.077E-02	4.387E-02
1.0000	13.606	14.094	879.69	-4.428E-02	1.330E-01	7.442E-04	8.959E-03	9.703E-03
2.0000	27.212	27.700	447.60	-9.159E-03	2.949E-02	6.258E-05	8.653E-04	9.278E-04
4.0000	54.424	54.912	225.79	-1.246E-03	7.959E-03	2.297E-06	1.249E-04	1.272E-04
6.0000	81.635	82.124	150.97	-4.890E-04	3.966E-03	5.288E-07	4.639E-05	4.692E-05
10.0000	136.059	136.548	90.80	-1.355E-04	1.427E-03	6.754E-08	9.987E-06	1.005E-05
14.0000	190.483	190.971	64.92	-3.021E-05	7.415E-04	4.695E-09	3.771E-06	3.775E-06
16.0000	217.695	218.183	56.83	-1.192E-05	5.780E-04	8.351E-10	2.618E-06	2.618E-06
18.0000	244.906	245.395	50.53	-2.044E-06	4.622E-04	2.761E-11	1.883E-06	1.883E-06
20.0000	272.118	272.607	45.48	4.866E-06	3.809E-04	1.738E-10	1.420E-06	1.420E-06

IN III 20F EO= 2.2679E-02 (RYD) N*= 19.8337 MU= .1663

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.311	39830.05	-2.300E+01	5.425E+01	4.435E+00	3.290E+01	3.733E+01
.0200	.272	.583	21252.12	-8.263E+00	2.144E+01	1.073E+00	9.630E+00	1.070E+01
.0400	.544	.856	14492.43	-4.420E+00	1.209E+01	4.501E-01	4.490E+00	4.940E+00
.1000	1.361	1.672	7415.98	-1.462E+00	4.336E+00	9.619E-02	1.129E+00	1.225E+00
.2000	2.721	3.032	4088.62	-5.356E-01	1.672E+00	2.343E-02	3.044E-01	3.279E-01
.4000	5.442	5.754	2154.91	-1.754E-01	5.555E-01	4.765E-03	6.375E-02	6.851E-02
.8000	10.885	11.196	1107.41	-5.078E-02	1.544E-01	7.776E-04	9.587E-03	1.036E-02
1.0000	13.606	13.917	890.89	-3.279E-02	9.782E-02	4.029E-04	4.782E-03	5.185E-03
2.0000	27.212	27.523	450.48	-6.652E-03	2.144E-02	3.280E-05	4.541E-04	4.869E-04
4.0000	54.424	54.735	226.52	-9.278E-04	5.775E-03	1.269E-06	6.554E-05	6.681E-05
6.0000	81.635	81.947	151.30	-3.623E-04	2.886E-03	2.897E-07	2.451E-05	2.480E-05
10.0000	136.059	136.370	90.92	-9.710E-05	1.059E-03	3.463E-08	5.487E-06	5.522E-06
14.0000	190.483	190.794	64.98	-3.397E-05	5.220E-04	5.928E-09	1.867E-06	1.872E-06
16.0000	217.695	218.006	56.87	-9.245E-06	4.258E-04	5.018E-10	1.419E-06	1.420E-06
18.0000	244.906	245.218	50.56	7.863E-06	3.286E-04	4.083E-10	9.509E-07	9.513E-07
20.0000	272.118	272.430	45.51	1.035E-05	2.894E-04	7.865E-10	8.194E-07	8.201E-07

SN IV 5S EO= 2.8373E+00 (RYD) N*= 2.3747 MU= 2.6253

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	38.604	321.18	.000	2.408E-01	.000	1.406E-01	1.406E-01
1.0000	13.606	52.210	237.48	.000	1.832E-01	.000	1.102E-01	1.102E-01
2.0000	27.212	65.815	188.38	.000	1.437E-01	.000	8.537E-02	8.537E-02
8.0000	108.847	147.451	84.09	.000	5.607E-02	.000	2.913E-02	2.913E-02
20.0000	272.118	310.722	39.90	.000	2.247E-02	.000	9.855E-03	9.855E-03

SN IV 6S EO= 1.3681E+00 (RYD) N*= 3.4198 MU= 2.5802

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	18.615	666.07	.000	4.076E-01	.000	1.944E-01	1.944E-01
1.0000	13.606	32.221	384.80	.000	2.264E-01	.000	1.038E-01	1.038E-01
2.0000	27.212	45.827	270.56	.000	1.473E-01	.000	6.244E-02	6.244E-02
10.0000	136.059	154.674	80.16	.000	3.100E-02	.000	9.341E-03	9.341E-03
18.0000	244.906	263.521	47.05	.000	1.576E-02	.000	4.111E-03	4.111E-03

SN IV 8S EO= 5.4066E-01 (RYD) N*= 5.4400 MU= 2.5600

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.356	1685.46	.000	8.181E-01	.000	3.094E-01	3.094E-01
1.0000	13.606	20.962	591.48	.000	2.323E-01	.000	7.106E-02	7.106E-02
4.0000	54.424	61.780	200.69	.000	5.370E-02	.000	1.120E-02	1.120E-02
6.0000	81.635	88.992	139.32	.000	3.273E-02	.000	5.990E-03	5.990E-03

SN IV 10S EO= 2.8861E-01 (RYD) N*= 7.4457 MU= 2.5543

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.927	3157.44	.000	1.306E+00	.000	4.209E-01	4.209E-01
.5000	6.803	10.730	1155.54	.000	3.819E-01	.000	9.832E-02	9.832E-02
1.0000	13.606	17.533	707.17	.000	1.972E-01	.000	4.284E-02	4.284E-02
4.0000	54.424	58.350	212.49	.000	3.703E-02	.000	5.028E-03	5.028E-03

SN IV 12S EO= 1.7924E-01 (RYD) N*= 9.4481 MU= 2.5519

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.439	5084.13	.000	1.864E+00	.000	5.322E-01	5.322E-01
.4000	5.442	7.881	1573.22	.000	4.263E-01	.000	9.002E-02	9.002E-02
.8000	10.885	13.323	930.59	.000	2.082E-01	.000	3.631E-02	3.631E-02
1.0000	13.606	16.045	772.76	.000	1.609E-01	.000	2.610E-02	2.610E-02
2.0000	27.212	29.651	418.16	.000	6.788E-02	.000	8.584E-03	8.584E-03
4.0000	54.424	56.862	218.05	.000	2.710E-02	.000	2.625E-03	2.625E-03

SN IV 16S EO= 8.8444E-02 (RYD) N*= 13.4501 MU= 2.5499

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.203	10303.33	.000	3.172E+00	.000	7.607E-01	7.607E-01
.1000	1.361	2.564	4835.75	.000	1.219E+00	.000	2.394E-01	2.394E-01
.4000	5.442	6.646	1865.65	.000	3.349E-01	.000	4.685E-02	4.685E-02
1.0000	13.606	14.809	837.22	.000	1.089E-01	.000	1.104E-02	1.104E-02
2.0000	27.212	28.415	436.34	.000	4.309E-02	.000	3.316E-03	3.316E-03

SN IV 20S EO= 5.2539E-02 (RYD) N*= 17.4509 MU= 2.5491

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.715	17344.47	.000	4.720E+00	.000	1.001E+00	1.001E+00
.0500	.680	1.395	8887.00	.000	1.990E+00	.000	3.472E-01	3.472E-01
.2000	2.721	3.436	3608.42	.000	5.826E-01	.000	7.328E-02	7.328E-02
.6000	8.164	8.878	1396.49	.000	1.541E-01	.000	1.325E-02	1.325E-02
.8000	10.885	11.600	1068.89	.000	1.055E-01	.000	8.113E-03	8.113E-03
1.0000	13.606	14.321	865.78	.000	7.815E-02	.000	5.497E-03	5.497E-03

SN IV 5P EO= 2.2629E+00 (RYD) N*= 2.6591 MU= 2.3409

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	30.789	402.70	5.476E-01	-2.547E-01	1.934E-01	8.371E-02	2.771E-01
.4000	5.442	36.231	342.21	4.243E-01	-1.376E-01	1.366E-01	2.874E-02	1.653E-01
.8000	10.885	41.673	297.52	3.409E-01	-7.094E-02	1.015E-01	8.786E-03	1.102E-01
1.0000	13.606	44.394	279.28	3.089E-01	-4.842E-02	8.874E-02	4.360E-03	9.310E-02
1.4000	19.048	49.837	248.78	2.580E-01	-1.665E-02	6.951E-02	5.787E-04	7.009E-02
1.6000	21.769	52.558	235.90	2.376E-01	-5.400E-03	6.215E-02	6.421E-05	6.222E-02
1.8000	24.491	55.279	224.29	2.197E-01	3.658E-03	5.590E-02	3.099E-05	5.593E-02
2.0000	27.212	58.000	213.77	2.040E-01	1.099E-02	5.054E-02	2.935E-04	5.083E-02
3.0000	40.818	71.606	173.15	1.473E-01	3.169E-02	3.254E-02	3.012E-03	3.556E-02
7.0000	95.241	126.030	98.38	6.205E-02	3.983E-02	1.016E-02	8.376E-03	1.854E-02
8.0000	108.847	139.636	88.79	5.311E-02	3.821E-02	8.250E-03	8.542E-03	1.679E-02
9.0000	122.453	153.242	80.91	4.613E-02	3.644E-02	6.830E-03	8.527E-03	1.536E-02

SN IV 6P EO= 1.1641E+00 (RYD) N*= 3.7074 MU= 2.2926

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	15.838	782.82	1.027E+00	-6.033E-01	3.499E-01	2.415E-01	5.914E-01
.4000	5.442	21.281	582.62	6.356E-01	-2.616E-01	1.801E-01	6.101E-02	2.411E-01
1.0000	13.606	29.444	421.09	3.758E-01	-8.240E-02	8.711E-02	8.375E-03	9.548E-02
1.4000	19.048	34.887	355.40	2.859E-01	-3.390E-02	5.973E-02	1.680E-03	6.141E-02
1.6000	21.769	37.608	329.68	2.534E-01	-1.870E-02	5.057E-02	5.512E-04	5.112E-02
1.8000	24.491	40.329	307.44	2.265E-01	-7.262E-03	4.333E-02	8.910E-05	4.342E-02
2.0000	27.212	43.050	288.00	2.040E-01	1.451E-03	3.751E-02	3.798E-06	3.752E-02
3.0000	40.818	56.656	218.84	1.316E-01	2.290E-02	2.055E-02	1.244E-03	2.179E-02
5.0000	68.030	83.868	147.84	7.082E-02	2.982E-02	8.810E-03	3.124E-03	1.193E-02
7.0000	95.241	111.080	111.62	4.568E-02	2.769E-02	4.855E-03	3.569E-03	8.424E-03
8.0000	108.847	124.686	99.44	3.820E-02	2.615E-02	3.810E-03	3.571E-03	7.381E-03
9.0000	122.453	138.292	89.66	3.255E-02	2.460E-02	3.070E-03	3.506E-03	6.576E-03

SN IV 8P EO= 4.8696E-01 (RYD) N*= 5.7321 MU= 2.2679

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.625	1871.35	2.393E+00	-1.650E+00	7.948E-01	7.559E-01	1.551E+00
.2000	2.721	9.347	1326.53	1.355E+00	-7.654E-01	3.593E-01	2.294E-01	5.887E-01
.4000	5.442	12.068	1027.41	8.877E-01	-4.147E-01	1.992E-01	8.695E-02	2.861E-01
.8000	10.885	17.510	708.08	4.797E-01	-1.513E-01	8.440E-02	1.680E-02	1.012E-01
1.0000	13.606	20.231	612.84	3.779E-01	-9.576E-02	6.052E-02	7.773E-03	6.829E-02
1.4000	19.048	25.674	482.93	2.552E-01	-3.753E-02	3.502E-02	1.515E-03	3.654E-02
1.6000	21.769	28.395	436.65	2.162E-01	-2.174E-02	2.781E-02	5.623E-04	2.837E-02
1.8000	24.491	31.116	398.46	1.861E-01	-1.069E-02	2.256E-02	1.489E-04	2.271E-02
2.0000	27.212	33.837	366.42	1.622E-01	-2.798E-03	1.864E-02	1.109E-05	1.865E-02
2.2000	29.933	36.559	339.14	1.429E-01	2.924E-03	1.564E-02	1.309E-05	1.565E-02
2.4000	32.654	39.280	315.65	1.271E-01	7.118E-03	1.329E-02	8.337E-05	1.337E-02
2.6000	35.375	42.001	295.20	1.139E-01	1.022E-02	1.142E-02	1.836E-04	1.161E-02
3.0000	40.818	47.443	261.34	9.346E-02	1.422E-02	8.681E-03	4.020E-04	9.083E-03
5.0000	68.030	74.655	166.08	4.504E-02	1.802E-02	3.173E-03	1.015E-03	4.188E-03
6.0000	81.635	88.261	140.48	3.451E-02	1.720E-02	2.202E-03	1.093E-03	3.295E-03
7.0000	95.241	101.867	121.71	2.752E-02	1.611E-02	1.616E-03	1.107E-03	2.723E-03
8.0000	108.847	115.473	107.37	2.260E-02	1.500E-02	1.235E-03	1.089E-03	2.324E-03
9.0000	122.453	129.079	96.05	1.899E-02	1.396E-02	9.746E-04	1.054E-03	2.028E-03

SN IV 10P EO= 2.6711E-01 (RYD) N*= 7.7396 MU= 2.2604

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.634	3411.65	4.259E+00	-3.133E+00	1.381E+00	1.494E+00	2.876E+00
.2000	2.721	6.355	1950.88	1.683E+00	-9.928E-01	3.770E-01	2.624E-01	6.394E-01
.4000	5.442	9.077	1366.00	9.299E-01	-4.503E-01	1.644E-01	7.710E-02	2.415E-01
.6000	8.164	11.798	1050.93	6.010E-01	-2.397E-01	8.927E-02	2.839E-02	1.177E-01
1.0000	13.606	17.240	719.17	3.198E-01	-8.403E-02	3.693E-02	5.100E-03	4.203E-02
1.4000	19.048	22.682	546.62	2.028E-01	-3.141E-02	1.954E-02	9.375E-04	2.048E-02
1.6000	21.769	25.404	488.06	1.681E-01	-1.814E-02	1.504E-02	3.501E-04	1.539E-02
1.8000	24.491	28.125	440.84	1.421E-01	-9.162E-03	1.189E-02	9.891E-05	1.199E-02
2.0000	27.212	30.846	401.95	1.220E-01	-2.936E-03	9.613E-03	1.114E-05	9.624E-03
2.2000	29.933	33.567	369.37	1.061E-01	1.464E-03	7.917E-03	3.014E-06	7.920E-03
2.4000	32.654	36.288	341.67	9.334E-02	4.617E-03	6.623E-03	3.240E-05	6.655E-03
3.0000	40.818	44.452	278.92	6.694E-02	9.757E-03	4.172E-03	1.773E-04	4.349E-03
6.0000	81.635	85.270	145.40	2.338E-02	1.150E-02	9.761E-04	4.721E-04	1.448E-03
7.0000	95.241	98.876	125.40	1.848E-02	1.070E-02	7.072E-04	4.738E-04	1.181E-03
8.0000	108.847	112.482	110.23	1.507E-02	9.909E-03	5.354E-04	4.627E-04	9.981E-04

SN IV 12P EO= 1.6856E-01 (RYD) N*= 9.7429 MU= 2.2571

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.293	5406.32	6.599E+00	-5.024E+00	2.092E+00	2.425E+00	4.517E+00
.2000	2.721	5.015	2472.54	1.794E+00	-1.077E+00	3.379E-01	2.438E-01	5.817E-01
.4000	5.442	7.736	1602.78	8.701E-01	-4.272E-01	1.227E-01	5.914E-02	1.818E-01
.6000	8.164	10.457	1185.69	5.260E-01	-2.124E-01	6.060E-02	1.977E-02	8.038E-02
.8000	10.885	13.178	940.85	3.575E-01	-1.181E-01	3.528E-02	7.706E-03	4.299E-02
1.0000	13.606	15.899	779.82	2.614E-01	-6.966E-02	2.276E-02	3.232E-03	2.599E-02
1.4000	19.048	21.342	580.96	1.601E-01	-2.530E-02	1.146E-02	5.723E-04	1.203E-02
1.6000	21.769	24.063	515.26	1.312E-01	-1.454E-02	8.670E-03	2.133E-04	8.883E-03
1.8000	24.491	26.784	462.91	1.098E-01	-7.399E-03	6.763E-03	6.144E-05	6.825E-03
2.0000	27.212	29.505	420.22	9.354E-02	-2.516E-03	5.408E-03	7.824E-06	5.415E-03
2.2000	29.933	32.226	384.74	8.085E-02	8.912E-04	4.412E-03	1.072E-06	4.413E-03
2.4000	32.654	34.948	354.78	7.072E-02	3.303E-03	3.662E-03	1.598E-05	3.678E-03
3.0000	40.818	43.111	287.60	5.008E-02	7.162E-03	2.265E-03	9.265E-05	2.358E-03
4.0000	54.424	56.717	218.61	3.201E-02	8.890E-03	1.217E-03	1.878E-04	1.405E-03
5.0000	68.030	70.323	176.31	2.261E-02	8.835E-03	7.530E-04	2.300E-04	9.830E-04
6.0000	81.635	83.929	147.73	1.703E-02	8.323E-03	5.096E-04	2.436E-04	7.532E-04
7.0000	95.241	97.535	127.12	1.340E-02	7.719E-03	3.671E-04	2.435E-04	6.105E-04

SN IV 16P EO= 8.4682E-02 (RYD) N*= 13.7457 MU= 2.2543

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.152	10761.10	1.263E+01	-9.965E+00	3.848E+00	4.793E+00	8.641E+00
.2000	2.721	3.873	3201.01	1.670E+00	-1.017E+00	2.264E-01	1.677E-01	3.941E-01
.4000	5.442	6.595	1880.14	6.858E-01	-3.400E-01	6.496E-02	3.195E-02	9.690E-02
.6000	8.164	9.316	1330.94	3.846E-01	-1.567E-01	2.886E-02	9.589E-03	3.845E-02
.8000	10.885	12.037	1030.05	2.504E-01	-8.354E-02	1.581E-02	3.519E-03	1.933E-02
1.0000	13.606	14.758	840.12	1.781E-01	-4.795E-02	9.802E-03	1.422E-03	1.122E-02
1.2000	16.327	17.479	709.33	1.342E-01	-2.847E-02	6.594E-03	5.934E-04	7.188E-03
1.6000	21.769	22.922	540.91	8.540E-02	-9.677E-03	3.501E-03	8.991E-05	3.591E-03
1.8000	24.491	25.643	483.51	7.086E-02	-4.939E-03	2.697E-03	2.620E-05	2.723E-03
2.0000	27.212	28.364	437.13	5.993E-02	-1.747E-03	2.134E-03	3.628E-06	2.138E-03
2.2000	29.933	31.085	398.86	5.149E-02	4.503E-04	1.726E-03	2.641E-07	1.726E-03
2.4000	32.654	33.806	366.75	4.480E-02	2.011E-03	1.421E-03	5.728E-06	1.427E-03
2.6000	35.375	36.528	339.43	3.943E-02	3.084E-03	1.190E-03	1.455E-05	1.204E-03
3.0000	40.818	41.970	295.42	3.138E-02	4.417E-03	8.657E-04	3.430E-05	9.000E-04
5.0000	68.030	69.182	179.22	1.390E-02	5.398E-03	2.798E-04	8.444E-05	3.643E-04
6.0000	81.635	82.788	149.76	1.041E-02	5.064E-03	1.880E-04	8.895E-05	2.770E-04
7.0000	95.241	96.394	128.63	8.168E-03	4.683E-03	1.347E-04	8.858E-05	2.233E-04
9.0000	122.453	123.605	100.31	5.513E-03	3.989E-03	7.870E-05	8.240E-05	1.611E-04

SN IV 20P EO= 5.0802E-02 (RYD) N*= 17.7468 MU= 2.2532

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.691	17937.60	2.037E+01	-1.637E+01	6.008E+00	7.761E+00	1.377E+01
.1000	1.361	2.052	6042.81	3.317E+00	-2.280E+00	4.727E-01	4.468E-01	9.195E-01
.4000	5.442	6.134	2021.44	5.304E-01	-2.639E-01	3.614E-02	1.789E-02	5.403E-02
.6000	8.164	8.855	1400.22	2.866E-01	-1.172E-01	1.524E-02	5.095E-03	2.033E-02
.8000	10.885	11.576	1071.07	1.829E-01	-6.122E-02	8.112E-03	1.818E-03	9.929E-03
1.0000	13.606	14.297	867.21	1.284E-01	-3.472E-02	4.939E-03	7.218E-04	5.661E-03
1.4000	19.048	19.739	628.11	7.489E-02	-1.209E-02	2.319E-03	1.208E-04	2.440E-03
1.6000	21.769	22.461	552.02	6.038E-02	-6.901E-03	1.715E-03	4.481E-05	1.760E-03
2.0000	27.212	27.903	444.35	4.208E-02	-1.272E-03	1.035E-03	1.890E-06	1.037E-03
2.2000	29.933	30.624	404.86	3.606E-02	2.857E-04	8.341E-04	1.047E-07	8.342E-04
2.4000	32.654	33.345	371.82	3.131E-02	1.373E-03	6.848E-04	2.632E-06	6.875E-04
3.0000	40.818	41.509	298.70	2.182E-02	3.046E-03	4.139E-04	1.614E-05	4.301E-04
5.0000	68.030	68.721	180.42	9.587E-03	3.712E-03	1.323E-04	3.968E-05	1.720E-04
6.0000	81.635	82.327	150.60	7.179E-03	3.477E-03	8.886E-05	4.170E-05	1.306E-04
7.0000	95.241	95.933	129.24	5.620E-03	3.211E-03	6.346E-05	4.145E-05	1.049E-04

SN IV 5D EO= 1.4731E+00 (RYD) N*= 3.2957 MU= 1.7043

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	20.042	618.62	4.354E-01	-1.565E+00	9.551E-02	1.850E+00	1.946E+00
1.0000	13.606	33.648	368.48	2.060E-01	-7.445E-01	3.591E-02	7.031E-01	7.390E-01
2.0000	27.212	47.254	262.38	1.271E-01	-3.312E-01	1.919E-02	1.955E-01	2.146E-01
3.0000	40.818	60.860	203.72	8.877E-02	-1.497E-01	1.205E-02	5.146E-02	6.351E-02
4.0000	54.424	74.466	166.50	6.667E-02	-6.421E-02	8.319E-03	1.158E-02	1.990E-02
5.0000	68.030	88.072	140.78	5.251E-02	-2.063E-02	6.104E-03	1.414E-03	7.518E-03
5.2000	70.751	90.793	136.56	5.028E-02	-1.475E-02	5.770E-03	7.444E-04	6.515E-03
5.6000	76.193	96.236	128.84	4.627E-02	-4.899E-03	5.180E-03	8.708E-05	5.267E-03
5.8000	78.914	98.957	125.29	4.447E-02	-7.844E-04	4.918E-03	2.296E-06	4.921E-03
6.0000	81.635	101.678	121.94	4.278E-02	2.876E-03	4.677E-03	3.170E-05	4.708E-03
8.0000	108.847	128.890	96.20	3.042E-02	2.341E-02	2.999E-03	2.663E-03	5.662E-03
14.0000	190.483	210.525	58.89	1.482E-02	2.976E-02	1.162E-03	7.028E-03	8.190E-03
15.0000	204.089	224.131	55.32	1.349E-02	2.896E-02	1.025E-03	7.086E-03	8.111E-03
16.0000	217.695	237.737	52.15	1.234E-02	2.805E-02	9.104E-04	7.054E-03	7.964E-03

SN IV 6D EO= 8.5332E-01 (RYD) N*= 4.3302 MU= 1.6698

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.610	1067.90	6.927E-01	-2.084E+00	1.400E-01	1.902E+00	2.042E+00
.5000	6.803	18.413	673.36	3.471E-01	-1.268E+00	5.575E-02	1.116E+00	1.172E+00
1.0000	13.606	25.216	491.69	2.184E-01	-7.666E-01	3.023E-02	5.587E-01	5.889E-01
3.0000	40.818	52.428	236.49	7.524E-02	-1.302E-01	7.460E-03	3.349E-02	4.095E-02
4.0000	54.424	66.034	187.76	5.388E-02	-5.506E-02	4.818E-03	7.549E-03	1.237E-02
5.0000	68.030	79.640	155.68	4.108E-02	-1.886E-02	3.379E-03	1.068E-03	4.447E-03
5.8000	78.914	90.525	136.96	3.412E-02	-2.953E-03	2.650E-03	2.977E-05	2.679E-03
6.0000	81.635	93.246	132.97	3.269E-02	-6.984E-05	2.505E-03	1.715E-08	2.505E-03
6.2000	84.357	95.967	129.20	3.136E-02	2.484E-03	2.372E-03	2.232E-05	2.394E-03
6.4000	87.078	98.688	125.63	3.011E-02	4.747E-03	2.249E-03	8.384E-05	2.333E-03
6.6000	89.799	101.409	122.26	2.894E-02	6.755E-03	2.135E-03	1.744E-04	2.310E-03
8.0000	108.847	120.458	102.93	2.253E-02	1.574E-02	1.537E-03	1.125E-03	2.662E-03
12.0000	163.271	174.881	70.90	1.302E-02	2.110E-02	7.455E-04	2.936E-03	3.682E-03
14.0000	190.483	202.093	61.35	1.050E-02	2.041E-02	5.596E-04	3.174E-03	3.734E-03
15.0000	204.089	215.699	57.48	9.516E-03	1.984E-02	4.910E-04	3.200E-03	3.691E-03
16.0000	217.695	229.305	54.07	8.676E-03	1.919E-02	4.338E-04	3.184E-03	3.618E-03

SN IV 8D EO= 3.9668E-01 (RYD) N*= 6.3510 MU= 1.6490

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.397	2297.24	1.330E+00	-3.120E+00	2.399E-01	1.981E+00	2.221E+00
.5000	6.803	12.200	1016.27	3.818E-01	-1.305E+00	4.471E-02	7.840E-01	8.287E-01
1.0000	13.606	19.003	652.45	1.962E-01	-6.682E-01	1.840E-02	3.199E-01	3.383E-01
2.0000	27.212	32.609	380.22	8.784E-02	-2.284E-01	6.325E-03	6.416E-02	7.048E-02
4.0000	54.424	59.821	207.26	3.589E-02	-3.802E-02	1.937E-03	3.260E-03	5.197E-03
5.0000	68.030	73.427	168.86	2.656E-02	-1.338E-02	1.302E-03	4.959E-04	1.798E-03
5.8000	78.914	84.311	147.06	2.169E-02	-2.918E-03	9.969E-04	2.708E-05	1.024E-03
6.0000	81.635	87.033	142.46	2.070E-02	-1.049E-03	9.375E-04	3.613E-06	9.411E-04
6.2000	84.357	89.754	138.14	1.979E-02	5.969E-04	8.833E-04	1.206E-06	8.845E-04
6.4000	87.078	92.475	134.08	1.894E-02	2.049E-03	8.338E-04	1.464E-05	8.485E-04
6.8000	92.520	97.917	126.62	1.741E-02	4.465E-03	7.463E-04	7.361E-05	8.199E-04
7.0000	95.241	100.639	123.20	1.673E-02	5.468E-03	7.077E-04	1.134E-04	8.211E-04
10.0000	136.059	141.456	87.65	1.013E-02	1.181E-02	3.647E-04	7.445E-04	1.109E-03
13.0000	176.877	182.274	68.02	6.944E-03	1.210E-02	2.209E-04	1.007E-03	1.228E-03
14.0000	190.483	195.880	63.30	6.233E-03	1.183E-02	1.913E-04	1.033E-03	1.225E-03
15.0000	204.089	209.486	59.19	5.633E-03	1.148E-02	1.671E-04	1.041E-03	1.208E-03
16.0000	217.695	223.092	55.58	5.119E-03	1.110E-02	1.469E-04	1.036E-03	1.183E-03
18.0000	244.906	250.304	49.53	4.295E-03	1.028E-02	1.161E-04	9.976E-04	1.114E-03
20.0000	272.118	277.515	44.68	3.663E-03	9.476E-03	9.358E-05	9.396E-04	1.033E-03

SN IV 10D EO= 2.2905E-01 (RYD) N*= 8.3579 MU= 1.6421

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.116	3978.51	2.102E+00	-4.163E+00	3.461E-01	2.036E+00	2.382E+00
.5000	6.803	9.919	1249.94	3.538E-01	-1.176E+00	3.121E-02	5.174E-01	5.487E-01
1.0000	13.606	16.722	741.44	1.607E-01	-5.401E-01	1.086E-02	1.840E-01	1.948E-01
2.0000	27.212	30.328	408.81	6.584E-02	-1.707E-01	3.304E-03	3.331E-02	3.662E-02
3.0000	40.818	43.934	282.21	3.792E-02	-6.667E-02	1.588E-03	7.363E-03	8.951E-03
4.0000	54.424	57.540	215.48	2.543E-02	-2.725E-02	9.354E-04	1.611E-03	2.547E-03
5.0000	68.030	71.146	174.27	1.859E-02	-9.653E-03	6.179E-04	2.500E-04	8.679E-04
5.8000	78.914	82.031	151.15	1.507E-02	-2.283E-03	4.682E-04	1.612E-05	4.843E-04
6.0000	81.635	84.752	146.29	1.436E-02	-9.756E-04	4.394E-04	3.042E-06	4.424E-04
6.2000	84.357	87.473	141.74	1.371E-02	1.727E-04	4.132E-04	9.840E-08	4.133E-04
6.4000	87.078	90.194	137.47	1.310E-02	1.186E-03	3.893E-04	4.784E-06	3.941E-04
6.6000	89.799	92.915	133.44	1.254E-02	2.080E-03	3.673E-04	1.515E-05	3.825E-04
8.0000	108.847	111.964	110.74	9.524E-03	5.992E-03	2.553E-04	1.516E-04	4.069E-04
14.0000	190.483	193.599	64.04	4.215E-03	7.926E-03	8.646E-05	4.585E-04	5.450E-04
15.0000	204.089	207.205	59.84	3.804E-03	7.690E-03	7.535E-05	4.620E-04	5.374E-04
16.0000	217.695	220.811	56.15	3.454E-03	7.429E-03	6.620E-05	4.595E-04	5.257E-04

SN IV 12D EO= 1.4904E-01 (RYD) N*= 10.3611 MU= 1.6389

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.028	6114.17	2.991E+00	-5.221E+00	4.559E-01	2.084E+00	2.540E+00
.5000	6.803	8.831	1404.02	3.093E-01	-1.014E+00	2.124E-02	3.425E-01	3.638E-01
1.0000	13.606	15.634	793.07	1.302E-01	-4.348E-01	6.665E-03	1.114E-01	1.181E-01
2.0000	27.212	29.240	424.03	5.077E-02	-1.314E-01	1.895E-03	1.904E-02	2.093E-02
3.0000	40.818	42.846	289.38	2.870E-02	-5.052E-02	8.868E-04	4.123E-03	5.010E-03
4.0000	54.424	56.452	219.63	1.905E-02	-2.052E-02	5.149E-04	8.962E-04	1.411E-03
5.0000	68.030	70.057	176.98	1.384E-02	-7.286E-03	3.371E-04	1.402E-04	4.773E-04
6.0000	81.635	83.663	148.20	1.064E-02	-8.094E-04	2.382E-04	2.067E-06	2.403E-04
6.2000	84.357	86.385	143.53	1.015E-02	4.369E-05	2.239E-04	6.217E-09	2.239E-04
6.4000	87.078	89.106	139.15	9.700E-03	7.965E-04	2.108E-04	2.131E-06	2.129E-04
6.6000	89.799	91.827	135.02	9.276E-03	1.463E-03	1.986E-04	7.407E-06	2.060E-04
6.8000	92.520	94.548	131.14	8.884E-03	2.047E-03	1.876E-04	1.494E-05	2.025E-04
8.0000	108.847	110.875	111.83	7.017E-03	4.355E-03	1.372E-04	7.927E-05	2.165E-04
10.0000	136.059	138.087	89.79	5.070E-03	5.777E-03	8.924E-05	1.738E-04	2.630E-04
14.0000	190.483	192.511	64.40	3.084E-03	5.775E-03	4.603E-05	2.421E-04	2.881E-04
15.0000	204.089	206.117	60.15	2.782E-03	5.601E-03	4.010E-05	2.438E-04	2.839E-04
16.0000	217.695	219.722	56.43	2.526E-03	5.411E-03	3.525E-05	2.425E-04	2.778E-04

SN IV 16D EO= 7.7549E-02 (RYD) N*= 14.3639 MU= 1.6361

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.055	11750.89	5.076E+00	-7.389E+00	6.832E-01	2.172E+00	2.855E+00
.5000	6.803	7.858	1577.82	2.287E-01	-7.409E-01	1.033E-02	1.626E-01	1.729E-01
1.0000	13.606	14.661	845.69	8.877E-02	-2.946E-01	2.904E-03	4.797E-02	5.088E-02
2.0000	27.212	28.267	438.63	3.296E-02	-8.517E-02	7.721E-04	7.730E-03	8.502E-03
3.0000	40.818	41.873	296.10	1.830E-02	-3.225E-02	3.525E-04	1.642E-03	1.994E-03
4.0000	54.424	55.479	223.48	1.203E-02	-1.302E-02	2.018E-04	3.545E-04	5.563E-04
5.0000	68.030	69.085	179.47	8.688E-03	-4.629E-03	1.311E-04	5.582E-05	1.869E-04
6.0000	81.635	82.691	149.94	6.656E-03	-5.537E-04	9.208E-05	9.559E-07	9.304E-05
6.2000	84.357	85.412	145.16	6.345E-03	-1.793E-05	8.644E-05	1.035E-09	8.644E-05
6.4000	87.078	88.133	140.68	6.058E-03	4.548E-04	8.131E-05	6.874E-07	8.200E-05
6.6000	89.799	90.854	136.47	5.791E-03	8.672E-04	7.658E-05	2.576E-06	7.916E-05
7.0000	95.241	96.297	128.75	5.312E-03	1.554E-03	6.831E-05	8.766E-06	7.708E-05
8.0000	108.847	109.902	112.81	4.369E-03	2.678E-03	5.274E-05	2.971E-05	8.244E-05
12.0000	163.271	164.326	75.45	2.401E-03	3.691E-03	2.381E-05	8.443E-05	1.082E-04
14.0000	190.483	191.538	64.73	1.905E-03	3.557E-03	1.748E-05	9.138E-05	1.089E-04
15.0000	204.089	205.144	60.44	1.718E-03	3.448E-03	1.522E-05	9.196E-05	1.072E-04
16.0000	217.695	218.750	56.68	1.559E-03	3.331E-03	1.336E-05	9.151E-05	1.049E-04

SN IV 20D EO= 4.7439E-02 (RYD) N*= 18.3651 MU= 1.6349

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.645	19209.26	7.529E+00	-9.628E+00	9.198E-01	2.256E+00	3.176E+00
.5000	6.803	7.448	1664.60	1.724E-01	-5.557E-01	5.565E-03	8.673E-02	9.230E-02
1.0000	13.606	14.251	870.00	6.436E-02	-2.131E-01	1.484E-03	2.439E-02	2.587E-02
2.0000	27.212	27.857	445.08	2.339E-02	-6.036E-02	3.830E-04	3.827E-03	4.210E-03
3.0000	40.818	41.463	299.03	1.287E-02	-2.270E-02	1.726E-04	8.058E-04	9.785E-04
4.0000	54.424	55.069	225.15	8.433E-03	-9.139E-03	9.845E-05	1.734E-04	2.719E-04
5.0000	68.030	68.675	180.54	6.076E-03	-3.251E-03	6.372E-05	2.737E-05	9.110E-05
6.0000	81.635	82.281	150.69	4.642E-03	-3.908E-04	4.457E-05	4.739E-07	4.504E-05
6.2000	84.357	85.002	145.86	4.430E-03	-2.084E-05	4.193E-05	1.392E-09	4.193E-05
6.4000	87.078	87.723	141.34	4.226E-03	2.968E-04	3.938E-05	2.914E-07	3.967E-05
6.6000	89.799	90.444	137.09	4.040E-03	5.928E-04	3.710E-05	1.198E-06	3.830E-05
8.0000	108.847	109.493	113.24	3.050E-03	1.845E-03	2.560E-05	1.406E-05	3.966E-05
13.0000	176.877	177.522	69.84	1.472E-03	2.527E-03	9.669E-06	4.276E-05	5.242E-05
14.0000	190.483	191.128	64.87	1.326E-03	2.469E-03	8.448E-06	4.394E-05	5.239E-05
15.0000	204.089	204.734	60.56	1.194E-03	2.382E-03	7.331E-06	4.379E-05	5.112E-05
16.0000	217.695	218.340	56.79	1.083E-03	2.306E-03	6.438E-06	4.379E-05	5.023E-05

SN IV 4F EO= 1.0593E+00 (RYD) N*= 3.8864 MU= .1136

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	14.413	860.24	-3.097E-01	2.148E+00	3.723E-02	2.387E+00	2.424E+00
.5000	6.803	21.216	584.40	-1.392E-01	1.013E+00	1.108E-02	7.819E-01	7.930E-01
1.0000	13.606	28.019	442.51	-7.342E-02	5.992E-01	4.068E-03	3.612E-01	3.653E-01
2.0000	27.212	41.625	297.87	-2.510E-02	2.943E-01	7.061E-04	1.295E-01	1.302E-01
3.0000	40.818	55.231	224.49	-9.150E-03	1.827E-01	1.245E-04	6.623E-02	6.636E-02
4.0000	54.424	68.837	180.12	-2.693E-03	1.282E-01	1.344E-05	4.064E-02	4.066E-02
5.0000	68.030	82.443	150.39	2.012E-04	9.668E-02	8.984E-08	2.767E-02	2.767E-02
5.4000	73.472	87.885	141.08	8.659E-04	8.756E-02	1.775E-06	2.419E-02	2.420E-02
6.2000	84.357	98.770	125.53	1.717E-03	7.308E-02	7.843E-06	1.894E-02	1.895E-02
6.6000	89.799	104.212	118.98	1.980E-03	6.725E-02	1.100E-05	1.692E-02	1.693E-02
9.0000	122.453	136.866	90.59	2.474E-03	4.373E-02	2.255E-05	9.397E-03	9.419E-03
10.0000	136.059	150.472	82.40	2.431E-03	3.745E-02	2.394E-05	7.579E-03	7.603E-03
11.0000	149.665	164.078	75.57	2.336E-03	3.241E-02	2.412E-05	6.187E-03	6.211E-03
12.0000	163.271	177.684	69.78	2.217E-03	2.827E-02	2.353E-05	5.101E-03	5.124E-03

SN IV 5F EO= 6.8845E-01 (RYD) N*= 4.8208 MU= .1792

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.367	1323.64	-7.541E-01	3.580E+00	1.435E-01	4.311E+00	4.454E+00
.5000	6.803	16.170	766.77	-2.562E-01	1.413E+00	2.857E-02	1.159E+00	1.188E+00
1.0000	13.606	22.973	539.71	-1.184E-01	7.705E-01	8.670E-03	4.898E-01	4.984E-01
2.0000	27.212	36.579	338.96	-3.580E-02	3.512E-01	1.262E-03	1.620E-01	1.632E-01
3.0000	40.818	50.185	247.06	-1.250E-02	2.105E-01	2.111E-04	7.988E-02	8.009E-02
4.0000	54.424	63.791	194.36	-3.796E-03	1.448E-01	2.475E-05	4.803E-02	4.805E-02
4.8000	65.308	74.675	166.03	-6.076E-04	1.138E-01	7.424E-07	3.473E-02	3.473E-02
5.0000	68.030	77.397	160.20	-8.274E-05	1.078E-01	1.427E-08	3.228E-02	3.228E-02
5.2000	70.751	80.118	154.76	3.655E-04	1.023E-01	2.883E-07	3.009E-02	3.009E-02
5.4000	73.472	82.839	149.67	7.485E-04	9.722E-02	1.250E-06	2.812E-02	2.812E-02
7.0000	95.241	104.608	118.52	2.344E-03	6.820E-02	1.548E-05	1.747E-02	1.749E-02
10.0000	136.059	145.426	85.26	2.666E-03	4.064E-02	2.783E-05	8.625E-03	8.653E-03
11.0000	149.665	159.032	77.96	2.559E-03	3.508E-02	2.805E-05	7.027E-03	7.056E-03
12.0000	163.271	172.638	71.82	2.426E-03	3.055E-02	2.735E-05	5.785E-03	5.812E-03

SN IV 6F EO= 4.7858E-01 (RYD) N*= 5.7820 MU= .2180

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.512	1904.10	-1.338E+00	4.781E+00	3.141E-01	5.344E+00	5.658E+00
.5000	6.803	13.315	931.21	-3.376E-01	1.555E+00	4.087E-02	1.155E+00	1.196E+00
1.0000	13.606	20.117	616.31	-1.394E-01	7.902E-01	1.054E-02	4.511E-01	4.617E-01
2.0000	27.212	33.723	367.66	-3.839E-02	3.401E-01	1.339E-03	1.401E-01	1.414E-01
3.0000	40.818	47.329	261.97	-1.295E-02	1.990E-01	2.137E-04	6.730E-02	6.751E-02
4.0000	54.424	60.935	203.47	-3.950E-03	1.350E-01	2.561E-05	3.990E-02	3.992E-02
4.8000	65.308	71.820	172.63	-7.518E-04	1.054E-01	1.093E-06	2.864E-02	2.864E-02
5.0000	68.030	74.541	166.33	-2.325E-04	9.966E-02	1.085E-07	2.659E-02	2.659E-02
5.2000	70.751	77.262	160.47	2.093E-04	9.445E-02	9.113E-08	2.475E-02	2.475E-02
5.4000	73.472	79.983	155.01	5.856E-04	8.968E-02	7.386E-07	2.310E-02	2.310E-02
5.6000	76.193	82.705	149.91	9.060E-04	8.529E-02	1.828E-06	2.161E-02	2.161E-02
7.0000	95.241	101.753	121.85	2.135E-03	6.245E-02	1.249E-05	1.425E-02	1.426E-02
9.0000	122.453	128.965	96.14	2.486E-03	4.334E-02	2.147E-05	8.699E-03	8.721E-03
10.0000	136.059	142.571	86.96	2.441E-03	3.695E-02	2.288E-05	6.988E-03	7.011E-03
11.0000	149.665	156.177	79.39	2.341E-03	3.184E-02	2.306E-05	5.686E-03	5.710E-03
12.0000	163.271	169.783	73.03	2.217E-03	2.770E-02	2.246E-05	4.676E-03	4.699E-03

SN IV 8F EO= 2.6688E-01 (RYD) N*= 7.7429 MU= .2571

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.631	3414.55	-2.883E+00	6.868E+00	8.130E-01	6.150E+00	6.963E+00
.5000	6.803	10.434	1188.28	-4.009E-01	1.496E+00	4.516E-02	8.381E-01	8.833E-01
1.0000	13.606	17.237	719.30	-1.406E-01	6.845E-01	9.171E-03	2.900E-01	2.992E-01
2.0000	27.212	30.843	401.99	-3.428E-02	2.735E-01	9.763E-04	8.282E-02	8.379E-02
3.0000	40.818	44.449	278.94	-1.107E-02	1.554E-01	1.467E-04	3.854E-02	3.869E-02
4.0000	54.424	58.055	213.57	-3.364E-03	1.038E-01	1.769E-05	2.247E-02	2.249E-02
4.8000	65.308	68.940	179.85	-7.203E-04	8.039E-02	9.633E-07	1.600E-02	1.600E-02
5.0000	68.030	71.661	173.02	-2.955E-04	7.591E-02	1.685E-07	1.483E-02	1.483E-02
5.2000	70.751	74.382	166.69	6.433E-05	7.183E-02	8.290E-09	1.378E-02	1.378E-02
5.4000	73.472	77.103	160.81	3.685E-04	6.811E-02	2.819E-07	1.284E-02	1.284E-02
5.6000	76.193	79.824	155.32	6.263E-04	6.470E-02	8.432E-07	1.200E-02	1.200E-02
5.8000	78.914	82.545	150.20	8.451E-04	6.156E-02	1.588E-06	1.123E-02	1.124E-02
7.0000	95.241	98.873	125.40	1.602E-03	4.705E-02	6.835E-06	7.860E-03	7.867E-03
8.0000	108.847	112.478	110.23	1.826E-03	3.872E-02	1.010E-05	6.054E-03	6.064E-03
10.0000	136.059	139.690	88.76	1.840E-03	2.762E-02	1.274E-05	3.826E-03	3.838E-03
11.0000	149.665	153.296	80.88	1.763E-03	2.377E-02	1.283E-05	3.109E-03	3.122E-03
12.0000	163.271	166.902	74.29	1.666E-03	2.064E-02	1.248E-05	2.554E-03	2.566E-03

SN IV 10F EO= 1.6917E-01 (RYD) N*= 9.7251 MU= .2749

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.302	5386.63	-4.903E+00	8.834E+00	1.490E+00	6.450E+00	7.940E+00
.5000	6.803	9.105	1361.78	-3.905E-01	1.304E+00	3.740E-02	5.563E-01	5.937E-01
1.0000	13.606	15.908	779.41	-1.235E-01	5.578E-01	6.533E-03	1.778E-01	1.843E-01
2.0000	27.212	29.514	420.10	-2.814E-02	2.136E-01	6.295E-04	4.837E-02	4.900E-02
3.0000	40.818	43.119	287.54	-8.874E-03	1.195E-01	9.144E-05	2.213E-02	2.222E-02
4.0000	54.424	56.725	218.57	-2.685E-03	7.925E-02	1.102E-05	1.279E-02	1.280E-02
4.8000	65.308	67.610	183.38	-5.958E-04	6.112E-02	6.465E-07	9.070E-03	9.071E-03
5.0000	68.030	70.331	176.29	-2.642E-04	5.767E-02	1.322E-07	8.399E-03	8.399E-03
5.2000	70.751	73.052	169.72	1.676E-05	5.453E-02	5.528E-10	7.801E-03	7.801E-03
5.4000	73.472	75.774	163.63	2.535E-04	5.167E-02	1.311E-07	7.265E-03	7.265E-03
5.8000	78.914	81.216	152.66	6.246E-04	4.665E-02	8.533E-07	6.346E-03	6.347E-03
6.0000	81.635	83.937	147.71	7.686E-04	4.443E-02	1.336E-06	5.951E-03	5.952E-03
9.0000	122.453	124.755	99.38	1.419E-03	2.446E-02	6.768E-06	2.680E-03	2.687E-03
10.0000	136.059	138.361	89.61	1.391E-03	2.079E-02	7.213E-06	2.147E-03	2.155E-03
11.0000	149.665	151.967	81.59	1.332E-03	1.788E-02	7.258E-06	1.744E-03	1.751E-03
12.0000	163.271	165.573	74.88	1.258E-03	1.552E-02	7.054E-06	1.432E-03	1.439E-03

SN IV 12F EO= 1.1657E-01 (RYD) N*= 11.7157 MU= .2843

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.586	7817.41	-7.377E+00	1.080E+01	2.324E+00	6.648E+00	8.972E+00
.2000	2.721	4.307	2878.57	-1.250E+00	2.884E+00	1.812E-01	1.286E+00	1.467E+00
.4000	5.442	7.028	1764.08	-4.999E-01	1.440E+00	4.730E-02	5.231E-01	5.704E-01
1.0000	13.606	15.192	816.13	-1.050E-01	4.547E-01	4.511E-03	1.128E-01	1.173E-01
2.0000	27.212	28.798	430.54	-2.298E-02	1.698E-01	4.095E-04	2.982E-02	3.023E-02
3.0000	40.818	42.404	292.39	-7.147E-03	9.418E-02	5.833E-05	1.351E-02	1.357E-02
4.0000	54.424	56.010	221.37	-2.157E-03	6.216E-02	7.015E-06	7.771E-03	7.778E-03
4.8000	65.308	66.894	185.35	-4.860E-04	4.783E-02	4.255E-07	5.496E-03	5.496E-03
5.0000	68.030	69.616	178.10	-2.288E-04	4.511E-02	9.812E-08	5.087E-03	5.087E-03
5.2000	70.751	72.337	171.40	-4.055E-07	4.264E-02	3.203E-13	4.722E-03	4.722E-03
5.4000	73.472	75.058	165.19	1.880E-04	4.039E-02	7.147E-08	4.397E-03	4.397E-03
5.6000	76.193	77.779	159.41	3.535E-04	3.833E-02	2.618E-07	4.103E-03	4.103E-03
6.0000	81.635	83.222	148.98	5.920E-04	3.469E-02	7.855E-07	3.598E-03	3.597E-03
7.0000	95.241	96.827	128.05	9.458E-04	2.773E-02	2.333E-06	2.673E-03	2.675E-03
10.0000	136.059	137.645	90.08	1.079E-03	1.618E-02	4.312E-06	1.294E-03	1.298E-03
11.0000	149.665	151.251	81.97	1.040E-03	1.391E-02	4.402E-06	1.050E-03	1.055E-03
12.0000	163.271	164.857	75.21	9.767E-04	1.206E-02	4.236E-06	8.611E-04	8.653E-04

SN IV 16F EO= 6.4857E-02 (RYD) N*= 15.7065 MU= .2935

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.882	14050.34	-1.362E+01	1.490E+01	4.407E+00	7.031E+00	1.144E+01
.2000	2.721	3.604	3440.60	-1.147E+00	2.366E+00	1.278E-01	7.247E-01	8.524E-01
.4000	5.442	6.325	1960.32	-4.031E-01	1.075E+00	2.767E-02	2.626E-01	2.903E-01
1.0000	13.606	14.488	855.77	-7.609E-02	3.158E-01	2.259E-03	5.188E-02	5.414E-02
2.0000	27.212	28.094	441.32	-1.595E-02	1.148E-01	1.925E-04	1.329E-02	1.348E-02
3.0000	40.818	41.700	297.33	-4.891E-03	6.308E-02	2.687E-05	5.959E-03	5.985E-03
4.0000	54.424	55.306	224.18	-1.476E-03	4.144E-02	3.246E-06	3.411E-03	3.414E-03
4.8000	65.308	66.191	187.32	-3.373E-04	3.182E-02	2.029E-07	2.407E-03	2.407E-03
5.0000	68.030	68.912	179.92	-1.584E-04	3.000E-02	4.654E-08	2.226E-03	2.227E-03
5.2000	70.751	71.633	173.08	-8.282E-06	2.834E-02	1.323E-10	2.066E-03	2.066E-03
5.4000	73.472	74.354	166.75	1.206E-04	2.683E-02	2.914E-08	1.921E-03	1.921E-03
5.6000	76.193	77.076	160.86	2.216E-04	2.545E-02	1.019E-07	1.793E-03	1.793E-03
7.0000	95.241	96.124	128.99	6.285E-04	1.838E-02	1.023E-06	1.167E-03	1.168E-03
8.0000	108.847	109.730	112.99	7.200E-04	1.507E-02	1.532E-06	8.946E-04	8.961E-04
10.0000	136.059	136.942	90.54	7.181E-04	1.071E-02	1.902E-06	5.636E-04	5.655E-04
11.0000	149.665	150.548	82.36	6.872E-04	9.190E-03	1.915E-06	4.566E-04	4.585E-04
12.0000	163.271	164.153	75.53	6.453E-04	7.973E-03	1.841E-06	3.747E-04	3.766E-04

SN IV 20F EO= 4.1218E-02 (RYD) N*= 19.7024 MU= .2976

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.561	22108.72	-2.151E+01	1.925E+01	6.985E+00	7.460E+00	1.445E+01
.2000	2.721	3.282	3777.78	-9.807E-01	1.912E+00	8.502E-02	4.310E-01	5.160E-01
.4000	5.442	6.003	2065.35	-3.201E-01	8.230E-01	1.656E-02	1.460E-01	1.626E-01
1.0000	13.606	14.167	875.19	-5.721E-02	2.327E-01	1.249E-03	2.755E-02	2.880E-02
2.0000	27.212	27.773	446.43	-1.175E-02	8.348E-02	1.033E-04	6.949E-03	7.053E-03
3.0000	40.818	41.379	299.64	-3.581E-03	4.568E-02	1.429E-05	3.100E-03	3.115E-03
4.0000	54.424	54.984	225.49	-1.068E-03	2.994E-02	1.691E-06	1.770E-03	1.772E-03
4.8000	65.308	65.869	188.23	-2.510E-04	2.297E-02	1.117E-07	1.248E-03	1.248E-03
5.0000	68.030	68.590	180.76	-1.156E-04	2.165E-02	2.468E-08	1.154E-03	1.154E-03
5.2000	70.751	71.312	173.87	-8.219E-06	2.045E-02	1.297E-10	1.071E-03	1.071E-03
5.4000	73.472	74.033	167.47	7.937E-05	1.936E-02	1.256E-08	9.962E-04	9.962E-04
5.8000	78.914	79.475	156.01	2.272E-04	1.745E-02	1.105E-07	8.690E-04	8.692E-04
8.0000	108.847	109.408	113.32	5.165E-04	1.086E-02	7.859E-07	4.631E-04	4.639E-04
10.0000	136.059	136.620	90.75	5.200E-04	7.707E-03	9.950E-07	2.914E-04	2.924E-04
11.0000	149.665	150.226	82.53	4.981E-04	6.619E-03	1.004E-06	2.364E-04	2.374E-04
12.0000	163.271	163.832	75.68	4.693E-04	5.743E-03	9.716E-07	1.940E-04	1.950E-04

SB V 5S EO= 3.8513E+00 (RYD) N*= 2.5478 MU= 2.4522

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	52.400	236.61	.000	2.059E-01	.000	1.395E-01	1.395E-01
1.0000	13.606	66.006	187.84	.000	1.628E-01	.000	1.099E-01	1.099E-01
2.0000	27.212	79.612	155.74	.000	1.324E-01	.000	8.766E-02	8.766E-02
8.0000	108.847	161.247	76.89	.000	5.706E-02	.000	3.299E-02	3.299E-02

SB V 6S EO= 1.9387E+00 (RYD) N*= 3.5910 MU= 2.4090

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	26.377	470.05	.000	3.420E-01	.000	1.939E-01	1.939E-01
1.0000	13.606	39.983	310.10	.000	2.117E-01	.000	1.126E-01	1.126E-01
2.0000	27.212	53.589	231.36	.000	1.469E-01	.000	7.264E-02	7.264E-02
8.0000	108.847	135.225	91.69	.000	4.400E-02	.000	1.645E-02	1.645E-02
12.0000	163.271	189.648	65.38	.000	2.832E-02	.000	9.558E-03	9.558E-03

SB V 8S EO= 7.9389E-01 (RYD) N*= 5.6116 MU= 2.3884

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.802	1147.85	.000	6.860E-01	.000	3.195E-01	3.195E-01
1.0000	13.606	24.408	507.98	.000	2.443E-01	.000	9.156E-02	9.156E-02
4.0000	54.424	65.225	190.09	.000	6.323E-02	.000	1.639E-02	1.639E-02
6.0000	81.635	92.437	134.13	.000	3.904E-02	.000	8.851E-03	8.851E-03
12.0000	163.271	174.073	71.23	.000	1.654E-02	.000	2.991E-03	2.991E-03

SB V 10S EO= 4.3082E-01 (RYD) N*= 7.6177 MU= 2.3823

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.862	2115.19	.000	1.107E+00	.000	4.510E-01	4.510E-01
1.0000	13.606	19.468	636.89	.000	2.262E-01	.000	6.258E-02	6.258E-02
4.0000	54.424	60.285	205.67	.000	4.578E-02	.000	7.939E-03	7.939E-03
8.0000	108.847	114.709	108.09	.000	1.859E-02	.000	2.492E-03	2.492E-03

SB V 12S EO= 2.7013E-01 (RYD) N*= 9.6203 MU= 2.3797

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.675	3373.50	.000	1.597E+00	.000	5.887E-01	5.887E-01
1.0000	13.606	17.281	717.46	.000	1.952E-01	.000	4.138E-02	4.138E-02
4.0000	54.424	58.099	213.41	.000	3.438E-02	.000	4.316E-03	4.316E-03

SB V 16S EO= 1.3472E-01 (RYD) N*= 13.6224 MU= 2.3776

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.833	6764.20	.000	2.771E+00	.000	8.844E-01	8.844E-01
1.0000	13.606	15.439	803.08	.000	1.405E-01	.000	1.916E-02	1.916E-02
2.0000	27.212	29.045	426.88	.000	5.624E-02	.000	5.772E-03	5.772E-03

SB V 20S EO= 8.0494E-02 (RYD) N*= 17.6233 MU= 2.3767

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.095	11320.90	.000	4.190E+00	.000	1.208E+00	1.208E+00
.5000	6.803	7.898	1569.81	.000	2.560E-01	.000	3.252E-02	3.252E-02
1.0000	13.606	14.701	843.38	.000	1.039E-01	.000	9.973E-03	9.973E-03
2.0000	27.212	28.307	438.01	.000	3.998E-02	.000	2.844E-03	2.844E-03

SB V 5P EO= 3.1741E+00 (RYD) N*= 2.8065 MU= 2.1935

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	43.186	287.10	3.896E-01	-7.590E-02	1.373E-01	1.042E-02	1.477E-01
.4000	5.442	48.629	254.97	3.232E-01	-3.089E-02	1.064E-01	1.944E-03	1.084E-01
.8000	10.885	54.071	229.30	2.737E-01	-2.534E-03	8.482E-02	1.455E-05	8.483E-02
1.0000	13.606	56.792	218.32	2.534E-01	7.607E-03	7.638E-02	1.377E-04	7.651E-02
1.2000	16.327	59.513	208.33	2.355E-01	1.581E-02	6.912E-02	6.228E-04	6.975E-02
1.4000	19.048	62.235	199.22	2.196E-01	2.245E-02	6.284E-02	1.315E-03	6.416E-02
3.0000	40.818	84.004	147.60	1.375E-01	4.573E-02	3.328E-02	7.361E-03	4.064E-02
5.0000	68.030	111.216	111.48	8.903E-02	4.834E-02	1.846E-02	1.089E-02	2.935E-02
6.0000	81.635	124.822	99.33	7.450E-02	4.686E-02	1.451E-02	1.148E-02	2.599E-02
7.0000	95.241	138.428	89.57	6.353E-02	4.485E-02	1.170E-02	1.167E-02	2.337E-02
8.0000	108.847	152.034	81.55	5.501E-02	4.267E-02	9.636E-03	1.160E-02	2.123E-02

SB V 6P EO= 1.6830E+00 (RYD) N*= 3.8541 MU= 2.1459

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	22.899	541.45	7.119E-01	-2.399E-01	2.431E-01	5.520E-02	2.983E-01
.8000	10.885	33.784	367.00	3.783E-01	-4.018E-02	1.013E-01	2.285E-03	1.036E-01
1.0000	13.606	36.505	339.64	3.336E-01	-2.019E-02	8.512E-02	6.235E-04	8.574E-02
1.2000	16.327	39.226	316.08	2.969E-01	-5.379E-03	7.244E-02	4.756E-05	7.249E-02
1.4000	19.048	41.947	295.58	2.664E-01	5.720E-03	6.234E-02	5.750E-05	6.240E-02
1.6000	21.769	44.668	277.57	2.406E-01	1.411E-02	5.417E-02	3.724E-04	5.454E-02
2.0000	27.212	50.111	247.42	1.998E-01	2.534E-02	4.191E-02	1.348E-03	4.326E-02
5.0000	68.030	90.929	136.36	7.690E-02	3.765E-02	1.126E-02	5.401E-03	1.666E-02
6.0000	81.635	104.534	118.61	6.164E-02	3.563E-02	8.320E-03	5.559E-03	1.388E-02
7.0000	95.241	118.140	104.95	5.061E-02	3.338E-02	6.389E-03	5.514E-03	1.190E-02

SB V   8P   EO= 7.2322E-01 (RYD)   N*= 5.8794   MU= 2.1206

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.840	1260.02	1.622E+00	-7.516E-01	5.426E-01	2.329E-01	7.755E-01
.4000	5.442	15.282	811.30	7.827E-01	-2.306E-01	1.961E-01	3.405E-02	2.302E-01
.8000	10.885	20.725	598.25	4.725E-01	-8.090E-02	9.691E-02	5.682E-03	1.026E-01
1.0000	13.606	23.446	528.82	3.851E-01	-4.598E-02	7.284E-02	2.076E-03	7.492E-02
1.2000	16.327	26.167	473.82	3.211E-01	-2.320E-02	5.651E-02	5.899E-04	5.710E-02
1.4000	19.048	28.888	429.19	2.726E-01	-7.887E-03	4.496E-02	7.527E-05	4.504E-02
1.6000	21.769	31.610	392.24	2.349E-01	2.630E-03	3.653E-02	9.161E-06	3.654E-02
2.0000	27.212	37.052	334.63	1.807E-01	1.513E-02	2.533E-02	3.556E-04	2.569E-02
3.0000	40.818	50.658	244.75	1.080E-01	2.524E-02	1.237E-02	1.352E-03	1.372E-02
4.0000	54.424	64.264	192.93	7.315E-02	2.595E-02	7.204E-03	1.813E-03	9.017E-03
5.0000	68.030	77.870	159.22	5.353E-02	2.448E-02	4.674E-03	1.955E-03	6.629E-03
6.0000	81.635	91.476	135.54	4.126E-02	2.256E-02	3.263E-03	1.950E-03	5.213E-03

SB V   10P   EO= 4.0187E-01 (RYD)   N*= 7.8873   MU= 2.1127

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.468	2267.58	2.860E+00	-1.497E+00	9.370E-01	5.135E-01	1.451E+00
.4000	5.442	10.910	1136.43	9.061E-01	-2.947E-01	1.876E-01	3.969E-02	2.273E-01
.8000	10.885	16.353	758.21	4.614E-01	-8.888E-02	7.291E-02	5.411E-03	7.832E-02
1.0000	13.606	19.074	650.04	3.569E-01	-4.937E-02	5.088E-02	1.947E-03	5.283E-02
1.2000	16.327	21.795	568.88	2.857E-01	-2.555E-02	3.726E-02	5.960E-04	3.786E-02
1.4000	19.048	24.516	505.73	2.348E-01	-1.052E-02	2.831E-02	1.136E-04	2.842E-02
1.6000	21.769	27.237	455.21	1.970E-01	-7.212E-04	2.215E-02	5.935E-07	2.215E-02
1.8000	24.491	29.958	413.86	1.681E-01	5.813E-03	1.774E-02	4.241E-05	1.778E-02
2.0000	27.212	32.680	379.40	1.455E-01	1.023E-02	1.449E-02	1.434E-04	1.463E-02
3.0000	40.818	46.286	267.87	8.169E-02	1.815E-02	6.470E-03	6.384E-04	7.108E-03
4.0000	54.424	59.891	207.02	5.342E-02	1.837E-02	3.580E-03	8.470E-04	4.427E-03
5.0000	68.030	73.497	168.69	3.821E-02	1.707E-02	2.247E-03	8.974E-04	3.145E-03
6.0000	81.635	87.103	142.34	2.898E-02	1.555E-02	1.532E-03	8.824E-04	2.415E-03

SB V   12P   EO= 2.5555E-01 (RYD)   N*= 9.8908   MU= 2.1092

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.477	3565.89	4.408E+00	-2.464E+00	1.415E+00	8.840E-01	2.299E+00
.4000	5.442	8.919	1390.08	9.161E-01	-3.106E-01	1.568E-01	3.605E-02	1.929E-01
.8000	10.885	14.362	863.31	4.129E-01	-8.337E-02	5.129E-02	4.182E-03	5.547E-02
1.0000	13.606	17.083	725.79	3.088E-01	-4.525E-02	3.412E-02	1.465E-03	3.559E-02
1.2000	16.327	19.804	626.06	2.411E-01	-2.335E-02	2.412E-02	4.524E-04	2.457E-02
1.4000	19.048	22.525	550.43	1.944E-01	-1.004E-02	1.783E-02	9.515E-05	1.793E-02
1.6000	21.769	25.246	491.10	1.607E-01	-1.622E-03	1.365E-02	2.782E-06	1.365E-02
1.8000	24.491	27.968	443.32	1.354E-01	3.854E-03	1.074E-02	1.740E-05	1.076E-02
2.0000	27.212	30.689	404.01	1.160E-01	7.478E-03	8.644E-03	7.190E-05	8.716E-03
3.0000	40.818	44.295	279.91	6.297E-02	1.366E-02	3.679E-03	3.464E-04	4.025E-03
4.0000	54.424	57.901	214.14	4.043E-02	1.371E-02	1.983E-03	4.561E-04	2.439E-03
5.0000	68.030	71.507	173.39	2.859E-02	1.264E-02	1.224E-03	4.787E-04	1.703E-03
6.0000	81.635	85.113	145.67	2.151E-02	1.145E-02	8.251E-04	4.671E-04	1.292E-03

SB V   16P   EO= 1.2951E-01 (RYD)   N*= 13.8938   MU= 2.1062

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.762	7036.32	8.388E+00	-5.022E+00	2.597E+00	1.862E+00	4.459E+00
.4000	5.442	7.204	1720.97	7.976E-01	-2.794E-01	9.599E-02	2.356E-02	1.196E-01
.8000	10.885	12.647	980.38	3.102E-01	-6.498E-02	2.550E-02	2.237E-03	2.773E-02
1.0000	13.606	15.368	806.78	2.237E-01	-3.425E-02	1.610E-02	7.551E-04	1.686E-02
1.2000	16.327	18.089	685.42	1.701E-01	-1.751E-02	1.096E-02	2.323E-04	1.120E-02
1.4000	19.048	20.810	595.79	1.345E-01	-7.705E-03	7.883E-03	5.176E-05	7.935E-03
1.6000	21.769	23.532	526.89	1.094E-01	-1.893E-03	5.901E-03	2.827E-06	5.904E-03
1.8000	24.491	26.253	472.28	9.109E-02	2.129E-03	4.563E-03	4.986E-06	4.568E-03
2.0000	27.212	28.974	427.92	7.723E-02	4.604E-03	3.619E-03	2.573E-05	3.645E-03
3.0000	40.818	42.580	291.19	4.062E-02	8.639E-03	1.471E-03	1.331E-04	1.605E-03
4.0000	54.424	56.186	220.67	2.564E-02	8.591E-03	7.740E-04	1.737E-04	9.477E-04
5.0000	68.030	69.792	177.65	1.794E-02	7.862E-03	4.706E-04	1.807E-04	6.514E-04
6.0000	81.635	83.398	148.67	1.340E-02	7.080E-03	3.139E-04	1.751E-04	4.890E-04

SB V   20P   EO= 7.8069E-02 (RYD)   N*= 17.8950   MU= 2.1050

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.062	11672.59	1.350E+01	-8.374E+00	4.052E+00	3.120E+00	7.172E+00
.2000	2.721	3.783	3277.13	1.617E+00	-7.343E-01	2.072E-01	8.545E-02	2.926E-01
.4000	5.442	6.505	1906.14	6.516E-01	-2.310E-01	5.785E-02	1.454E-02	7.238E-02
.6000	8.164	9.226	1343.92	3.623E-01	-1.004E-01	2.536E-02	3.899E-03	2.926E-02
1.0000	13.606	14.668	845.28	1.662E-01	-2.588E-02	8.484E-03	4.115E-04	8.895E-03
1.4000	19.048	20.110	616.53	9.778E-02	-5.840E-03	4.027E-03	2.874E-05	4.056E-03
1.6000	21.769	22.832	543.05	7.901E-02	-1.383E-03	2.986E-03	1.829E-06	2.988E-03
1.8000	24.491	25.553	485.22	6.541E-02	1.391E-03	2.290E-03	2.071E-06	2.292E-03
2.0000	27.212	28.274	438.52	5.520E-02	3.213E-03	1.805E-03	1.223E-05	1.817E-03
3.0000	40.818	41.880	296.05	2.863E-02	6.040E-03	7.189E-04	6.400E-05	7.829E-04
4.0000	54.424	55.486	223.46	1.795E-02	5.987E-03	3.744E-04	8.333E-05	4.577E-04
5.0000	68.030	69.092	179.45	1.250E-02	5.457E-03	2.262E-04	8.619E-05	3.124E-04
6.0000	81.635	82.698	149.93	9.312E-03	4.897E-03	1.502E-04	8.308E-05	2.333E-04

SB V 5D EO= 2.1817E+00 (RYD) N*= 3.3851 MU= 1.6149

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	29.684	417.69	3.406E-01	-1.128E+00	8.658E-02	1.424E+00	1.510E+00
.5000	6.803	36.487	339.81	2.496E-01	-7.211E-01	5.715E-02	7.154E-01	7.725E-01
1.0000	13.606.	43.290	286.41	1.933E-01	-4.719E-01	4.067E-02	3.635E-01	4.041E-01
2.0000	27.212	56.896	217.92	1.288E-01	-2.103E-01	2.373E-02	9.485E-02	1.188E-01
3.0000	40.818	70.502	175.86	9.379E-02	-9.163E-02	1.559E-02	2.232E-02	3.791E-02
4.0000	54.424	84.108	147.41	7.226E-02	-3.234E-02	1.104E-02	3.317E-03	1.436E-02
5.0000	68.030	97.714	126.89	5.790E-02	-7.126E-04	8.234E-03	1.871E-06	8.236E-03
5.2000	70.751	100.435	123.45	5.559E-02	3.651E-03	7.803E-03	5.048E-05	7.853E-03
5.4000	73.472	103.156	120.19	5.344E-02	7.538E-03	7.405E-03	2.210E-04	7.626E-03
5.8000	78.914	108.598	114.17	4.952E-02	1.409E-02	6.695E-03	8.124E-04	7.507E-03
6.0000	81.635	111.319	111.38	4.774E-02	1.684E-02	6.378E-03	1.190E-03	7.568E-03
10.0000	136.059	165.743	74.81	2.640E-02	3.644E-02	2.904E-03	8.300E-03	1.120E-02
13.0000	176.877	206.561	60.02	1.895E-02	3.579E-02	1.865E-03	9.979E-03	1.184E-02
14.0000	190.483	220.167	56.31	1.720E-02	3.488E-02	1.638E-03	1.010E-02	1.174E-02
15.0000	204.089	233.773	53.04	1.570E-02	3.383E-02	1.449E-03	1.009E-02	1.153E-02
16.0000	217.695	247.379	50.12	1.440E-02	3.270E-02	1.289E-03	9.973E-03	1.126E-02

SB V 6D EO= 1.2784E+00 (RYD) N*= 4.4222 MU= 1.5778

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	17.394	712.81	5.515E-01	-1.732E+00	1.330E-01	1.967E+00	2.099E+00
.5000	6.803	24.197	512.41	3.302E-01	-9.397E-01	6.633E-02	8.056E-01	8.719E-01
1.0000	13.606	31.000	399.96	2.256E-01	-5.543E-01	3.966E-02	3.591E-01	3.988E-01
2.0000	27.212	44.606	277.96	1.295E-01	-2.200E-01	1.879E-02	8.141E-02	1.002E-01
3.0000	40.818	58.212	212.99	8.644E-02	-9.197E-02	1.093E-02	1.857E-02	2.950E-02
4.0000	54.424	71.818	172.64	6.292E-02	-3.420E-02	7.146E-03	3.168E-03	1.031E-02
5.0000	68.030	85.424	145.14	4.843E-02	-5.445E-03	5.036E-03	9.548E-05	5.131E-03
5.2000	70.751	88.145	140.66	4.619E-02	-1.611E-03	4.727E-03	8.630E-06	4.736E-03
5.4000	73.472	90.866	136.45	4.412E-02	1.769E-03	4.446E-03	1.072E-05	4.457E-03
5.6000	76.193	93.587	132.48	4.220E-02	4.755E-03	4.189E-03	7.979E-05	4.269E-03
5.8000	78.914	96.308	128.74	4.042E-02	7.395E-03	3.954E-03	1.986E-04	4.153E-03
8.0000	108.847	126.241	98.21	2.687E-02	2.239E-02	2.291E-03	2.387E-03	4.678E-03
13.0000	176.877	194.271	63.82	1.398E-02	2.512E-02	9.538E-04	4.620E-03	5.574E-03
14.0000	190.483	207.877	59.64	1.260E-02	2.442E-02	8.297E-04	4.675E-03	5.504E-03
15.0000	204.089	221.483	55.98	1.143E-02	2.363E-02	7.277E-04	4.664E-03	5.392E-03

SB V 8D EO= 6.0193E-01 (RYD) N*= 6.4446 MU= 1.5554

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.190	1513.91	1.093E+00	-3.162E+00	2.460E-01	3.088E+00	3.334E+00
.5000	6.803	14.993	826.97	4.192E-01	-1.160E+00	6.623E-02	7.603E-01	8.265E-01
1.0000	13.606	21.796	568.86	2.331E-01	-5.687E-01	2.978E-02	2.657E-01	2.955E-01
2.0000	27.212	35.402	350.23	1.095E-01	-1.897E-01	1.068E-02	4.805E-02	5.873E-02
3.0000	40.818	49.008	252.99	6.621E-02	-7.402E-02	5.401E-03	1.012E-02	1.552E-02
4.0000	54.424	62.613	198.02	4.539E-02	-2.760E-02	3.243E-03	1.798E-03	5.041E-03
5.0000	68.030	76.219	162.67	3.356E-02	-6.117E-03	2.158E-03	1.075E-04	2.266E-03
5.2000	70.751	78.941	157.06	3.181E-02	-3.353E-03	2.007E-03	3.347E-05	2.041E-03
5.4000	73.472	81.662	151.83	3.020E-02	-9.383E-04	1.872E-03	2.711E-06	1.875E-03
5.6000	76.193	84.383	146.93	2.872E-02	1.177E-03	1.749E-03	4.406E-06	1.754E-03
5.8000	78.914	87.104	142.34	2.736E-02	3.031E-03	1.639E-03	3.017E-05	1.669E-03
8.0000	108.847	117.037	105.94	1.741E-02	1.322E-02	8.921E-04	7.717E-04	1.664E-03
10.0000	136.059	144.249	85.95	1.265E-02	1.531E-02	5.802E-04	1.275E-03	1.855E-03
13.0000	176.677	185.067	67.00	8.631E-03	1.492E-02	3.466E-04	1.553E-03	1.900E-03
14.0000	190.483	198.673	62.41	7.739E-03	1.448E-02	2.991E-04	1.570E-03	1.869E-03
15.0000	204.089	212.279	58.41	6.987E-03	1.398E-02	2.605E-04	1.565E-03	1.826E-03

SB V 10D EO= 3.4995E-01 (RYD) N*= 8.4522 MU= 1.5478

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.761	2604.01	1.773E+00	-4.869E+00	3.764E-01	4.257E+00	4.633E+00
.5000	6.803	11.564	1072.15	4.309E-01	-1.175E+00	5.397E-02	6.016E-01	6.555E-01
1.0000	13.606	18.367	675.04	2.077E-01	-5.037E-01	1.991E-02	1.757E-01	1.956E-01
2.0000	27.212	31.973	387.78	8.705E-02	-1.515E-01	6.090E-03	2.766E-02	3.375E-02
3.0000	40.818	45.579	272.02	5.008E-02	-5.684E-02	2.873E-03	5.552E-03	8.426E-03
4.0000	54.424	59.185	209.49	3.339E-02	-2.104E-02	1.659E-03	9.874E-04	2.646E-03
5.0000	68.030	72.791	170.33	2.425E-02	-5.018E-03	1.076E-03	6.911E-05	1.145E-03
5.2000	70.751	75.512	164.19	2.291E-02	-2.990E-03	9.966E-04	2.545E-05	1.022E-03
5.4000	73.472	78.233	158.48	2.170E-02	-1.224E-03	9.257E-04	4.423E-06	9.301E-04
5.6000	76.193	80.954	153.16	2.058E-02	3.152E-04	8.621E-04	3.032E-07	8.624E-04
5.8000	78.914	83.676	148.17	1.956E-02	1.661E-03	8.048E-04	8.700E-06	8.135E-04
6.0000	81.635	86.397	143.51	1.862E-02	2.838E-03	7.531E-04	2.623E-05	7.793E-04
8.0000	108.847	113.609	109.13	1.222E-02	8.950E-03	4.266E-04	3.431E-04	7.698E-04
13.0000	176.877	181.638	68.26	5.941E-03	1.012E-02	1.611E-04	7.009E-04	8.621E-04
14.0000	190.483	195.244	63.50	5.314E-03	9.809E-03	1.386E-04	7.083E-04	8.469E-04
15.0000	204.089	208.850	59.37	4.788E-03	9.465E-03	1.203E-04	7.055E-04	8.258E-04

SB V 12D EO= 2.2868E-01 (RYD) N*= 10.4557 MU= 1.5443

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.111	3984.83	2.578E+00	-6.837E+00	5.199E-01	5.485E+00	6.004E+00
.5000	6.803	9.914	1250.57	4.047E-01	-1.095E+00	4.082E-02	4.480E-01	4.888E-01
1.0000	13.606	16.717	741.66	1.771E-01	-4.282E-01	1.319E-02	1.156E-01	1.287E-01
2.0000	27.212	30.323	408.88	6.939E-02	-1.209E-01	3.670E-03	1.672E-02	2.039E-02
3.0000	40.818	43.929	282.24	3.885E-02	-4.439E-02	1.667E-03	3.264E-03	4.931E-03
4.0000	54.424	57.535	215.50	2.552E-02	-1.634E-02	9.418E-04	5.791E-04	1.521E-03
5.0000	68.030	71:141	174.28	1.836E-02	-4.013E-03	6.030E-04	4.321E-05	6.462E-04
5.4000	73.472	76.583	161.90	1.638E-02	-1.121E-03	5.166E-04	3.626E-06	5.203E-04
5.6000	76:193	79.305	156.34	1.552E-02	4.939E-05	4.803E-04	7.295E-09	4.803E-04
5.8000	78.914	82.026	151.16	1.473E-02	1.070E-03	4.476E-04	3.540E-06	4.511E-04
6.0000	81.635	84.747	146.30	1.401E-02	1.961E-03	4.181E-04	1.229E-05	4.304E-04
8.0000	108.847	111.959	110.74	9.120E-03	6.561E-03	2.341E-04	1.817E-04	4.158E-04
13.0000	176.877	179.988	68.89	4.389E-03	7.420E-03	8.715E-05	3.737E-04	4.608E-04
14.0000	190.483	193.594	64.04	3.921E-03	7.191E-03	7.482E-05	3.775E-04	4.523E-04
15.0000	204.089	207.200	59.84	3.530E-03	6.936E-03	6.488E-05	3.759E-04	4.408E-04

SB V 16D EO= 1.1959E-01 (RYD) N*= 14.4587 MU= 1.5413

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.627	7620.22	4.530E+00	-1.151E+01	8.393E-01	8.133E+00	8.972E+00
.5000	6.803	8.430	1470.77	3.257E-01	-8.750E-01	2.248E-02	2.434E-01	2.658E-01
1.0000	13.606	15.233	813.93	1.276E-01	-3.073E-01	6.230E-03	5.425E-02	6.048E-02
2.0000	27.212	28.839	429.93	4.858E-02	-8.127E-02	1.573E-03	7.181E-03	8.754E-03
3.0000	40.818	42.445	292.11	2.539E-02	-2.918E-02	6.878E-04	1.362E-03	2.050E-03
4.0000	54.424	56.051	221.20	1.644E-02	-1.067E-02	3.810E-04	2.408E-04	6.218E-04
5.0000	68.030	69.657	178.00	1.173E-02	-2.684E-03	2.408E-04	1.892E-05	2.597E-04
5.2000	70.751	72.378	171.30	1.105E-02	-1.687E-03	2.221E-04	7.767E-06	2.299E-04
5.4000	73.472	75.099	165.10	1.043E-02	-8.244E-04	2.055E-04	1.925E-06	2.074E-04
5.6000	76.193	77.820	159.32	9.875E-03	-7.400E-05	1.908E-04	1.607E-08	1.908E-04
5.8000	78.914	80.541	153.94	9.364E-03	5.781E-04	1.775E-04	1.015E-06	1.785E-04
8.0000	108.847	110.474	112.23	5.745E-03	4.067E-03	9.165E-05	6.890E-05	1.606E-04
10.0000	136.059	137.686	90.05	4.090E-03	4.741E-03	5.789E-05	1.167E-04	1.746E-04
13.0000	176.877	178.504	69.46	2.740E-03	4.602E-03	3.368E-05	1.425E-04	1.762E-04
14.0000	190.483	192.110	64.54	2.445E-03	4.458E-03	2.887E-05	1.439E-04	1.728E-04
15.0000	204.089	205.716	60.27	2.199E-03	4.298E-03	2.500E-05	1.433E-04	1.683E-04

SB V 20D EO= 7.3363E-02 (RYD) N*= 18.4600 MU= 1.5400

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.998	12421.41	6.905E+00	-1.713E+01	1.196E+00	1.104E+01	1.224E+01
.2000	2.721	3.719	3333.55	8.337E-01	-2.268E+00	6.498E-02	7.214E-01	7.864E-01
.4000	5.442	6.441	1925.09	3.480E-01	-9.436E-01	1.960E-02	2.162E-01	2.358E-01
1.0000	13.606	14.604	848.98	9.498E-02	-2.285E-01	3.311E-03	2.875E-02	3.206E-02
2.0000	27.212	28.210	439.51	3.357E-02	-5.858E-02	7.989E-04	3.649E-03	4.448E-03
3.0000	40.818	41.816	296.51	1.808E-02	-2.082E-02	3.435E-04	6.831E-04	1.027E-03
4.0000	54.424	55.422	223.71	1.161E-02	-7.577E-03	1.877E-04	1.200E-04	3.077E-04
5.0000	68.030	69.028	179.62	8.276E-03	-1.943E-03	1.188E-04	9.823E-06	1.287E-04
5.2000	70.751	71.749	172.81	7.803E-03	-1.235E-03	1.098E-04	4.124E-06	1.139E-04
5.4000	73.472	74.470	166.49	7.346E-03	-6.128E-04	1.010E-04	1.054E-06	1.021E-04
5.6000	76.193	77.191	160.62	6.940E-03	-7.937E-05	9.344E-05	1.834E-08	9.346E-05
5.8000	78.914	79.912	155.15	6.562E-03	3.780E-04	8.649E-05	4.306E-07	8.692E-05
6.0000	81.635	82.634	150.04	6.249E-03	7.866E-04	8.110E-05	1.928E-06	8.303E-05
8.0000	108.847	109.845	112.87	4.020E-03	2.825E-03	4.462E-05	3.305E-05	7.767E-05
12.0000	163.271	164.269	75.48	2.160E-03	3.293E-03	1.927E-05	6.718E-05	8.645E-05
13.0000	176.877	177.875	69.70	1.910E-03	3.213E-03	1.632E-05	6.924E-05	8.556E-05
14.0000	190.483	191.481	64.75	1.716E-03	3.097E-03	1.418E-05	6.923E-05	8.341E-05

SB V 4F EO= 1.7569E+00 (RYD) N*= 3.7723 MU= .2277

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	23.904	518.69	-1.712E-01	1.609E+00	1.887E-02	2.223E+00	2.242E+00
.5000	6.803	30.707	403.78	-9.195E-02	1.051E+00	6.992E-03	1.219E+00	1.226E+00
1.0000	13.606	37.510	330.55	-5.218E-02	7.530E-01	2.751E-03	7.638E-01	7.666E-01
2.0000	27.212	51.116	242.56	-1.696E-02	4.557E-01	3.960E-04	3.812E-01	3.816E-01
3.0000	40.818	64.721	191.57	-3.548E-03	3.144E-01	2.194E-05	2.297E-01	2.297E-01
3.2000	43.539	67.443	183.84	-1.999E-03	2.949E-01	7.260E-06	2.106E-01	2.106E-01
3.4000	46.260	70.164	176.71	-6.873E-04	2.774E-01	8.926E-07	1.939E-01	1.939E-01
3.6000	48.981	72.885	170.11	4.259E-04	2.616E-01	3.561E-07	1.791E-01	1.791E-01
3.8000	51.702	75.606	163.99	1.372E-03	2.472E-01	3.831E-06	1.659E-01	1.659E-01
4.0000	54.424	78.327	158.29	2.175E-03	2.341E-01	9.984E-06	1.542E-01	1.542E-01
5.0000	68.030	91.933	134.87	4.702E-03	1.832E-01	5.474E-05	1.108E-01	1.108E-01
6.0000	81.635	105.539	117.48	5.760E-03	1.482E-01	9.430E-05	8.324E-02	8.333E-02
7.0000	95.241	119.145	104.06	6.102E-03	1.228E-01	1.195E-04	6.452E-02	6.464E-02
8.0000	108.847	132.751	93.40	6.084E-03	1.036E-01	1.324E-04	5.116E-02	5.129E-02
9.0000	122.453	146.357	84.72	5.887E-03	8.861E-02	1.366E-04	4.127E-02	4.140E-02
10.0000	136.059	159.963	77.51	5.603E-03	7.664E-02	1.353E-04	3.374E-02	3.387E-02

SB V 5F EO= 1.1510E+00 (RYD) N*= 4.6605 MU= .3395

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	15.660	791.71	-3.901E-01	2.263E+00	6.419E-02	2.879E+00	2.943E+00
1.0000	13.606	29.266	423.65	-8.709E-02	9.156E-01	5.977E-03	8.811E-01	8.871E-01
2.0000	27.212	42.872	289.20	-2.534E-02	5.191E-01	7.412E-04	4.148E-01	4.155E-01
3.0000	40.818	56.478	219.53	-5.627E-03	3.451E-01	4.816E-05	2.415E-01	2.415E-01
3.4000	46.260	61.921	200.23	-1.772E-03	3.013E-01	5.236E-06	2.018E-01	2.018E-01
3.6000	48.981	64.642	191.81	-3.135E-04	2.827E-01	1.711E-07	1.856E-01	1.856E-01
3.8000	51.702	67.363	184.06	9.049E-04	2.661E-01	1.486E-06	1.712E-01	1.712E-01
4.0000	54.424	70.084	176.91	1.924E-03	2.510E-01	6.989E-06	1.585E-01	1.585E-01
5.0000	68.030	83.690	148.15	5.004E-03	1.932E-01	5.645E-05	1.121E-01	1.122E-01
6.0000	81.635	97.296	127.43	6.202E-03	1.544E-01	1.008E-04	8.328E-02	8.338E-02
8.0000	108.847	124.508	99.58	6.478E-03	1.062E-01	1.407E-04	5.041E-02	5.055E-02
9.0000	122.453	138.114	89.77	6.224E-03	9.031E-02	1.441E-04	4.045E-02	4.059E-02
10.0000	136.059	151.720	81.72	5.885E-03	7.775E-02	1.415E-04	3.293E-02	3.307E-02

SB V 6F EO= 7.9483E-01 (RYD) N*= 5.6083 MU= .3917

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.814	1146.50	-6.639E-01	2.582E+00	1.284E-01	2.589E+00	2.718E+00
.5000	6.803	17.617	703.78	-2.325E-01	1.395E+00	2.565E-02	1.231E+00	1.257E+00
1.0000	13.606	24.420	507.72	-1.049E-01	8.942E-01	7.236E-03	7.011E-01	7.083E-01
2.0000	27.212	38.026	326.06	-2.739E-02	4.786E-01	7.681E-04	3.128E-01	3.136E-01
3.0000	40.818	51.632	240.13	-6.006E-03	3.089E-01	5.016E-05	1.770E-01	1.770E-01
3.4000	46.260	57.074	217.24	-2.095E-03	2.675E-01	6.748E-06	1.467E-01	1.467E-01
3.6000	48.981	59.796	207.35	-6.466E-04	2.502E-01	6.732E-07	1.344E-01	1.344E-01
3.8000	51.702	62.517	198.32	5.486E-04	2.347E-01	5.067E-07	1.237E-01	1.237E-01
4.0000	54.424	65.238	190.05	1.537E-03	2.207E-01	4.149E-06	1.141E-01	1.141E-01
5.0000	68.030	78.844	157.26	4.436E-03	1.678E-01	4.178E-05	7.976E-02	7.981E-02
7.0000	95.241	106.056	116.91	5.765E-03	1.085E-01	9.491E-05	4.486E-02	4.496E-02
8.0000	108.847	119.662	103.61	5.671E-03	9.047E-02	1.036E-04	3.517E-02	3.527E-02
9.0000	122.453	133.268	93.04	5.416E-03	7.664E-02	1.053E-04	2.811E-02	2.822E-02
10.0000	136.059	146.873	84.42	5.097E-03	6.578E-02	1.028E-04	2.282E-02	2.292E-02

SB V 8F EO= 4.3672E-01 (RYD) N*= 7.5660 MU= .4340

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.942	2086.60	-1.406E+00	2.907E+00	3.163E-01	1.803E+00	2.119E+00
.5000	6.803	12.745	972.82	-2.986E-01	1.273E+00	3.060E-02	7.418E-01	7.724E-01
1.0000	13.606	19.548	634.27	-1.112E-01	7.433E-01	6.511E-03	3.878E-01	3.943E-01
2.0000	27.212	33.154	373.97	-2.472E-02	3.660E-01	5.457E-04	1.594E-01	1.600E-01
3.0000	40.818	46.760	265.16	-5.188E-03	2.273E-01	3.390E-05	8.676E-02	8.679E-02
3.4000	46.260	52.202	237.51	-1.906E-03	1.949E-01	5.106E-06	7.118E-02	7.119E-02
3.6000	48.981	54.923	225.74	-7.207E-04	1.815E-01	7.683E-07	6.494E-02	6.494E-02
3.8000	51.702	57.645	215.09	2.420E-04	1.695E-01	9.090E-08	5.949E-02	5.949E-02
4.0000	54.424	60.366	205.39	1.027E-03	1.589E-01	1.714E-06	5.471E-02	5.471E-02
5.0000	68.030	73.972	167.61	3.248E-03	1.191E-01	2.102E-05	3.767E-02	3.769E-02
8.0000	108.847	114.789	108.01	4.056E-03	6.274E-02	5.087E-05	1.623E-02	1.628E-02
9.0000	122.453	128.395	96.57	3.849E-03	5.292E-02	5.122E-05	1.291E-02	1.297E-02
10.0000	136.059	142.001	87.31	3.600E-03	4.526E-02	4.956E-05	1.045E-02	1.050E-02

SB V 10F EO= 2.7413E-01 (RYD) N*= 9.5497 MU= .4503

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.730	3324.18	-2.425E+00	3.051E+00	5.905E-01	1.247E+00	1.837E+00
.5000	6.803	10.533	1177.15	-3.127E-01	1.099E+00	2.774E-02	4.568E-01	4.845E-01
1.0000	13.606	17.336	715.21	-1.018E-01	5.995E-01	4.837E-03	2.237E-01	2.286E-01
2.0000	27.212	30.942	400.71	-2.050E-02	2.803E-01	3.500E-04	8.728E-02	8.763E-02
3.0000	40.818	44.548	278.32	-4.170E-03	1.704E-01	2.086E-05	4.644E-02	4.647E-02
3.2000	43.539	47.269	262.30	-2.713E-03	1.570E-01	9.369E-06	4.184E-02	4.184E-02
3.4000	46.260	49.990	248.02	-1.550E-03	1.453E-01	3.236E-06	3.789E-02	3.789E-02
3.6000	48.981	52.711	235.22	-6.169E-04	1.350E-01	5.402E-07	3.448E-02	3.448E-02
3.8000	51.702	55.432	223.67	1.307E-04	1.258E-01	2.549E-08	3.152E-02	3.152E-02
4.0000	54.424	58.153	213.21	7.428E-04	1.177E-01	8.642E-07	2.893E-02	2.893E-02
5.0000	68.030	71.759	172.78	2.433E-03	8.758E-02	1.144E-05	1.977E-02	1.978E-02
7.0000	95.241	98.971	125.28	3.083E-03	5.518E-02	2.534E-05	1.082E-02	1.085E-02
8.0000	108.847	112.577	110.13	2.996E-03	4.561E-02	2.721E-05	8.411E-03	8.438E-03
9.0000	122.453	126.183	98.26	2.830E-03	3.840E-02	2.721E-05	6.680E-03	6.707E-03

SB V 12F EO= 1.8767E-01 (RYD) N*= 11.5417 MU= .4583

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.553	4855.60	-3.722E+00	3.072E+00	9.525E-01	8.651E-01	1.818E+00
.5000	6.803	9.356	1325.15	-3.000E-01	9.375E-01	2.268E-02	2.953E-01	3.180E-01
1.0000	13.606	16.159	767.27	-8.903E-02	4.876E-01	3.449E-03	1.380E-01	1.414E-01
2.0000	27.212	29.765	416.55	-1.685E-02	2.206E-01	2.277E-04	5.203E-02	5.226E-02
3.0000	40.818	43.371	285.87	-3.362E-03	1.324E-01	1.320E-05	2.732E-02	2.733E-02
3.2000	43.539	46.092	269.00	-2.189E-03	1.218E-01	5.949E-06	2.457E-02	2.457E-02
3.6000	48.981	51.535	240.59	-5.110E-04	1.044E-01	3.624E-07	2.019E-02	2.019E-02
3.8000	51.702	54.256	228.52	8.783E-05	9.726E-02	1.127E-08	1.843E-02	1.843E-02
4.0000	54.424	56.977	217.61	5.676E-04	9.087E-02	4.944E-07	1.689E-02	1.689E-02
5.0000	68.030	70.583	175.66	1.891E-03	6.733E-02	6.794E-06	1.149E-02	1.150E-02
6.0000	81.635	84.189	147.27	2.315E-03	5.242E-02	1.215E-05	8.306E-03	8.318E-03
7.0000	95.241	97.795	126.78	2.384E-03	4.222E-02	1.497E-05	6.259E-03	6.274E-03
8.0000	108.847	111.401	111.30	2.309E-03	3.485E-02	1.599E-05	4.857E-03	4.873E-03
9.0000	122.453	125.007	99.18	2.177E-03	2.930E-02	1.595E-05	3.853E-03	3.869E-03

SB V 16F EO= 1.0360E-01 (RYD) N*= 15.5343 MU= .4657

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.410	8796.05	-7.135E+00	2.787E+00	1.933E+00	3.932E-01	2.326E+00
.0200	.272	1.682	7372.74	-5.201E+00	2.669E+00	1.225E+00	4.302E-01	1.655E+00
.0400	.544	1.954	6345.89	-3.966E+00	2.492E+00	8.275E-01	4.358E-01	1.263E+00
.0600	.816	2.226	5570.11	-3.127E+00	2.309E+00	5.860E-01	4.260E-01	1.012E+00
.5000	6.803	8.213	1509.72	-2.505E-01	6.897E-01	1.388E-02	1.403E-01	1.542E-01
1.0000	13.606	15.015	825.72	-6.662E-02	3.386E-01	1.795E-03	6.181E-02	6.360E-02
2.0000	27.212	28.621	433.19	-1.179E-02	1.478E-01	1.071E-04	2.244E-02	2.255E-02
3.0000	40.818	42.227	293.62	-2.302E-03	8.753E-02	6.024E-06	1.162E-02	1.162E-02
3.4000	46.260	47.670	260.09	-8.594E-04	7.416E-02	9.483E-07	9.413E-03	9.414E-03
3.6000	48.981	50.391	246.05	-3.587E-04	6.871E-02	1.748E-07	8.542E-03	8.542E-03
3.8000	51.702	53.112	233.44	4.592E-05	6.390E-02	3.016E-09	7.788E-03	7.788E-03
4.0000	54.424	55.833	222.07	3.705E-04	5.964E-02	2.064E-07	7.130E-03	7.130E-03
5.0000	68.030	69.439	178.55	1.250E-03	4.400E-02	2.923E-06	4.828E-03	4.831E-03
7.0000	95.241	96.651	128.28	1.564E-03	2.746E-02	6.368E-06	2.616E-03	2.623E-03
8.0000	108.847	110.257	112.45	1.512E-03	2.262E-02	6.785E-06	2.027E-03	2.033E-03
9.0000	122.453	123.863	100.10	1.423E-03	1.900E-02	6.758E-06	1.606E-03	1.613E-03

SB V 20F EO= 6.5537E-02 (RYD) N*= 19.5310 MU= .4690

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	.892	13904.55	-1.161E+01	2.097E+00	3.237E+00	1.408E-01	3.378E+00
.0400	.544	1.436	8634.55	-4.974E+00	2.185E+00	9.567E-01	2.461E-01	1.203E+00
.0600	.816	1.708	7258.94	-3.635E+00	2.016E+00	6.077E-01	2.492E-01	8.569E-01
.0800	1.088	1.980	6261.40	-2.776E+00	1.844E+00	4.110E-01	2.418E-01	6.528E-01
.5000	6.803	7.695	1611.33	-2.028E-01	5.246E-01	8.520E-03	7.603E-02	8.455E-02
1.0000	13.606	14.498	855.22	-5.089E-02	2.496E-01	1.011E-03	3.244E-02	3.345E-02
2.0000	27.212	28.104	441.18	-8.685E-03	1.070E-01	5.709E-05	1.155E-02	1.161E-02
3.0000	40.818	41.709	297.26	-1.683E-03	6.299E-02	3.182E-06	5.942E-03	5.945E-03
3.4000	46.260	47.152	262.95	-6.346E-04	5.328E-02	5.113E-07	4.806E-03	4.806E-03
3.6000	48.981	49.873	248.60	-2.671E-04	4.934E-02	9.580E-08	4.359E-03	4.359E-03
3.8000	51.702	52.594	235.74	3.359E-05	4.586E-02	1.598E-09	3.972E-03	3.972E-03
4.0000	54.424	55.315	224.14	2.622E-04	4.277E-02	1.024E-07	3.634E-03	3.634E-03
5.0000	68.030	68.921	179.90	8.993E-04	3.148E-02	1.501E-06	2.453E-03	2.454E-03
7.0000	95.241	96.133	128.97	1.132E-03	1.960E-02	3.317E-06	1.326E-03	1.330E-03
8.0000	108.847	109.739	112.98	1.079E-03	1.614E-02	3.440E-06	1.027E-03	1.031E-03
9.0000	122.453	123.345	100.52	1.017E-03	1.355E-02	3.437E-06	8.134E-04	8.169E-04

TE VI 5S EO= 5.0075E+00 (RYD) N*= 2.6813 MU= 2.3187

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	68.131	181.98	.000	1.753E-01	.000	1.316E-01	1.316E-01
1.0000	13.606	81.737	151.69	.000	1.439E-01	.000	1.064E-01	1.064E-01
2.0000	27.212	95.343	130.04	.000	1.208E-01	.000	8.739E-02	8.739E-02
8.0000	108.847	176.978	70.06	.000	5.715E-02	.000	3.632E-02	3.632E-02

TE VI 6S EO= 2.5952E+00 (RYD) N*= 3.7245 MU= 2.2755

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	35.311	351.13	.000	2.862E-01	.000	1.818E-01	1.818E-01
1.0000	13.606	48.916	253.47	.000	1.934E-01	.000	1.149E-01	1.149E-01
2.0000	27.212	62.522	198.31	.000	1.416E-01	.000	7.882E-02	7.882E-02
6.0000	81.635	116.946	106.02	.000	6.226E-02	.000	2.849E-02	2.849E-02
14.0000	190.483	225.793	54.91	.000	2.611E-02	.000	9.673E-03	9.673E-03

TE VI 8S EO= 1.0904E+00 (RYD) N*= 5.7458 MU= 2.2542

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	14.836	835.69	.000	5.703E-01	.000	3.033E-01	3.033E-01
1.0000	13.606	28.442	435.92	.000	2.438E-01	.000	1.062E-01	1.062E-01
2.0000	27.212	42.048	294.87	.000	1.424E-01	.000	5.356E-02	5.356E-02
8.0000	108.847	123.684	100.24	.000	3.153E-02	.000	7.725E-03	7.725E-03
16.0000	217.695	232.531	53.32	.000	1.332E-02	.000	2.594E-03	2.594E-03

TE VI 10S EO= 5.9904E-01 (RYD) N*= 7.7522 MU= 2.2478

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.150	1521.22	.000	9.221E-01	.000	4.354E-01	4.354E-01
1.0000	13.606	21.756	569.89	.000	2.430E-01	.000	8.073E-02	8.073E-02
4.0000	54.424	62.574	198.14	.000	5.373E-02	.000	1.135E-02	1.135E-02
6.0000	81.635	89.786	138.09	.000	3.208E-02	.000	5.807E-03	5.807E-03

TE VI 12S EO= 3.7831E-01 (RYD) N*= 9.7550 MU= 2.2450

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.147	2408.77	.000	1.335E+00	.000	5.768E-01	5.768E-01
1.0000	13.606	18.753	661.15	.000	2.210E-01	.000	5.756E-02	5.756E-02
4.0000	54.424	59.571	208.13	.000	4.142E-02	.000	6.422E-03	6.422E-03
10.0000	136.059	141.206	87.81	.000	1.209E-02	.000	1.298E-03	1.298E-03

TE VI 16S EO= 1.9021E-01 (RYD) N*= 13.7573 MU= 2.2427

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.588	4790.83	.000	2.335E+00	.000	8.866E-01	8.866E-01
.5000	6.803	9.391	1320.27	.000	3.745E-01	.000	8.276E-02	8.276E-02
1.0000	13.606	16.194	765.64	.000	1.692E-01	.000	2.913E-02	2.913E-02
2.0000	27.212	29.800	416.06	.000	6.912E-02	.000	8.946E-03	8.946E-03
4.0000	54.424	57.012	217.48	.000	2.668E-02	.000	2.551E-03	2.551E-03

TE VI 20S EO= 1.1416E-01 (RYD) N*= 17.7583 MU= 2.2417

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.553	7982.60	.000	3.552E+00	.000	1.232E+00	1.232E+00
.2000	2.721	4.274	2900.68	.000	8.292E-01	.000	1.847E-01	1.847E-01
.4000	5.442	6.996	1772.35	.000	4.032E-01	.000	7.147E-02	7.147E-02
1.0000	13.606	15.159	817.90	.000	1.291E-01	.000	1.588E-02	1.588E-02
2.0000	27.212	28.765	431.03	.000	5.009E-02	.000	4.536E-03	4.536E-03

TE VI 5P EO= 4.2208E+00 (RYD) N*= 2.9205 MU= 2.0795

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	57.428	215.90	2.925E-01	1.198E-02	1.029E-01	3.455E-04	1.033E-01
1.0000	13.606	71.034	174.55	2.094E-01	4.411E-02	6.522E-02	5.790E-03	7.101E-02
2.0000	27.212	84.639	146.49	1.591E-01	5.492E-02	4.486E-02	1.070E-02	5.555E-02
5.0000	68.030	125.457	98.83	8.608E-02	5.487E-02	1.947E-02	1.582E-02	3.529E-02
6.0000	81.635	139.063	89.16	7.335E-02	5.227E-02	1.567E-02	1.592E-02	3.159E-02
7.0000	95.241	152.669	81.21	6.347E-02	4.954E-02	1.288E-02	1.570E-02	2.858E-02
9.0000	122.453	179.881	68.93	4.924E-02	4.431E-02	9.137E-03	1.479E-02	2.393E-02

TE VI 8P EO= 2.2858E+00 (RYD) N*= 3.9685 MU= 2.0315

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	31.101	398.66	5.236E-01	-6.194E-02	1.786E-01	4.999E-03	1.836E-01
.4000	5.442	36.543	339.29	4.028E-01	-9.183E-03	1.242E-01	1.291E-04	1.243E-01
.5000	6.803	37.904	327.11	3.795E-01	-4.865E-04	1.144E-01	3.759E-07	1.144E-01
.6000	8.164	39.264	315.78	3.584E-01	6.967E-03	1.056E-01	7.985E-05	1.057E-01
.7000	9.524	40.625	305.20	3.391E-01	1.337E-02	9.785E-02	3.042E-04	9.815E-02
.9000	12.245	43.346	286.04	3.052E-01	2.362E-02	8.457E-02	1.013E-03	8.558E-02
1.0000	13.606	44.706	277.33	2.902E-01	2.772E-02	7.889E-02	1.439E-03	8.033E-02
3.0000	40.818	71.918	172.40	1.344E-01	5.033E-02	2.721E-02	7.631E-03	3.485E-02
4.0000	54.424	85.524	144.97	1.017E-01	4.858E-02	1.852E-02	8.457E-03	2.698E-02
5.0000	68.030	99.130	125.07	8.024E-02	4.550E-02	1.337E-02	8.599E-03	2.197E-02
6.0000	81.635	112.736	109.98	6.533E-02	4.221E-02	1.008E-02	8.413E-03	1.849E-02
7.0000	95.241	126.342	98.14	5.448E-02	3.906E-02	7.856E-03	8.077E-03	1.593E-02

TE VI 8P EO= 1.0018E+00 (RYD) N*= 5.9946 MU= 2.0054

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	13.631	909.62	1.173E+00	-3.102E-01	3.930E-01	5.495E-02	4.480E-01
.4000	5.442	19.073	650.07	6.726E-01	-8.936E-02	1.807E-01	6.381E-03	1.871E-01
.7000	9.524	23.155	535.47	4.876E-01	-2.665E-02	1.153E-01	6.892E-04	1.160E-01
.8000	10.885	24.515	505.75	4.436E-01	-1.386E-02	1.010E-01	1.972E-04	1.012E-01
.9000	12.245	25.876	479.16	4.055E-01	-3.609E-03	8.915E-02	1.412E-05	8.916E-02
1.0000	13.606	27.236	455.22	3.725E-01	4.643E-03	7.916E-02	2.459E-05	7.919E-02
2.0000	27.212	40.842	303.57	1.903E-01	3.576E-02	3.097E-02	2.188E-03	3.316E-02
3.0000	40.818	54.448	227.71	1.183E-01	3.793E-02	1.596E-02	3.281E-03	1.924E-02
4.0000	54.424	68.054	182.19	8.192E-02	3.515E-02	9.566E-03	3.523E-03	1.309E-02
5.0000	68.030	81.660	151.83	6.076E-02	3.170E-02	6.314E-03	3.437E-03	9.752E-03

TE VI 10P EO= 5.6211E-01 (RYD) N*= 8.0028 MU= 1.9972

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.648	1621.17	2.053E+00	-6.906E-01	6.755E-01	1.528E-01	8.283E-01
.2000	2.721	10.369	1195.72	1.238E+00	-3.067E-01	3.328E-01	4.087E-02	3.736E-01
.6000	8.164	15.812	784.15	6.126E-01	-7.144E-02	1.243E-01	3.381E-03	1.277E-01
.8000	10.885	18.533	669.01	4.699E-01	-3.009E-02	8.571E-02	7.031E-04	8.641E-02
1.0000	13.606	21.254	583.36	3.738E-01	-6.359E-03	6.219E-02	3.601E-05	6.223E-02
1.1000	14.967	22.614	548.26	3.369E-01	1.618E-03	5.378E-02	2.480E-06	5.378E-02
1.2000	16.327	23.975	517.15	3.056E-01	7.838E-03	4.690E-02	6.170E-05	4.696E-02
1.3000	17.688	25.336	489.37	2.787E-01	1.271E-02	4.121E-02	1.716E-04	4.139E-02
2.0000	27.212	34.860	355.67	1.635E-01	2.727E-02	1.953E-02	1.086E-03	2.062E-02
3.0000	40.818	48.466	255.82	9.443E-02	2.859E-02	9.053E-03	1.660E-03	1.071E-02
4.0000	54.424	62.072	199.75	6.263E-02	2.586E-02	5.100E-03	1.739E-03	6.839E-03
5.0000	68.030	75.678	163.84	4.514E-02	2.287E-02	3.230E-03	1.658E-03	4.888E-03

TE VI 12P EO= 3.5953E-01 (RYD) N*= 10.0065 MU= 1.9935

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.892	2534.59	3.152E+00	-1.196E+00	1.018E+00	2.932E-01	1.311E+00
.2000	2.721	7.613	1628.62	1.508E+00	-4.163E-01	3.628E-01	5.527E-02	4.181E-01
.6000	8.164	13.055	949.70	6.122E-01	-8.215E-02	1.025E-01	3.691E-03	1.062E-01
.8000	10.885	15.777	785.89	4.458E-01	-3.530E-02	6.568E-02	8.235E-04	6.650E-02
.9000	12.245	17.137	723.50	3.881E-01	-2.099E-02	5.407E-02	3.164E-04	5.438E-02
1.0000	13.606	18.498	670.28	3.414E-01	-1.041E-02	4.517E-02	8.390E-05	4.526E-02
1.1000	14.967	19.858	624.36	3.031E-01	-2.426E-03	3.822E-02	4.896E-06	3.823E-02
1.2000	16.327	21.219	584.32	2.713E-01	3.637E-03	3.270E-02	1.176E-05	3.271E-02
1.3000	17.688	22.579	549.11	2.444E-01	8.280E-03	2.825E-02	6.485E-05	2.832E-02
1.4000	19.048	23.940	517.90	2.216E-01	1.185E-02	2.462E-02	1.409E-04	2.476E-02
3.0000	40.818	45.710	271.25	7.504E-02	2.211E-02	5.391E-03	9.363E-04	6.327E-03
4.0000	54.424	59.315	209.03	4.861E-02	1.972E-02	2.936E-03	9.661E-04	3.903E-03
5.0000	68.030	72.921	170.03	3.452E-02	1.725E-02	1.820E-03	9.088E-04	2.729E-03
7.0000	95.241	100.133	123.82	2.048E-02	1.342E-02	8.800E-04	7.559E-04	1.636E-03

TE VI 16P EO= 1.8342E-01 (RYD) N*= 14.0097 MU= 1.9903

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.496	4968.19	5.972E+00	-2.564E+00	1.865E+00	6.872E-01	2.552E+00
.1000	1.361	3.856	3215.25	2.891E+00	-1.033E+00	6.750E-01	1.723E-01	8.473E-01
.2000	2.721	5.217	2376.68	1.744E+00	-5.273E-01	3.325E-01	6.077E-02	3.933E-01
.6000	8.164	10.659	1163.19	5.265E-01	-7.857E-02	6.189E-02	2.757E-03	6.465E-02
.8000	10.885	13.380	926.63	3.593E-01	-3.306E-02	3.618E-02	6.127E-04	3.680E-02
1.0000	13.606	16.102	770.03	2.632E-01	-1.102E-02	2.336E-02	8.193E-05	2.345E-02
1.1000	14.967	17.462	710.03	2.296E-01	-4.327E-03	1.929E-02	1.370E-05	1.930E-02
1.2000	16.327	18.823	658.71	2.024E-01	6.171E-04	1.615E-02	3.003E-07	1.615E-02
1.3000	17.688	20.183	614.30	1.800E-01	4.307E-03	1.370E-02	1.569E-05	1.371E-02
1.5000	20.409	22.904	541.32	1.455E-01	9.177E-03	1.016E-02	8.082E-05	1.024E-02
1.6000	21.769	24.265	510.97	1.320E-01	1.076E-02	8.861E-03	1.177E-04	8.979E-03
3.0000	40.818	43.313	286.25	4.991E-02	1.438E-02	2.260E-03	3.750E-04	2.635E-03
4.0000	54.424	56.919	217.83	3.162E-02	1.262E-02	1.192E-03	3.800E-04	1.572E-03
5.0000	68.030	70.525	175.80	2.214E-02	1.093E-02	7.240E-04	3.529E-04	1.077E-03

TE VI 20P EO= 1.1098E-01 (RYD) N*= 18.0109 MU= 1.9891

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.510	8211.38	9.587E+00	-4.384E+00	2.907E+00	1.216E+00	4.123E+00
.1000	1.361	2.871	4319.29	3.282E+00	-1.223E+00	6.475E-01	1.798E-01	8.274E-01
.2000	2.721	4.231	2930.35	1.714E+00	-5.372E-01	2.605E-01	5.115E-02	3.116E-01
.4000	5.442	6.952	1783.39	7.453E-01	-1.673E-01	8.090E-02	8.149E-03	8.904E-02
.6000	8.164	9.673	1281.71	4.278E-01	-6.640E-02	3.708E-02	1.787E-03	3.887E-02
.8000	10.885	12.395	1000.32	2.819E-01	-2.738E-02	2.063E-02	3.891E-04	2.102E-02
1.0000	13.606	15.116	820.24	2.018E-01	-9.369E-03	1.290E-02	5.558E-05	1.295E-02
1.1000	14.967	16.476	752.51	1.745E-01	-4.046E-03	1.052E-02	1.130E-05	1.053E-02
1.2000	16.327	17.837	695.11	1.527E-01	-1.674E-04	8.714E-03	2.095E-08	8.714E-03
1.3000	17.688	19.198	645.84	1.349E-01	2.893E-03	7.321E-03	5.832E-06	7.327E-03
1.4000	19.048	20.558	603.10	1.202E-01	4.807E-03	6.225E-03	1.990E-05	6.245E-03
2.0000	27.212	28.722	431.68	6.847E-02	9.983E-03	2.820E-03	1.199E-04	2.940E-03
3.0000	40.818	42.328	292.92	3.569E-02	1.017E-02	1.129E-03	1.835E-04	1.313E-03
4.0000	54.424	55.934	221.67	2.239E-02	8.887E-03	5.872E-04	1.851E-04	7.723E-04
5.0000	68.030	69.540	178.30	1.558E-02	7.656E-03	3.536E-04	1.707E-04	5.244E-04

TE VI 5D EO= 3.0250E+00 (RYD) N*= 3.4498 MU= 1.5502

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	41.158	301.25	2.701E-01	-5.551E-01	7.547E-02	4.782E-01	5.537E-01
1.0000	13.606	54.763	226.40	1.740E-01	-2.357E-01	4.170E-02	1.147E-01	1.564E-01
2.0000	27.212	68.369	181.35	1.240E-01	-9.760E-02	2.641E-02	2.455E-02	5.096E-02
3.0000	40.818	81.975	151.25	9.401E-02	-3.040E-02	1.821E-02	2.856E-03	2.107E-02
3.4000	46.260	87.418	141.83	8.524E-02	-1.368E-02	1.597E-02	6.170E-04	1.658E-02
3.6000	48.981	90.139	137.55	8.135E-02	-6.771E-03	1.500E-02	1.558E-04	1.515E-02
3.8000	51.702	92.860	133.52	7.775E-02	-6.625E-04	1.411E-02	1.536E-06	1.411E-02
4.0000	54.424	95.581	129.72	7.441E-02	4.744E-03	1.330E-02	8.111E-05	1.338E-02
5.0000	68.030	109.187	113.55	6.077E-02	2.387E-02	1.013E-02	2.346E-03	1.248E-02
6.0000	81.635	122.793	100.97	5.082E-02	3.441E-02	7.971E-03	5.481E-03	1.345E-02
8.0000	108.847	150.005	82.65	3.745E-02	4.291E-02	5.288E-03	1.041E-02	1.570E-02
12.0000	163.271	204.429	60.65	2.329E-02	4.249E-02	2.788E-03	1.392E-02	1.671E-02
13.0000	176.877	218.034	56.87	2.109E-02	4.128E-02	2.437E-03	1.401E-02	1.644E-02
14.0000	190.483	231.640	53.53	1.920E-02	3.993E-02	2.147E-03	1.393E-02	1.607E-02

TE VI 6D EO= 1.7861E+00 (RYD) N*= 4.4895 MU= 1.5105

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	24.302	510.20	4.418E-01	-9.533E-01	1.192E-01	8.326E-01	9.518E-01
.5000	6.803	31.105	398.61	2.986E-01	-5.405E-01	6.971E-02	3.427E-01	4.124E-01
1.0000	13.606	37.908	327.08	2.185E-01	-3.252E-01	4.550E-02	1.511E-01	1.966E-01
2.0000	27.212	51.514	240.69	1.350E-01	-1.254E-01	2.360E-02	3.054E-02	5.413E-02
3.0000	40.818	65.119	190.40	9.357E-02	-4.369E-02	1.433E-02	4.686E-03	1.902E-02
3.8000	51.702	76.004	163.13	7.353E-02	-1.117E-02	1.033E-02	3.578E-04	1.069E-02
4.0000	54.424	78.725	157.49	6.960E-02	-5.535E-03	9.587E-03	9.094E-05	9.678E-03
4.2000	57.145	81.447	152.23	6.602E-02	-6.164E-04	8.922E-03	1.167E-06	8.923E-03
4.4000	59.866	84.168	147.31	6.272E-02	3.682E-03	8.323E-03	4.302E-05	8.367E-03
4.6000	62.587	86.889	142.70	5.969E-02	7.444E-03	7.782E-03	1.815E-04	7.964E-03
6.0000	81.635	105.937	117.04	4.386E-02	2.357E-02	5.123E-03	2.218E-03	7.341E-03
12.0000	163.271	187.573	66.10	1.804E-02	3.070E-02	1.535E-03	6.666E-03	8.200E-03
13.0000	176.877	201.179	61.63	1.617E-02	2.972E-02	1.323E-03	6.701E-03	8.023E-03
14.0000	190.483	214.784	57.73	1.460E-02	2.866E-02	1.151E-03	6.650E-03	7.801E-03
16.0000	217.695	241.996	51.23	1.211E-02	2.646E-02	8.917E-04	6.388E-03	7.279E-03

TE VI 8D EO= 8.4854E-01 (RYD) N*= 6.5135 MU= 1.4865

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.545	1073.93	8.916E-01	-1.953E+00	2.307E-01	1.660E+00	1.891E+00
.5000	6.803	18.348	675.75	4.216E-01	-7.908E-01	8.197E-02	4.326E-01	5.146E-01
1.0000	13.606	25.151	492.97	2.539E-01	-3.979E-01	4.076E-02	1.501E-01	1.909E-01
2.0000	27.212	38.757	319.91	1.270E-01	-1.297E-01	1.572E-02	2.457E-02	4.029E-02
3.0000	40.818	52.363	236.78	7.861E-02	-4.439E-02	8.133E-03	3.891E-03	1.202E-02
3.8000	51.702	63.248	196.03	5.821E-02	-1.469E-02	5.387E-03	5.145E-04	5.902E-03
4.2000	57.145	68.690	180.50	5.106E-02	-5.640E-03	4.502E-03	8.239E-05	4.584E-03
4.4000	59.866	71.411	173.62	4.801E-02	-2.050E-03	4.137E-03	1.131E-05	4.149E-03
4.6000	62.587	74.132	167.25	4.525E-02	1.044E-03	3.815E-03	3.047E-06	3.818E-03
4.8000	65.308	76.854	161.33	4.273E-02	3.717E-03	3.528E-03	4.002E-05	3.568E-03
5.0000	68.030	79.575	155.81	4.044E-02	6.029E-03	3.271E-03	1.090E-04	3.381E-03
6.0000	81.635	93.181	133.06	3.151E-02	1.372E-02	2.325E-03	6.610E-04	2.986E-03
8.0000	108.847	120.392	102.99	2.103E-02	1.916E-02	1.338E-03	1.667E-03	3.005E-03
10.0000	136.059	147.604	84.00	1.525E-02	1.973E-02	8.632E-04	2.166E-03	3.030E-03
12.0000	163.271	174.816	70.92	1.168E-02	1.880E-02	5.999E-04	2.329E-03	2.929E-03
13.0000	176.877	188.422	65.80	1.038E-02	1.814E-02	5.104E-04	2.337E-03	2.847E-03
14.0000	190.483	202.028	61.37	9.300E-03	1.743E-02	4.392E-04	2.314E-03	2.753E-03

TE VI 10D EO= 4.9574E-01 (RYD) N*= 8.5216 MU= 1.4784

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.745	1838.19	1.467E+00	-3.204E+00	3.647E-01	2.611E+00	2.975E+00
.5000	6.803	13.548	915.16	4.722E-01	-8.937E-01	7.594E-02	4.080E-01	4.839E-01
1.0000	13.606	20.351	609.24	2.446E-01	-3.890E-01	3.060E-02	1.161E-01	1.467E-01
2.0000	27.212	33.957	365.13	1.071E-01	-1.126E-01	9.797E-03	1.623E-02	2.603E-02
3.0000	40.818	47.563	260.68	6.234E-02	-3.731E-02	4.647E-03	2.497E-03	7.143E-03
3.8000	51.702	58.447	212.13	4.481E-02	-1.290E-02	2.950E-03	3.665E-04	3.317E-03
4.2000	57.145	63.890	194.06	3.886E-02	-5.694E-03	2.426E-03	7.809E-05	2.504E-03
4.4000	59.866	66.611	186.13	3.636E-02	-2.871E-03	2.213E-03	2.071E-05	2.234E-03
4.6000	62.587	69.332	178.83	3.411E-02	-4.575E-04	2.027E-03	5.472E-07	2.028E-03
4.8000	65.308	72.053	172.08	3.208E-02	1.614E-03	1.863E-03	7.073E-06	1.870E-03
5.0000	68.030	74.775	165.81	3.023E-02	3.394E-03	1.718E-03	3.247E-05	1.750E-03
6.0000	81.635	88.381	140.29	2.317E-02	9.222E-03	1.192E-03	2.834E-04	1.476E-03
8.0000	108.847	115.592	107.26	1.513E-02	1.322E-02	6.648E-04	7.620E-04	1.427E-03
11.0000	149.665	156.410	79.27	9.370E-03	1.333E-02	3.452E-04	1.048E-03	1.393E-03
12.0000	163.271	170.016	72.93	8.211E-03	1.292E-02	2.881E-04	1.071E-03	1.359E-03
13.0000	176.877	183.622	67.52	7.269E-03	1.245E-02	2.439E-04	1.073E-03	1.317E-03
14.0000	190.483	197.228	62.86	6.491E-03	1.195E-02	2.088E-04	1.061E-03	1.270E-03

TE VI 12D EO= 3.2495E-01 (RYD) N*= 10.5254 MU= 1.4746

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.421	2804.29	2.156E+00	-4.692E+00	5.168E-01	3.669E+00	4.186E+00
.5000	6.803	11.224	1104.63	4.732E-01	-8.987E-01	6.318E-02	3.418E-01	4.050E-01
1.0000	13.606	18.027	687.77	2.196E-01	-3.514E-01	2.185E-02	8.393E-02	1.058E-01
2.0000	27.212	31.633	391.95	8.844E-02	-9.413E-02	6.219E-03	1.057E-02	1.679E-02
3.0000	40.818	45.239	274.07	4.967E-02	-3.050E-02	2.806E-03	1.587E-03	4.393E-03
3.8000	51.702	56.124	220.92	3.512E-02	-1.069E-02	1.740E-03	2.419E-04	1.982E-03
4.2000	57.145	61.566	201.39	3.027E-02	-4.949E-03	1.418E-03	5.685E-05	1.475E-03
4.4000	59.866	64.287	192.86	2.824E-02	-2.715E-03	1.289E-03	1.786E-05	1.307E-03
4.6000	62.587	67.009	185.03	2.643E-02	-8.124E-04	1.176E-03	1.667E-06	1.178E-03
4.8000	65.308	69.730	177.81	2.480E-02	8.234E-04	1.078E-03	1.783E-06	1.079E-03
5.0000	68.030	72.451	171.13	2.332E-02	2.210E-03	9.903E-04	1.334E-05	1.004E-03
6.0000	81.635	86.057	144.07	1.771E-02	6.736E-03	6.788E-04	1.472E-04	8.260E-04
12.0000	163.271	167.692	73.94	6.133E-03	9.551E-03	1.586E-04	5.768E-04	7.354E-04
13.0000	176.877	181.298	68.39	5.426E-03	9.194E-03	1.342E-04	5.778E-04	7.119E-04
14.0000	190.483	194.904	63.61	4.832E-03	8.815E-03	1.144E-04	5.711E-04	6.855E-04
15.0000	204.089	208.510	59.46	4.342E-03	8.434E-03	9.879E-05	5.592E-04	6.580E-04

TE VI 16D EO= 1.7055E-01 (RYD) N*= 14.5288 MU= 1.4712

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.320	5343.20	3.855E+00	-8.335E+00	8.670E-01	6.078E+00	6.945E+00
.2000	2.721	5.042	2459.25	1.086E+00	-2.257E+00	1.493E-01	9.683E-01	1.118E+00
.4000	5.442	7.763	1597.18	5.381E-01	-1.057E+00	5.650E-02	3.270E-01	3.835E-01
1.0000	13.606	15.926	778.50	1.676E-01	-2.695E-01	1.124E-02	4.361E-02	5.485E-02
2.0000	27.212	29.532	419.83	8.156E-02	-6.624E-02	2.814E-03	4.885E-03	7.699E-03
3.0000	40.818	43.138	287.42	3.335E-02	-2.094E-02	1.206E-03	7.131E-04	1.919E-03
3.8000	51.702	54.023	229.51	2.321E-02	-7.406E-03	7.314E-04	1.117E-04	8.431E-04
4.0000	54.424	56.744	218.50	2.143E-02	-5.312E-03	6.550E-04	6.036E-05	7.154E-04
4.4000	59.866	62.186	199.38	1.849E-02	-2.054E-03	5.346E-04	9.890E-06	5.445E-04
4.6000	62.587	64.908	191.02	1.727E-02	-7.930E-04	4.864E-04	1.539E-06	4.880E-04
4.8000	65.308	67.629	183.33	1.616E-02	2.824E-04	4.440E-04	2.033E-07	4.442E-04
5.0000	68.030	70.350	176.24	1.517E-02	1.189E-03	4.071E-04	3.751E-06	4.109E-04
6.0000	81.635	83.956	147.68	1.143E-02	4.158E-03	2.759E-04	5.474E-05	3.306E-04
8.0000	108.847	111.168	111.53	7.294E-03	6.139E-03	1.487E-04	1.580E-04	3.066E-04
10.0000	136.059	138.380	89.60	5.150E-03	6.296E-03	9.226E-05	2.068E-04	2.991E-04
12.0000	163.271	165.591	74.87	3.871E-03	5.968E-03	6.236E-05	2.224E-04	2.847E-04
13.0000	176.877	179.197	69.19	3.414E-03	5.740E-03	5.251E-05	2.226E-04	2.751E-04
14.0000	190.483	192.803	64.31	3.039E-03	5.499E-03	4.475E-05	2.199E-04	2.646E-04

TE VI 20D EO= 1.0484E-01 (RYD) N*= 18.5302 MU= 1.4698

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.426	8691.65	5.953E+00	-1.282E+01	1.271E+00	8.843E+00	1.011E+01
.2000	2.721	4.148	2989.29	1.041E+00	-2.167E+00	1.130E-01	7.342E-01	8.472E-01
.4000	5.442	6.869	1805.05	4.584E-01	-9.016E-01	3.629E-02	2.105E-01	2.468E-01
1.0000	13.606	15.032	824.79	1.285E-01	-2.070E-01	6.235E-03	2.429E-02	3.052E-02
2.0000	27.212	28.638	432.94	4.512E-02	-4.876E-02	1.466E-03	2.567E-03	4.033E-03
3.0000	40.818	42.244	293.50	2.404E-02	-1.523E-02	6.137E-04	3.696E-04	9.833E-04
3.8000	51.702	53.129	233.37	1.660E-02	-5.395E-03	3.679E-04	5.831E-05	4.262E-04
4.4000	59.866	61.293	202.29	1.319E-02	-1.550E-03	2.678E-04	5.555E-06	2.734E-04
4.6000	62.587	64.014	193.69	1.230E-02	-6.453E-04	2.433E-04	1.005E-06	2.443E-04
4.8000	65.308	66.735	185.79	1.150E-02	1.262E-04	2.218E-04	4.010E-08	2.219E-04
5.0000	68.030	69.456	178.51	1.078E-02	7.790E-04	2.030E-04	1.589E-06	2.046E-04
6.0000	81.635	83.062	149.27	8.093E-03	2.894E-03	1.367E-04	2.623E-05	1.630E-04
8.0000	108.847	110.274	112.43	5.142E-03	4.286E-03	7.329E-05	7.638E-05	1.497E-04
10.0000	136.059	137.486	90.18	3.620E-03	4.406E-03	4.529E-05	1.007E-04	1.459E-04
12.0000	163.271	164.697	75.28	2.716E-03	4.169E-03	3.053E-05	1.079E-04	1.385E-04
13.0000	176.877	178.303	69.54	2.393E-03	4.007E-03	2.566E-05	1.079E-04	1.336E-04
14.0000	190.483	191.909	64.61	2.129E-03	3.839E-03	2.187E-05	1.066E-04	1.285E-04

TE VI 4F EO= 2.7843E+00 (RYD) N*= 3.5958 MU= .4042

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	37.883	327.29	-2.694E-02	1.218E+00	7.405E-04	2.018E+00	2.019E+00
.4000	5.442	43.325	286.18	-1.094E-02	1.002E+00	1.398E-04	1.561E+00	1.561E+00
.8000	10.885	48.767	254.24	-8.295E-04	8.434E-01	9.038E-07	1.246E+00	1.246E+00
1.0000	13.606	51.488	240.80	2.786E-03	7.794E-01	1.076E-05	1.123E+00	1.123E+00
1.2000	16.327	54.210	228.72	5.702E-03	7.233E-01	4.747E-05	1.018E+00	1.018E+00
1.4000	19.048	56.931	217.78	8.058E-03	6.737E-01	9.955E-05	9.277E-01	9.278E-01
1.6000	21.769	59.652	207.85	9.961E-03	6.296E-01	1.594E-04	8.490E-01	8.492E-01
4.0000	54.424	92.306	134.32	1.658E-02	3.338E-01	6.836E-04	3.694E-01	3.700E-01
5.0000	68.030	105.912	117.07	1.613E-02	2.725E-01	7.420E-04	2.824E-01	2.831E-01
6.0000	81.635	119.518	103.74	1.524E-02	2.273E-01	7.479E-04	2.217E-01	2.225E-01
7.0000	95.241	133.124	93.14	1.421E-02	1.928E-01	7.240E-04	1.776E-01	1.783E-01

TE VI 5F EO= 1.7870E+00 (RYD) N*= 4.4884 MU= .5116

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	24.313	509.95	-6.724E-02	1.291E+00	2.961E-03	1.455E+00	1.458E+00
.4000	5.442	29.756	416.68	-2.901E-02	1.035E+00	6.745E-04	1.144E+00	1.144E+00
.8000	10.885	35.198	352.25	-8.847E-03	8.490E-01	7.420E-05	9.111E-01	9.111E-01
1.0000	13.606	37.919	326.97	-2.431E-03	7.754E-01	6.037E-06	8.187E-01	8.187E-01
1.2000	16.327	40.640	305.08	2.414E-03	7.116E-01	6.376E-06	7.391E-01	7.391E-01
1.4000	19.048	43.362	285.94	6.096E-03	6.560E-01	4.340E-05	6.701E-01	6.701E-01
1.6000	21.769	46.083	269.05	8.904E-03	6.072E-01	9.838E-05	6.101E-01	6.102E-01
1.8000	24.491	48.804	254.05	1.105E-02	5.641E-01	1.604E-04	5.577E-01	5.578E-01
4.0000	54.424	78.737	157.47	1.655E-02	2.981E-01	5.807E-04	2.512E-01	2.518E-01
5.0000	68.030	92.343	134.27	1.566E-02	2.387E-01	6.102E-04	1.890E-01	1.896E-01
6.0000	81.635	105.949	117.02	1.445E-02	1.962E-01	5.960E-04	1.465E-01	1.471E-01
8.0000	108.847	133.161	93.11	1.202E-02	1.399E-01	5.182E-04	9.363E-02	9.415E-02

TE VI 6F EO= 1.2095E+00 (RYD) N*= 5.4557 MU= .5443

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	16.456	753.44	-1.252E-01	1.241E+00	6.949E-03	9.101E-01	9.171E-01
.4000	5.442	21.898	566.19	-4.877E-02	9.765E-01	1.403E-03	7.498E-01	7.512E-01
.8000	10.885	27.341	453.49	-1.613E-02	7.812E-01	1.915E-04	5.992E-01	5.994E-01
1.0000	13.606	30.062	412.44	-6.954E-03	7.051E-01	3.916E-05	5.366E-01	5.367E-01
1.2000	16.327	32.783	378.20	-4.672E-04	6.400E-01	1.927E-07	4.821E-01	4.821E-01
1.4000	19.048	35.504	349.22	4.178E-03	5.840E-01	1.669E-05	4.348E-01	4.348E-01
1.8000	24.491	40.947	302.80	9.958E-03	4.933E-01	1.094E-04	3.579E-01	3.580E-01
4.0000	54.424	70.880	174.93	1.486E-02	2.457E-01	4.214E-04	1.537E-01	1.541E-01
5.0000	68.030	84.486	146.75	1.372E-02	1.939E-01	4.281E-04	1.140E-01	1.144E-01
6.0000	81.635	98.091	126.40	1.240E-02	1.575E-01	4.064E-04	8.741E-02	8.782E-02

TE VI 8F EO= 6.5143E-01 (RYD) N*= 7.4339 MU= .5661

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.863	1398.86	-3.128E-01	1.033E+00	2.336E-02	3.396E-01	3.630E-01
.1000	1.361	10.224	1212.70	-2.214E-01	1.005E+00	1.349E-02	3.707E-01	3.842E-01
.2000	2.721	11.585	1070.27	-1.605E-01	9.542E-01	8.035E-03	3.788E-01	3.868E-01
.3000	4.082	12.945	957.78	-1.183E-01	8.968E-01	4.878E-03	3.739E-01	3.787E-01
1.0000	13.606	22.469	551.80	-1.308E-02	5.697E-01	1.036E-04	2.619E-01	2.620E-01
1.2000	16.327	25.190	492.20	-4.327E-03	5.078E-01	1.270E-05	2.332E-01	2.332E-01
1.4000	19.048	27.912	444.21	1.395E-03	4.559E-01	1.462E-06	2.083E-01	2.083E-01
1.6000	21.769	30.633	404.75	5.198E-03	4.120E-01	2.229E-05	1.867E-01	1.868E-01
2.0000	27.212	36.075	343.69	9.456E-03	3.426E-01	8.688E-05	1.520E-01	1.521E-01
3.0000	40.818	49.681	249.56	1.209E-02	2.336E-01	1.957E-04	9.737E-02	9.757E-02
4.0000	54.424	63.287	195.91	1.146E-02	1.720E-01	2.240E-04	6.726E-02	6.748E-02
5.0000	68.030	76.893	161.25	1.025E-02	1.332E-01	2.177E-04	4.898E-02	4.920E-02

TE VI 10F EO= 4.0516E-01 (RYD) N*= 9.4262 MU= .5738

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.513	2249.16	-6.075E-01	6.871E-01	5.479E-02	9.346E-02	1.483E-01
.0400	.544	6.057	2047.06	-4.953E-01	7.528E-01	4.001E-02	1.233E-01	1.633E-01
.3000	4.082	9.594	1292.29	-1.869E-01	7.569E-01	7.201E-03	1.974E-01	2.046E-01
.4000	5.442	10.955	1131.79	-1.173E-01	7.084E-01	4.057E-03	1.974E-01	2.015E-01
1.0000	13.606	19.118	648.52	-1.556E-02	4.604E-01	1.247E-04	1.455E-01	1.457E-01
1.2000	16.327	21.840	567.71	-6.008E-03	4.051E-01	2.123E-05	1.287E-01	1.287E-01
1.4000	19.048	24.561	504.81	-1.265E-04	3.596E-01	1.059E-08	1.141E-01	1.141E-01
1.6000	21.769	27.282	454.46	3.589E-03	3.219E-01	9.466E-06	1.015E-01	1.015E-01
2.0000	27.212	32.724	378.88	7.495E-03	2.635E-01	4.951E-05	8.162E-02	8.167E-02
3.0000	40.818	46.330	267.61	9.573E-03	1.752E-01	1.143E-04	5.106E-02	5.119E-02
4.0000	54.424	59.936	206.86	8.882E-03	1.271E-01	1.273E-04	3.476E-02	3.489E-02
5.0000	68.030	73.542	168.59	7.810E-03	9.742E-02	1.208E-04	2.506E-02	2.518E-02
7.0000	95.241	100.754	123.06	5.942E-03	6.342E-02	9.580E-05	1.455E-02	1.465E-02

TE VI 12F EO= 2.7591E-01 (RYD) N*= 11.4226 MU= .5774

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.754	3302.74	-1.014E+00	2.053E-01	1.040E-01	5.682E-03	1.097E-01
.2000	2.721	6.475	1914.78	-3.133E-01	6.473E-01	1.712E-02	9.742E-02	1.145E-01
.4000	5.442	9.196	1348.20	-1.330E-01	5.967E-01	4.383E-03	1.176E-01	1.220E-01
.5000	6.803	10.557	1174.45	-9.161E-02	5.535E-01	2.386E-03	1.161E-01	1.185E-01
.7000	9.524	13.278	933.76	-4.565E-02	4.721E-01	7.452E-04	1.063E-01	1.070E-01
1.0000	13.606	17.360	714.21	-1.578E-02	3.766E-01	1.164E-04	8.839E-02	8.851E-02
1.2000	16.327	20.081	617.43	-6.394E-03	3.283E-01	2.211E-05	7.772E-02	7.775E-02
1.4000	19.048	22.802	543.74	-8.329E-04	2.893E-01	4.261E-07	6.853E-02	6.853E-02
1.6000	21.769	25.524	485.77	2.570E-03	2.573E-01	4.539E-06	6.070E-02	6.070E-02
2.0000	27.212	30.966	400.40	6.010E-03	2.086E-01	3.012E-05	4.838E-02	4.841E-02
3.0000	40.818	44.572	278.17	7.683E-03	1.385E-01	7.086E-05	2.984E-02	2.991E-02
4.0000	54.424	58.178	213.12	7.040E-03	9.815E-02	7.765E-05	2.013E-02	2.020E-02
5.0000	68.030	71.784	172.72	6.131E-03	7.480E-02	7.268E-05	1.442E-02	1.450E-02
7.0000	95.241	98.995	125.24	4.606E-03	4.836E-02	5.657E-05	8.315E-03	8.371E-03

TE VI 16F EO= 1.5142E-01 (RYD) N*= 15.4193 MU= .5807

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.060	6018.30	-2.169E+00	-1.151E+00	2.609E-01	9.794E-02	3.589E-01
.0200	.272	2.332	5316.11	-1.705E+00	-6.427E-01	1.826E-01	3.460E-02	2.172E-01
.0400	.544	2.604	4760.66	-1.372E+00	-3.068E-01	1.321E-01	8.800E-03	1.409E-01
.0600	.816	2.877	4310.30	-1.126E+00	-7.786E-02	9.816E-02	6.262E-04	9.878E-02
.0800	1.088	3.149	3937.79	-9.375E-01	8.148E-02	7.454E-02	7.506E-04	7.529E-02
.1000	1.361	3.421	3624.54	-7.911E-01	1.941E-01	5.765E-02	4.628E-03	6.228E-02
.2000	2.721	4.781	2593.13	-3.884E-01	4.229E-01	1.942E-02	3.071E-02	5.013E-02
.3000	4.082	6.142	2018.69	-2.206E-01	4.522E-01	8.051E-03	4.510E-02	5.315E-02
.4000	5.442	7.503	1652.60	-1.364E-01	4.325E-01	3.761E-03	5.040E-02	5.416E-02
.5000	6.803	8.863	1398.90	-8.901E-02	4.008E-01	1.891E-03	5.114E-02	5.303E-02
.6000	8.164	10.224	1212.73	-6.008E-02	3.680E-01	9.939E-04	4.973E-02	5.072E-02
1.0000	13.606	15.666	791.43	-1.375E-02	2.637E-01	7.982E-05	3.912E-02	3.920E-02
1.2000	16.327	18.387	674.31	-5.740E-03	2.275E-01	1.632E-05	3.417E-02	3.418E-02
1.4000	19.048	21.108	587.38	-1.195E-03	1.987E-01	8.114E-07	2.992E-02	2.992E-02
1.6000	21.769	23.830	520.30	1.488E-03	1.755E-01	1.420E-06	2.635E-02	2.635E-02
2.0000	27.212	29.272	423.57	4.100E-03	1.407E-01	1.325E-05	2.080E-02	2.081E-02
3.0000	40.818	42.878	289.16	5.255E-03	9.053E-02	3.189E-05	1.262E-02	1.265E-02
4.0000	54.424	56.484	219.51	4.745E-03	6.448E-02	3.425E-05	8.434E-03	8.468E-03
5.0000	68.030	70.090	176.90	4.093E-03	4.885E-02	3.162E-05	6.006E-03	6.038E-03

TE VI 20F EO= 9.5477E-02 (RYD) N*= 19.4179 MU= .5821

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.299	9544.39	-3.775E+00	-3.007E+00	4.986E-01	4.218E-01	9.204E-01
.0400	.544	1.843	6726.38	-1.943E+00	-9.841E-01	1.874E-01	6.410E-02	2.515E-01
.0800	1.088	2.388	5193.10	-1.170E+00	-2.560E-01	8.804E-02	5.619E-03	9.366E-02
.1000	1.361	2.660	4661.77	-9.426E-01	-6.823E-02	6.364E-02	4.446E-04	6.409E-02
.2000	2.721	4.020	3084.06	-3.995E-01	2.827E-01	1.728E-02	1.153E-02	2.882E-02
.3000	4.082	5.381	2304.23	-2.098E-01	3.354E-01	6.380E-03	2.173E-02	2.811E-02
.4000	5.442	6.741	1839.17	-1.236E-01	3.262E-01	2.774E-03	2.575E-02	2.853E-02
.5000	6.803	8.102	1530.32	-7.800E-02	3.025E-01	1.328E-03	2.662E-02	2.795E-02
.6000	8.164	9.463	1310.28	-5.144E-02	2.769E-01	6.744E-04	2.605E-02	2.672E-02
1.0000	13.606	14.905	831.85	-1.129E-02	1.954E-01	5.117E-05	2.044E-02	2.049E-02
1.4000	19.048	20.347	609.35	-1.120E-03	1.457E-01	6.873E-07	1.552E-02	1.552E-02
1.6000	21.769	23.069	537.47	9.786E-04	1.282E-01	5.950E-07	1.362E-02	1.362E-02
2.0000	27.212	28.511	434.87	2.985E-03	1.022E-01	6.841E-06	1.070E-02	1.070E-02
3.0000	40.818	42.117	294.39	3.837E-03	6.525E-02	1.670E-05	6.439E-03	6.456E-03
4.0000	54.424	55.723	222.51	3.441E-03	4.626E-02	1.776E-05	4.283E-03	4.301E-03
5.0000	68.030	69.329	178.84	2.956E-03	3.495E-02	1.631E-05	3.040E-03	3.056E-03

I VII 5S EO= 6.2245E+00 (RYD) N*= 2.8057 MU= 2.1943

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	84.689	146.40	.000	1.516E-01	.000	1.223E-01	1.223E-01
1.0000	13.606	98.295	126.14	.000	1.280E-01	.000	1.013E-01	1.013E-01
2.0000	27.212	111.901	110.80	.000	1.100E-01	.000	8.506E-02	8.506E-02
10.0000	136.059	220.749	56.17	.000	4.750E-02	.000	3.130E-02	3.130E-02

I VII 6S EO= 3.3113E+00 (RYD) N*= 3.8468 MU= 2.1532

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	45.053	275.20	.000	2.437E-01	.000	1.681E-01	1.681E-01
1.0000	13.606	58.659	211.37	.000	1.757E-01	.000	1.138E-01	1.138E-01
2.0000	27.212	72.265	171.57	.000	1.343E-01	.000	8.193E-02	8.193E-02
8.0000	108.847	153.901	80.56	.000	4.918E-02	.000	2.340E-02	2.340E-02
16.0000	217.695	262.748	47.19	.000	2.408E-02	.000	9.572E-03	9.572E-03

I VII 8S EO= 1.4231E+00 (RYD) N*= 5.8679 MU= 2.1321

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	19.362	640.36	.000	4.804E-01	.000	2.807E-01	2.807E-01
1.0000	13.606	32.968	376.08	.000	2.363E-01	.000	1.156E-01	1.156E-01
2.0000	27.212	46.574	266.21	.000	1.463E-01	.000	6.265E-02	6.265E-02
8.0000	108.847	128.209	96.71	.000	3.508E-02	.000	9.915E-03	9.915E-03
14.0000	190.483	209.845	59.08	.000	1.769E-02	.000	4.127E-03	4.127E-03

I VII 10S EO= 7.9024E-01 (RYD) N*= 7.8744 MU= 2.1256

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.752	1153.15	.000	7.751E-01	.000	4.059E-01	4.059E-01
1.0000	13.606	24.358	509.02	.000	2.504E-01	.000	9.596E-02	9.596E-02
2.0000	27.212	37.964	326.59	.000	1.326E-01	.000	4.196E-02	4.196E-02
6.0000	81.635	92.387	134.20	.000	3.668E-02	.000	7.812E-03	7.812E-03
12.0000	163.271	174.023	71.25	.000	1.491E-02	.000	2.432E-03	2.432E-03

I VII 12S EO= 5.0225E-01 (RYD) N*= 9.8773 MU= 2.1227

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.834	1814.36	.000	1.123E+00	.000	5.415E-01	5.415E-01
1.0000	13.606	20.440	606.60	.000	2.387E-01	.000	7.320E-02	7.320E-02
4.0000	54.424	61.257	202.40	.000	4.803E-02	.000	8.880E-03	8.880E-03
8.0000	108.847	115.681	107.18	.000	1.908E-02	.000	2.647E-03	2.647E-03

I VII 16S EO= 2.5435E-01 (RYD) N*= 13.8797 MU= 2.1203

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.461	3582.69	.000	1.968E+00	.000	8.421E-01	8.421E-01
.5000	6.803	10.264	1208.01	.000	4.102E-01	.000	1.085E-01	1.085E-01
1.0000	13.606	17.067	726.48	.000	1.940E-01	.000	4.036E-02	4.036E-02
3.0000	40.818	44.278	280.02	.000	4.724E-02	.000	6.209E-03	6.209E-03
8.0000	108.847	112.308	110.40	.000	1.205E-02	.000	1.024E-03	1.024E-03

I VII 20S EO= 1.5326E-01 (RYD) N*= 17.8807 MU= 2.1193

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.085	5945.90	.000	3.001E+00	.000	1.180E+00	1.180E+00
.2000	2.721	4.806	2579.60	.000	8.866E-01	.000	2.374E-01	2.374E-01
.4000	5.442	7.528	1647.09	.000	4.563E-01	.000	9.850E-02	9.850E-02
1.0000	13.606	15.691	790.17	.000	1.529E-01	.000	2.305E-02	2.305E-02
2.0000	27.212	29.297	423.20	.000	6.023E-02	.000	6.678E-03	6.678E-03
5.0000	68.030	70.115	176.83	.000	1.647E-02	.000	1.195E-03	1.195E-03

I VII 5P EO= 5.3400E+00 (RYD) N*= 3.0292 MU= 1.9708

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	72.656	170.65	2.292E-01	5.054E-02	7.994E-02	7.773E-03	8.772E-02
.4000	5.442	78.098	158.76	2.045E-01	5.672E-02	6.841E-02	1.053E-02	7.894E-02
1.0000	13.606	86.262	143.73	1.748E-01	6.193E-02	5.522E-02	1.386E-02	6.909E-02
4.0000	54.424	127.080	97.57	9.508E-02	6.110E-02	2.407E-02	1.988E-02	4.394E-02
5.0000	68.030	140.686	88.13	8.108E-02	5.809E-02	1.937E-02	1.989E-02	3.926E-02
6.0000	81.635	154.292	80.36	7.018E-02	5.495E-02	1.592E-02	1.952E-02	3.543E-02
9.0000	122.453	195.109	63.55	4.865E-02	4.628E-02	9.675E-03	1.751E-02	2.718E-02

I VII 6P EO= 2.9501E+00 (RYD) N*= 4.0755 MU= 1.9245

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	40.139	308.89	4.038E-01	2.010E-02	1.371E-01	6.792E-04	1.378E-01
.4000	5.442	45.581	272.01	3.283E-01	4.087E-02	1.029E-01	3.190E-03	1.061E-01
.8000	10.885	51.024	243.00	2.732E-01	5.200E-02	7.977E-02	5.781E-03	8.555E-02
1.0000	13.606	53.745	230.69	2.510E-01	5.538E-02	7.095E-02	6.905E-03	7.786E-02
2.0000	27.212	67.351	184.09	1.739E-01	6.118E-02	4.268E-02	1.056E-02	5.324E-02
3.0000	40.818	80.957	153.15	1.290E-01	5.924E-02	2.823E-02	1.190E-02	4.013E-02
4.0000	54.424	94.563	131.12	1.003E-01	5.524E-02	1.994E-02	1.209E-02	3.203E-02
5.0000	68.030	108.168	114.62	8.076E-02	5.093E-02	1.478E-02	1.175E-02	2.653E-02
7.0000	95.241	135.380	91.58	5.629E-02	4.315E-02	8.987E-03	1.056E-02	1.955E-02
8.0000	108.847	148.986	83.22	4.829E-02	3.987E-02	7.277E-03	9.920E-03	1.720E-02

I VII 8P EO= 1.3163E+00 (RYD) N*= 6.1013 MU= 1.8987

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	17.909	692.30	8.915E-01	-9.852E-02	2.982E-01	7.282E-03	3.055E-01
.2000	2.721	20.630	600.99	7.053E-01	-3.860E-02	2.150E-01	1.288E-03	2.163E-01
.4000	5.442	23.352	530.95	5.744E-01	-3.077E-03	1.614E-01	9.264E-06	1.614E-01
.5000	6.803	24.712	501.72	5.229E-01	9.098E-03	1.415E-01	8.569E-05	1.416E-01
.6000	8.164	26.073	475.54	4.784E-01	1.869E-02	1.250E-01	3.815E-04	1.254E-01
.8000	10.885	28.794	430.60	4.057E-01	3.228E-02	9.926E-02	1.257E-03	1.005E-01
1.0000	13.606	31.515	393.42	3.492E-01	4.080E-02	8.049E-02	2.198E-03	8.268E-02
2.0000	27.212	45.121	274.79	1.924E-01	5.196E-02	3.497E-02	5.104E-03	4.008E-02
3.0000	40.818	58.727	211.12	1.242E-01	4.831E-02	1.898E-02	5.742E-03	2.472E-02
4.0000	54.424	72.333	171.41	8.797E-02	4.287E-02	1.173E-02	5.569E-03	1.729E-02
5.0000	68.030	85.939	144.27	6.619E-02	3.786E-02	7.886E-03	5.160E-03	1.305E-02

I VII 10P EO= 7.4507E-01 (RYD) N*= 8.1096 MU= 1.8904

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	10.137	1223.06	1.550E+00	-2.957E-01	5.101E-01	3.713E-02	5.472E-01
.2000	2.721	12.859	964.23	1.044E+00	-1.250E-01	2.934E-01	8.414E-03	3.018E-01
.4000	5.442	15.580	795.82	7.579E-01	-4.588E-02	1.874E-01	1.374E-03	1.888E-01
.5000	6.803	16.940	731.90	6.591E-01	-2.246E-02	1.541E-01	3.579E-04	1.545E-01
.6000	8.164	18.301	677.49	5.793E-01	-5.370E-03	1.286E-01	2.211E-05	1.287E-01
.7000	9.524	19.662	630.60	5.139E-01	7.250E-03	1.088E-01	4.329E-05	1.088E-01
.8000	10.885	21.022	589.79	4.595E-01	1.665E-02	9.299E-02	2.443E-04	9.323E-02
1.0000	13.606	23.743	522.20	3.749E-01	2.900E-02	6.991E-02	8.364E-04	7.074E-02
2.0000	27.212	37.349	331.97	1.757E-01	4.234E-02	2.414E-02	2.805E-03	2.695E-02
3.0000	40.818	50.955	243.32	1.045E-01	3.808E-02	1.165E-02	3.095E-03	1.475E-02
4.0000	54.424	64.561	192.05	7.039E-02	3.276E-02	6.701E-03	2.902E-03	9.604E-03
8.0000	108.847	118.985	104.20	2.557E-02	1.937E-02	1.630E-03	1.870E-03	3.501E-03

I VII 12P EO= 4.7908E-01 (RYD) N*= 10.1134 MU= 1.8866

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.518	1902.13	2.370E+00	-5.679E-01	7.670E-01	8.808E-02	8.550E-01
.2000	2.721	9.239	1341.92	1.325E+00	-2.056E-01	3.399E-01	1.636E-02	3.562E-01
.4000	5.442	11.961	1036.62	8.609E-01	-7.646E-02	1.857E-01	2.929E-03	1.886E-01
.6000	8.164	14.682	844.49	6.109E-01	-2.026E-02	1.148E-01	2.524E-04	1.150E-01
.7000	9.524	16.042	772.86	5.266E-01	-4.301E-03	9.318E-02	1.243E-05	9.319E-02
.8000	10.885	17.403	712.44	4.594E-01	7.033E-03	7.694E-02	3.607E-05	7.697E-02
.9000	12.245	18.764	660.78	4.049E-01	1.518E-02	6.444E-02	1.811E-04	6.462E-02
1.0000	13.606	20.124	616.11	3.600E-01	2.107E-02	5.464E-02	3.744E-04	5.502E-02
2.0000	27.212	33.730	367.58	1.512E-01	3.441E-02	1.616E-02	1.673E-03	1.783E-02
3.0000	40.818	47.336	261.93	8.563E-02	3.024E-02	7.270E-03	1.813E-03	9.083E-03
4.0000	54.424	60.942	203.45	5.608E-02	2.553E-02	4.015E-03	1.664E-03	5.679E-03
8.0000	108.847	115.366	107.47	1.942E-02	1.455E-02	9.112E-04	1.023E-03	1.935E-03

I VII 16P EO= 2.4589E-01 (RYD) N*= 14.1166 MU= 1.8834

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.346	3706.04	4.473E+00	-1.327E+00	1.402E+00	2.466E-01	1.649E+00
.2000	2.721	6.067	2043.72	1.656E+00	-3.146E-01	3.486E-01	2.515E-02	3.737E-01
.4000	5.442	8.788	1410.88	8.903E-01	-1.022E-01	1.459E-01	3.849E-03	1.498E-01
.6000	8.164	11.509	1077.29	5.661E-01	-3.086E-02	7.725E-02	4.592E-04	7.771E-02
.7000	9.524	12.870	963.40	4.692E-01	-1.310E-02	5.934E-02	9.254E-05	5.943E-02
.8000	10.885	14.230	871.29	3.962E-01	-1.244E-03	4.679E-02	9.223E-07	4.680E-02
.9000	12.245	15.591	795.25	3.398E-01	6.834E-03	3.771E-02	3.051E-05	3.774E-02
1.0000	13.606	16.951	731.42	2.952E-01	1.242E-02	3.093E-02	1.096E-04	3.104E-02
2.0000	27.212	30.557	405.75	1.094E-01	2.360E-02	7.657E-03	7.133E-04	8.370E-03
3.0000	40.818	44.163	280.75	5.882E-02	2.019E-02	3.201E-03	7.543E-04	3.955E-03
4.0000	54.424	57.769	214.62	3.746E-02	1.672E-02	1.698E-03	6.766E-04	2.374E-03
6.0000	81.635	84.981	145.90	1.964E-02	1.200E-02	6.867E-04	5.126E-04	1.199E-03

I VII 20P EO= 1.4927E-01 (RYD) N*= 18.1179 MU= 1.8821

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.031	6104.73	7.165E+00	-2.357E+00	2.184E+00	4.729E-01	2.657E+00
.1000	1.361	3.392	3655.71	3.045E+00	-7.847E-01	6.587E-01	8.748E-02	7.462E-01
.2000	2.721	4.752	2609.05	1.732E+00	-3.557E-01	2.985E-01	2.519E-02	3.237E-01
.4000	5.442	7.473	1659.05	8.103E-01	-1.019E-01	1.028E-01	3.253E-03	1.060E-01
.5000	6.803	8.834	1403.52	6.118E-01	-5.690E-02	6.926E-02	1.198E-03	7.046E-02
.6000	8.164	10.195	1216.20	4.808E-01	-3.044E-02	4.937E-02	3.957E-04	4.976E-02
.7000	9.524	11.555	1073.00	3.894E-01	-1.403E-02	3.670E-02	9.527E-05	3.680E-02
.8000	10.885	12.916	959.96	3.228E-01	-3.454E-03	2.820E-02	6.457E-06	2.820E-02
.9000	12.245	14.276	868.48	2.727E-01	3.552E-03	2.224E-02	7.545E-06	2.225E-02
1.0000	13.606	15.637	792.91	2.339E-01	8.272E-03	1.792E-02	4.482E-05	1.797E-02
2.0000	27.212	29.243	423.99	8.136E-02	1.716E-02	4.055E-03	3.606E-04	4.415E-03
3.0000	40.818	42.849	289.36	4.271E-02	1.449E-02	1.638E-03	3.768E-04	2.014E-03
4.0000	54.424	56.455	219.62	2.686E-02	1.189E-02	8.532E-04	3.343E-04	1.187E-03
6.0000	81.635	83.666	148.19	1.390E-02	8.450E-03	3.385E-04	2.503E-04	5.888E-04

I VII 5D EO= 3.9541E+00 (RYD) N*= 3.5202 MU= 1.4798

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	53.799	230.46	2.172E-01	-2.757E-01	6.382E-02	1.541E-01	2.180E-01
.5000	6.803	60.602	204.59	1.802E-01	-1.795E-01	4.949E-02	7.366E-02	1.231E-01
1.0000	13.606	67.405	183.94	1.526E-01	-1.143E-01	3.946E-02	3.322E-02	7.269E-02
2.0000	27.212	81.011	153.05	1.146E-01	-3.657E-02	2.673E-02	4.085E-03	3.081E-02
2.4000	32.654	86.454	143.41	1.035E-01	-1.730E-02	2.329E-02	9.757E-04	2.427E-02
2.6000	35.375	89.175	139.04	9.865E-02	-9.346E-03	2.182E-02	2.937E-04	2.211E-02
2.8000	38.097	91.896	134.92	9.414E-02	-2.318E-03	2.047E-02	1.863E-05	2.049E-02
3.0000	40.818	94.617	131.04	8.997E-02	3.898E-03	1.925E-02	5.420E-05	1.930E-02
4.0000	54.424	108.223	114.57	7.300E-02	2.586E-02	1.450E-02	2.730E-03	1.723E-02
6.0000	81.635	135.435	91.55	5.150E-02	4.447E-02	9.030E-03	1.010E-02	1.913E-02
11.0000	149.665	203.464	60.94	2.730E-02	4.743E-02	3.812E-03	1.726E-02	2.107E-02
12.0000	163.271	217.070	57.12	2.467E-02	4.609E-02	3.320E-03	1.739E-02	2.071E-02
13.0000	176.877	230.676	53.75	2.242E-02	4.461E-02	2.915E-03	1.731E-02	2.022E-02

I VII 6D EO= 2.3561E+00 (RYD) N*= 4.5604 MU= 1.4396

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	32.057	386.77	3.569E-01	-5.272E-01	1.026E-01	3.359E-01	4.385E-01
.5000	6.803	38.860	319.06	2.618E-01	-3.142E-01	6.695E-02	1.446E-01	2.116E-01
1.0000	13.606	45.663	271.53	2.021E-01	-1.918E-01	4.687E-02	6.333E-02	1.102E-01
2.0000	27.212	59.269	209.19	1.331E-01	-6.819E-02	2.640E-02	1.039E-02	3.679E-02
2.2000	29.933	61.990	200.01	1.239E-01	-5.375E-02	2.392E-02	6.752E-03	3.067E-02
2.8000	38.097	70.153	176.74	1.017E-01	-2.169E-02	1.824E-02	1.244E-03	1.948E-02
3.0000	40.818	72.875	170.14	9.571E-02	-1.381E-02	1.678E-02	5.238E-04	1.731E-02
4.0000	54.424	86.480	143.37	7.287E-02	1.249E-02	1.154E-02	5.090E-04	1.205E-02
6.0000	81.635	113.692	109.05	4.716E-02	3.250E-02	6.355E-03	4.527E-03	1.088E-02
11.0000	149.665	181.722	68.23	2.239E-02	3.543E-02	2.289E-03	8.601E-03	1.089E-02
12.0000	163.271	195.328	63.48	1.996E-02	3.428E-02	1.956E-03	8.654E-03	1.061E-02
13.0000	176.877	208.934	59.34	1.793E-02	3.303E-02	1.688E-03	8.593E-03	1.028E-02

I VII 8D EO= 1.1301E+00 (RYD) N*= 6.5849 MU= 1.4151

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	15.375	806.39	7.262E-01	-1.178E+00	2.038E-01	8.041E-01	1.008E+00
.5000	6.803	22.178	559.04	3.987E-01	-5.348E-01	8.864E-02	2.392E-01	3.278E-01
1.0000	13.606	28.981	427.81	2.577E-01	-2.802E-01	4.836E-02	8.579E-02	1.341E-01
2.0000	27.212	42.587	291.13	1.376E-01	-8.913E-02	2.027E-02	1.276E-02	3.303E-02
3.0000	40.818	56.193	220.64	8.766E-02	-2.439E-02	1.085E-02	1.261E-03	1.211E-02
3.2000	43.539	58.914	210.45	8.117E-02	-1.714E-02	9.758E-03	6.525E-04	1.041E-02
3.6000	48.981	64.357	192.65	7.032E-02	-5.814E-03	8.000E-03	8.202E-05	8.082E-03
3.8000	51.702	67.078	184.84	6.575E-02	-1.391E-03	7.289E-03	4.891E-06	7.294E-03
4.0000	54.424	69.799	177.63	6.164E-02	2.384E-03	6.666E-03	1.496E-05	6.681E-03
6.0000	81.635	97.011	127.81	3.616E-02	2.023E-02	3.189E-03	1.497E-03	4.686E-03
11.0000	149.665	165.041	75.12	1.534E-02	2.246E-02	9.763E-04	3.139E-03	4.115E-03
12.0000	163.271	178.646	69.40	1.350E-02	2.162E-02	8.187E-04	3.149E-03	3.968E-03
13.0000	176.877	192.252	64.49	1.200E-02	2.073E-02	6.955E-04	3.116E-03	3.812E-03

I VII 10D EO= 6.6357E-01 (RYD) N*= 8.5932 MU= 1.4068

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.028	1373.29	1.203E+00	-2.013E+00	3.282E-01	1.379E+00	1.708E+00
.2000	2.721	11.750	1055.24	7.797E-01	-1.214E+00	1.796E-01	6.533E-01	8.329E-01
.6000	8.164	17.192	721.19	4.175E-01	-5.583E-01	7.531E-02	2.020E-01	2.773E-01
1.0000	13.606	22.634	547.78	2.659E-01	-3.019E-01	4.023E-02	7.776E-02	1.180E-01
2.0000	27.212	36.240	342.12	1.229E-01	-8.545E-02	1.376E-02	9.977E-03	2.374E-02
3.0000	40.818	49.846	248.74	7.293E-02	-2.379E-02	6.664E-03	1.063E-03	7.727E-03
3.8000	51.702	60.731	204.16	5.279E-02	-3.658E-03	4.255E-03	3.064E-05	4.285E-03
4.0000	54.424	63.452	195.40	4.914E-02	-4.669E-04	3.852E-03	5.215E-07	3.853E-03
4.2000	57.145	66.173	187.37	4.589E-02	2.234E-03	3.502E-03	1.245E-05	3.515E-03
4.6000	62.587	71.616	173.13	4.033E-02	6.476E-03	2.928E-03	1.132E-04	3.041E-03
6.0000	81.635	90.664	136.75	2.745E-02	1.404E-02	1.718E-03	6.739E-04	2.392E-03
8.0000	108.847	117.876	105.18	1.792E-02	1.661E-02	9.510E-04	1.226E-03	2.177E-03
11.0000	149.665	158.693	78.13	1.106E-02	1.570E-02	4.881E-04	1.474E-03	1.962E-03
12.0000	163.271	172.299	71.96	9.682E-03	1.508E-02	4.060E-04	1.477E-03	1.883E-03
13.0000	176.877	185.905	66.69	8.560E-03	1.443E-02	3.424E-04	1.459E-03	1.801E-03

I VII 12D EO= 4.3633E-01 (RYD) N*= 10.5971 MU= 1.4029

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.937	2088.46	1.778E+00	-3.021E+00	4.717E-01	2.043E+00	2.515E+00
.2000	2.721	8.658	1432.06	9.551E-01	-1.511E+00	1.985E-01	7.453E-01	9.438E-01
.6000	8.164	14.100	879.32	4.284E-01	-5.827E-01	6.506E-02	1.805E-01	2.456E-01
1.0000	13.606	19.543	634.44	2.506E-01	-2.900E-01	3.085E-02	6.195E-02	9.280E-02
2.0000	27.212	33.149	374.03	1.051E-01	-7.541E-02	9.212E-03	7.107E-03	1.632E-02
3.0000	40.818	46.754	265.19	5.976E-02	-2.084E-02	4.197E-03	7.654E-04	4.962E-03
4.0000	54.424	60.360	205.41	3.929E-02	-1.271E-03	2.342E-03	3.678E-06	2.346E-03
4.2000	57.145	63.082	196.55	3.656E-02	9.408E-04	2.119E-03	2.105E-06	2.121E-03
4.4000	59.866	65.803	188.42	3.411E-02	2.809E-03	1.925E-03	1.958E-05	1.944E-03
6.0000	81.635	87.572	141.58	2.137E-02	1.044E-02	1.005E-03	3.596E-04	1.365E-03
8.0000	108.847	114.784	108.02	1.374E-02	1.243E-02	5.449E-04	6.683E-04	1.213E-03
11.0000	149.665	155.602	79.68	8.378E-03	1.171E-02	2.745E-04	8.040E-04	1.079E-03
12.0000	163.271	169.208	73.27	7.312E-03	1.123E-02	2.274E-04	8.046E-04	1.032E-03
13.0000	176.877	182.814	67.82	6.449E-03	1.073E-02	1.911E-04	7.940E-04	9.852E-04

I VII 16D EO= 2.2986E-01 (RYD) N*= 14.6006 MU= 1.3994

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.127	3964.52	3.205E+00	-5.528E+00	8.077E-01	3.603E+00	4.411E+00
.2000	2.721	5.849	2119.94	1.143E+00	-1.834E+00	1.920E-01	7.419E-01	9.339E-01
.4000	5.442	8.570	1446.79	6.096E-01	-9.080E-01	8.005E-02	2.664E-01	3.464E-01
.8000	10.885	14.012	884.85	2.715E-01	-3.463E-01	2.596E-02	6.336E-02	8.933E-02
1.0000	13.606	16.733	740.96	2.027E-01	-2.384E-01	1.729E-02	3.587E-02	5.315E-02
2.0000	27.212	30.339	408.67	7.607E-02	-5.602E-02	4.413E-03	3.590E-03	8.003E-03
3.0000	40.818	43.945	282.14	4.132E-02	-1.523E-02	1.886E-03	3.844E-04	2.270E-03
4.0000	54.424	57.551	215.44	2.650E-02	-1.396E-03	1.016E-03	4.231E-06	1.020E-03
4.2000	57.145	60.272	205.71	2.456E-02	1.290E-04	9.140E-04	3.784E-08	9.140E-04
4.4000	59.866	62.993	196.82	2.284E-02	1.411E-03	8.263E-04	4.728E-06	8.310E-04
4.6000	62.587	65.715	188.67	2.131E-02	2.493E-03	7.503E-04	1.539E-05	7.657E-04
6.0000	81.635	84.763	146.27	1.403E-02	6.561E-03	4.196E-04	1.376E-04	5.571E-04
10.0000	136.059	139.187	89.08	6.239E-03	7.654E-03	1.362E-04	3.075E-04	4.436E-04
11.0000	149.665	152.792	81.15	5.360E-03	7.384E-03	1.103E-04	3.141E-04	4.245E-04
12.0000	163.271	166.398	74.51	4.665E-03	7.072E-03	9.102E-05	3.138E-04	4.048E-04

I VII 20D EO= 1.4160E-01 (RYD) N*= 18.6020 MU= 1.3980

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.927	6435.34	4.981E+00	-8.652E+00	1.201E+00	5.438E+00	6.640E+00
.1000	1.361	3.287	3771.75	2.064E+00	-3.462E+00	3.520E-01	1.485E+00	1.837E+00
.2000	2.721	4.648	2667.62	1.167E+00	-1.886E+00	1.592E-01	6.236E-01	7.828E-01
.4000	5.442	7.369	1682.54	5.470E-01	-8.197E-01	5.543E-02	1.867E-01	2.421E-01
.8000	10.885	12.811	967.78	2.202E-01	-2.826E-01	1.561E-02	3.857E-02	5.418E-02
1.0000	13.606	15.533	798.23	1.603E-01	-1.898E-01	1.004E-02	2.110E-02	3.113E-02
2.0000	27.212	29.138	425.51	5.682E-02	-4.230E-02	2.365E-03	1.966E-03	4.330E-03
3.0000	40.818	42.744	290.06	3.021E-02	-1.139E-02	9.803E-04	2.089E-04	1.189E-03
4.0000	54.424	56.350	220.03	1.915E-02	-1.178E-03	5.195E-04	2.947E-06	5.225E-04
4.2000	57.145	59.071	209.89	1.772E-02	-6.122E-05	4.662E-04	8.349E-09	4.662E-04
4.4000	59.866	61.793	200.65	1.646E-02	8.723E-04	4.206E-04	1.773E-06	4.224E-04
6.0000	81.635	83.562	148.38	1.002E-02	4.595E-03	2.109E-04	6.652E-05	2.774E-04
8.0000	108.847	110.774	111.93	6.313E-03	5.524E-03	1.110E-04	1.274E-04	2.384E-04
10.0000	136.059	137.986	89.85	4.409E-03	5.372E-03	6.741E-05	1.501E-04	2.176E-04
11.0000	149.665	151.592	81.79	3.784E-03	5.179E-03	5.455E-05	1.533E-04	2.078E-04
12.0000	163.271	165.198	75.05	3.288E-03	4.958E-03	4.489E-05	1.531E-04	1.980E-04

I VII 4F EO= 4.0018E+00 (RYD) N*= 3.4992 MU= .5008

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	54.448	227.71	2.681E-02	9.081E-01	1.054E-03	1.612E+00	1.613E+00
1.0000	13.606	68.054	182.19	2.873E-02	6.673E-01	1.513E-03	1.088E+00	1.090E+00
2.0000	27.212	81.660	151.83	2.774E-02	5.166E-01	1.693E-03	7.824E-01	7.841E-01
3.0000	40.818	95.266	130.15	2.582E-02	4.145E-01	1.711E-03	5.877E-01	5.894E-01
4.0000	54.424	108.872	113.88	2.369E-02	3.414E-01	1.646E-03	4.556E-01	4.573E-01
10.0000	136.059	190.507	65.08	1.380E-02	1.434E-01	9.777E-04	1.406E-01	1.416E-01

I VII 5F EO= 2.4914E+00 (RYD) N*= 4.4348 MU= .5652

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	33.898	365.77	3.551E-02	8.741E-01	1.151E-03	9.300E-01	9.312E-01
1.0000	13.606	47.503	261.00	3.561E-02	6.168E-01	1.623E-03	6.490E-01	6.506E-01
2.0000	27.212	61.109	202.89	3.167E-02	4.582E-01	1.650E-03	4.608E-01	4.624E-01
3.0000	40.818	74.715	165.95	2.754E-02	3.556E-01	1.526E-03	3.393E-01	3.408E-01
8.0000	108.847	142.745	86.86	1.453E-02	1.441E-01	8.117E-04	1.064E-01	1.072E-01
10.0000	136.059	169.957	72.95	1.176E-02	1.101E-01	6.326E-04	7.398E-02	7.461E-02

I VII 6F EO= 1.6696E+00 (RYD) N*= 5.4175 MU= .5825

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	22.716	545.81	4.398E-02	8.299E-01	1.182E-03	5.619E-01	5.630E-01
1.0000	13.606	36.322	341.36	4.116E-02	5.690E-01	1.657E-03	4.223E-01	4.239E-01
2.0000	27.212	49.928	248.33	3.367E-02	4.059E-01	1.525E-03	2.953E-01	2.969E-01
3.0000	40.818	63.534	195.15	2.753E-02	3.054E-01	1.297E-03	2.128E-01	2.141E-01
5.0000	68.030	90.745	136.63	1.929E-02	1.933E-01	9.093E-04	1.218E-01	1.227E-01
6.0000	81.635	104.351	118.82	1.652E-02	1.598E-01	7.665E-04	9.573E-02	9.650E-02
10.0000	136.059	158.775	78.09	9.874E-03	8.664E-02	4.169E-04	4.280E-02	4.322E-02

I VII 8F EO= 8.9338E-01 (RYD) N*= 7.4059 MU= .5941

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	12.155	1020.02	4.422E-02	6.742E-01	6.400E-04	1.984E-01	1.990E-01
.2000	2.721	14.876	833.44	5.085E-02	6.854E-01	1.036E-03	2.365E-01	2.375E-01
.3000	4.082	16.237	763.60	5.166E-02	6.457E-01	1.167E-03	2.431E-01	2.442E-01
.4000	5.442	17.598	704.56	5.158E-02	6.221E-01	1.261E-03	2.446E-01	2.459E-01
.5000	6.803	18.958	654.00	5.095E-02	5.970E-01	1.325E-03	2.427E-01	2.440E-01
.7000	9.524	21.679	571.91	4.877E-02	5.467E-01	1.388E-03	2.327E-01	2.340E-01
.8000	10.885	23.040	538.13	4.744E-02	5.226E-01	1.397E-03	2.260E-01	2.274E-01
1.0000	13.606	25.761	481.29	4.465E-02	4.778E-01	1.383E-03	2.112E-01	2.125E-01
2.0000	27.212	39.367	314.95	3.239E-02	3.184E-01	1.112E-03	1.433E-01	1.444E-01
4.0000	54.424	66.579	186.22	1.906E-02	1.736E-01	6.517E-04	7.208E-02	7.273E-02
10.0000	136.059	148.214	83.65	7.080E-03	5.807E-02	2.001E-04	1.795E-02	1.815E-02

I VII 10F EO= 5.5433E-01 (RYD) N*= 9.4019 MU= .5981

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.542	1643.91	1.052E-02	4.131E-01	2.246E-05	4.622E-02	4.624E-02
.1000	1.361	8.903	1392.67	3.097E-02	5.074E-01	2.300E-04	8.231E-02	8.254E-02
.2000	2.721	10.263	1208.05	4.120E-02	5.382E-01	4.691E-04	1.067E-01	1.072E-01
.5000	6.803	14.345	864.31	4.832E-02	5.069E-01	9.019E-04	1.324E-01	1.333E-01
.6000	8.164	15.706	789.43	4.769E-02	4.848E-01	9.618E-04	1.325E-01	1.335E-01
.7000	9.524	17.066	726.50	4.653E-02	4.619E-01	9.951E-04	1.307E-01	1.317E-01
.8000	10.885	18.427	672.85	4.509E-02	4.393E-01	1.009E-03	1.277E-01	1.287E-01
1.0000	13.606	21.148	586.28	4.189E-02	3.971E-01	9.992E-04	1.197E-01	1.207E-01
2.0000	27.212	34.754	356.75	2.828E-02	2.520E-01	7.486E-04	7.923E-02	7.998E-02
6.0000	81.635	89.178	139.03	9.901E-03	8.221E-02	2.355E-04	2.164E-02	2.188E-02
10.0000	136.059	143.601	86.34	5.282E-03	4.199E-02	1.079E-04	9.091E-03	9.198E-03
12.0000	163.271	170.813	72.59	4.139E-03	3.222E-02	7.879E-05	6.368E-03	6.447E-03

I VII 12F EO= 3.7705E-01 (RYD) N*= 11.3999 MU= .6001

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	5.130	2416.87	-6.335E-02	4.824E-02	5.544E-04	4.287E-04	9.832E-04
.1000	1.361	6.491	1910.23	-3.935E-03	3.175E-01	2.706E-06	2.350E-02	2.350E-02
.2000	2.721	7.851	1579.20	2.242E-02	4.132E-01	1.063E-04	4.814E-02	4.825E-02
.5000	6.803	11.933	1039.02	4.198E-02	4.282E-01	5.664E-04	7.856E-02	7.912E-02
.6000	8.164	13.294	932.68	4.218E-02	4.099E-01	6.371E-04	8.020E-02	8.083E-02
.7000	9.524	14.654	846.08	4.146E-02	3.897E-01	6.784E-04	7.993E-02	8.061E-02
.8000	10.885	16.015	774.20	4.023E-02	3.694E-01	6.980E-04	7.848E-02	7.917E-02
.9000	12.245	17.375	713.58	3.875E-02	3.497E-01	7.028E-04	7.631E-02	7.702E-02
1.0000	13.606	18.736	661.76	3.718E-02	3.311E-01	6.976E-04	7.375E-02	7.445E-02
2.0000	27.212	32.342	383.36	2.404E-02	2.030E-01	5.035E-04	4.786E-02	4.836E-02

I VII 16F EO= 2.0666E-01 (RYD) N*= 15.3981 MU= .6019

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.812	4409.47	-3.415E-01	-9.784E-01	8.832E-03	9.665E-02	1.055E-01
.0500	.680	3.492	3550.46	-1.815E-01	-3.529E-01	3.097E-03	1.562E-02	1.872E-02
.1000	1.361	4.172	2971.58	-9.678E-02	-4.306E-02	1.052E-03	2.777E-04	1.330E-03
.2000	2.721	5.533	2240.85	-1.894E-02	2.140E-01	5.344E-05	9.100E-03	9.153E-03
.3000	4.082	6.894	1798.57	1.121E-02	2.937E-01	2.334E-05	2.135E-02	2.138E-02
.4000	5.442	8.254	1502.10	2.391E-02	3.136E-01	1.270E-04	2.914E-02	2.927E-02
.6000	8.164	10.975	1129.68	3.102E-02	2.987E-01	2.844E-04	3.517E-02	3.546E-02
.7000	9.524	12.336	1005.08	3.118E-02	2.836E-01	3.230E-04	3.563E-02	3.595E-02
.8000	10.885	13.697	905.24	3.052E-02	2.677E-01	3.435E-04	3.524E-02	3.558E-02
.9000	12.245	15.057	823.44	2.944E-02	2.521E-01	3.514E-04	3.436E-02	3.471E-02
1.0000	13.606	16.418	755.20	2.822E-02	2.373E-01	3.521E-04	3.321E-02	3.356E-02
2.0000	27.212	30.024	412.96	1.743E-02	1.396E-01	2.457E-04	2.101E-02	2.126E-02
3.0000	40.818	43.630	284.18	1.176E-02	9.356E-02	1.624E-04	1.372E-02	1.388E-02
4.0000	54.424	57.235	216.62	8.581E-03	6.809E-02	1.135E-04	9.530E-03	9.643E-03
5.0000	68.030	70.841	175.02	6.608E-03	5.227E-02	8.332E-05	6.951E-03	7.034E-03

I VII 20F EO= 1.3023E-01 (RYD) N*= 19.3974 MU= .6026

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	1.772	6997.39	-7.999E-01	-2.382E+00	3.053E-02	3.609E-01	3.915E-01
.0500	.680	2.452	5056.15	-3.643E-01	-8.959E-01	8.766E-03	7.067E-02	7.944E-02
.1000	1.361	3.132	3958.08	-1.841E-01	-3.151E-01	2.860E-03	1.117E-02	1.403E-02
.2000	2.721	4.493	2759.50	-4.835E-02	8.970E-02	2.829E-04	1.298E-03	1.581E-03
.3000	4.082	5.854	2118.10	-3.903E-03	2.015E-01	2.401E-06	8.532E-03	8.534E-03
.4000	5.442	7.214	1718.63	1.330E-02	2.317E-01	3.435E-05	1.390E-02	1.394E-02
.5000	6.803	8.575	1445.93	2.030E-02	2.340E-01	9.516E-05	1.686E-02	1.696E-02
.6000	8.164	9.935	1247.92	2.297E-02	2.261E-01	1.412E-04	1.824E-02	1.838E-02
.7000	9.524	11.296	1097.61	2.363E-02	2.145E-01	1.699E-04	1.867E-02	1.884E-02
.8000	10.885	12.657	979.62	2.334E-02	2.020E-01	1.856E-04	1.855E-02	1.874E-02
.9000	12.245	14.017	884.53	2.260E-02	1.897E-01	1.928E-04	1.811E-02	1.831E-02
1.0000	13.606	15.378	806.27	2.165E-02	1.780E-01	1.941E-04	1.750E-02	1.770E-02
2.0000	27.212	28.984	427.78	1.311E-02	1.024E-01	1.342E-04	1.092E-02	1.105E-02
3.0000	40.818	42.590	291.12	8.707E-03	6.792E-02	8.696E-05	7.055E-03	7.142E-03
6.0000	81.635	83.407	148.65	3.831E-03	2.986E-02	3.297E-05	2.670E-03	2.703E-03

XE VIII 5S EO= 7.5611E+00 (RYD) N*= 2.9094 MU= 2.0906

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	102.875	120.52	.000	1.322E-01	.000	1.130E-01	1.130E-01
1.0000	13.606	116.481	106.44	.000	1.143E-01	.000	9.569E-02	9.569E-02
8.0000	108.847	211.722	58.56	.000	5.466E-02	.000	3.975E-02	3.975E-02

XE VIII 6S EO= 4.1025E+00 (RYD) N*= 3.9497 MU= 2.0503

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	55.819	222.12	.000	2.096E-01	.000	1.541E-01	1.541E-01
1.0000	13.606	69.425	178.59	.000	1.590E-01	.000	1.103E-01	1.103E-01
2.0000	27.212	83.030	149.33	.000	1.260E-01	.000	8.278E-02	8.278E-02
8.0000	108.847	164.666	75.30	.000	5.038E-02	.000	2.627E-02	2.627E-02
18.0000	244.906	300.725	41.23	.000	2.239E-02	.000	9.472E-03	9.472E-03

XE VIII 8S EO= 1.7951E+00 (RYD) N*= 5.9711 MU= 2.0289

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	24.423	507.65	.000	4.091E-01	.000	2.569E-01	2.569E-01
1.0000	13.606	38.029	326.03	.000	2.246E-01	.000	1.206E-01	1.206E-01
2.0000	27.212	51.635	240.12	.000	1.466E-01	.000	6.969E-02	6.969E-02
6.0000	81.635	106.059	116.90	.000	5.276E-02	.000	1.855E-02	1.855E-02
10.0000	136.059	160.483	77.26	.000	2.935E-02	.000	8.689E-03	8.689E-03
18.0000	244.906	269.330	46.04	.000	1.427E-02	.000	3.444E-03	3.444E-03

XE VIII 10S EO= 1.0056E+00 (RYD) N*= 7.9777 MU= 2.0223

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	13.682	906.19	.000	6.585E-01	.000	3.728E-01	3.728E-01
1.0000	13.606	27.288	454.36	.000	2.506E-01	.000	1.077E-01	1.077E-01
2.0000	27.212	40.894	303.19	.000	1.399E-01	.000	5.030E-02	5.030E-02
8.0000	108.847	122.530	101.19	.000	2.842E-02	.000	6.220E-03	6.220E-03

XE VIII 12S EO= 6.4249E-01 (RYD) N*= 9.9806 MU= 2.0194

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.742	1418.34	.000	9.536E-01	.000	4.995E-01	4.995E-01
1.0000	13.606	22.348	554.81	.000	2.492E-01	.000	8.723E-02	8.723E-02
2.0000	27.212	35.953	344.85	.000	1.241E-01	.000	3.482E-02	3.482E-02
6.0000	81.635	90.377	137.19	.000	3.196E-02	.000	5.800E-03	5.800E-03

XE VIII 16S EO= 3.2732E-01 (RYD) N*= 13.9831 MU= 2.0169

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.453	2784.04	.000	1.672E+00	.000	7.825E-01	7.825E-01
.5000	6.803	11.256	1101.47	.000	4.324E-01	.000	1.323E-01	1.323E-01
1.0000	13.606	18.059	686.55	.000	2.144E-01	.000	5.219E-02	5.219E-02
3.0000	40.818	45.271	273.87	.000	5.442E-02	.000	8.424E-03	8.424E-03
5.0000	68.030	72.483	171.06	.000	2.701E-02	.000	3.322E-03	3.322E-03

XE VIII 20S EO= 1.9788E-01 (RYD) N*= 17.9842 MU= 2.0158

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.692	4605.18	.000	2.553E+00	.000	1.103E+00	1.103E+00
.5000	6.803	9.495	1305.77	.000	3.931E-01	.000	9.220E-02	9.220E-02
1.0000	13.606	16.298	760.73	.000	1.747E-01	.000	3.125E-02	3.125E-02
2.0000	27.212	29.904	414.61	.000	7.013E-02	.000	9.242E-03	9.242E-03
4.0000	54.424	57.116	217.08	.000	2.656E-02	.000	2.532E-03	2.532E-03

XE VIII 5P EO= 6.5761E+00 (RYD) N*= 3.1196 MU= 1.8804

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	89.474	138.57	1.850E-01	6.760E-02	6.415E-02	1.713E-02	8.128E-02
1.0000	13.606	103.080	120.28	1.479E-01	6.998E-02	4.726E-02	2.115E-02	6.841E-02
2.0000	27.212	116.686	106.26	1.217E-01	6.875E-02	3.618E-02	2.311E-02	5.929E-02
3.0000	40.818	130.292	95.16	1.023E-01	6.603E-02	2.854E-02	2.380E-02	5.233E-02
4.0000	54.424	143.898	86.16	8.746E-02	6.274E-02	2.306E-02	2.373E-02	4.679E-02
10.0000	136.059	225.533	54.97	4.322E-02	4.477E-02	8.823E-03	1.894E-02	2.776E-02

XE VIII 6P EO= 3.6887E+00 (RYD) N*= 4.1654 MU= 1.8346

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	50.188	247.04	3.214E-01	5.989E-02	1.086E-01	7.541E-03	1.162E-01
1.0000	13.606	63.794	194.35	2.175E-01	7.072E-02	6.320E-02	1.337E-02	7.657E-02
2.0000	27.212	77.400	160.19	1.588E-01	6.928E-02	4.086E-02	1.556E-02	5.643E-02
3.0000	40.818	91.006	136.24	1.220E-01	6.464E-02	2.838E-02	1.593E-02	4.431E-02
4.0000	54.424	104.612	118.52	9.731E-02	5.943E-02	2.075E-02	1.548E-02	3.623E-02
7.0000	95.241	145.430	85.26	5.712E-02	4.601E-02	9.940E-03	1.290E-02	2.284E-02

XE VIII 8P EO= 1.6696E+00 (RYD) N*= 6.1913 MU= 1.8087

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	22.717	545.80	7.009E-01	1.096E-02	2.337E-01	1.143E-04	2.339E-01
.5000	6.803	29.520	420.01	4.540E-01	5.449E-02	1.274E-01	3.672E-03	1.311E-01
1.0000	13.606	36.323	341.35	3.217E-01	6.576E-02	7.875E-02	6.581E-03	8.533E-02
2.0000	27.212	49.928	248.33	1.896E-01	6.415E-02	3.758E-02	8.608E-03	4.619E-02
3.0000	40.818	63.534	195.15	1.270E-01	5.647E-02	2.146E-02	8.487E-03	2.995E-02
5.0000	68.030	90.746	136.63	7.031E-02	4.296E-02	9.396E-03	7.018E-03	1.641E-02
8.0000	108.847	131.564	94.24	3.811E-02	3.043E-02	4.002E-03	5.103E-03	9.105E-03

XE VIII 10P EO= 9.5188E-01 (RYD) N*= 8.1997 MU= 1.8003

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	12.951	957.34	1.212E+00	-8.588E-02	3.983E-01	4.002E-03	4.023E-01
.2000	2.721	15.672	791.12	8.823E-01	-1.152E-02	2.555E-01	8.712E-05	2.556E-01
.3000	4.082	17.033	727.92	7.680E-01	9.700E-03	2.104E-01	6.714E-05	2.105E-01
.4000	5.442	18.394	674.08	6.756E-01	2.475E-02	1.759E-01	4.719E-04	1.764E-01
.5000	6.803	19.754	627.65	5.998E-01	3.550E-02	1.489E-01	1.043E-03	1.499E-01
.8000	10.885	23.836	520.17	4.383E-01	5.257E-02	9.591E-02	2.759E-03	9.866E-02
1.0000	13.606	26.557	466.87	3.658E-01	5.704E-02	7.443E-02	3.619E-03	7.805E-02
2.0000	27.212	40.163	308.71	1.830E-01	5.522E-02	2.817E-02	5.131E-03	3.330E-02
3.0000	40.818	53.769	230.59	1.122E-01	4.643E-02	1.419E-02	4.856E-03	1.904E-02
4.0000	54.424	67.375	184.02	7.695E-02	3.894E-02	8.356E-03	4.280E-03	1.264E-02
7.0000	95.241	108.193	114.60	3.495E-02	2.513E-02	2.768E-03	2.862E-03	5.630E-03

XE VIII 12P EO= 6.1472E-01 (RYD) N*= 10.2036 MU= 1.7964

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	8.364	1482.42	1.847E+00	-2.290E-01	5.977E-01	1.838E-02	6.161E-01
.1000	1.361	9.724	1275.01	1.437E+00	-1.252E-01	4.206E-01	6.382E-03	4.270E-01
.3000	4.082	12.446	996.23	9.520E-01	-2.356E-02	2.363E-01	2.895E-04	2.366E-01
.4000	5.442	13.806	898.05	8.005E-01	1.890E-03	1.853E-01	2.066E-06	1.853E-01
.5000	6.803	15.167	817.49	6.840E-01	1.878E-02	1.486E-01	2.241E-04	1.489E-01
.7000	9.524	17.888	693.13	5.188E-01	3.779E-02	1.009E-01	1.070E-03	1.019E-01
.8000	10.885	19.249	644.13	4.588E-01	4.294E-02	8.488E-02	1.487E-03	8.637E-02
1.0000	13.606	21.970	564.35	3.675E-01	4.852E-02	6.217E-02	2.167E-03	6.433E-02
2.0000	27.212	35.576	348.51	1.635E-01	4.649E-02	1.992E-02	3.222E-03	2.314E-02
3.0000	40.818	49.182	252.10	9.484E-02	3.785E-02	9.267E-03	2.952E-03	1.222E-02
5.0000	68.030	76.393	162.30	4.529E-02	2.598E-02	3.282E-03	2.160E-03	5.443E-03

XE VIII 16P EO= 3.1709E-01 (RYD) N*= 14.2069 MU= 1.7931

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.314	2873.86	3.474E+00	-6.478E-01	1.091E+00	7.584E-02	1.166E+00
.1000	1.361	5.675	2184.83	2.199E+00	-3.016E-01	5.750E-01	2.163E-02	5.966E-01
.2000	2.721	7.035	1762.31	1.536E+00	-1.483E-01	3.476E-01	6.480E-03	3.541E-01
.4000	5.442	9.757	1270.79	8.882E-01	-2.708E-02	1.612E-01	2.998E-04	1.615E-01
.5000	6.803	11.117	1115.26	7.135E-01	-1.709E-03	1.186E-01	1.361E-06	1.186E-01
.6000	8.164	12.478	993.65	5.878E-01	1.374E-02	9.029E-02	9.873E-05	9.039E-02
.7000	9.524	13.838	895.96	4.939E-01	2.335E-02	7.072E-02	3.161E-04	7.104E-02
1.0000	13.606	17.920	691.88	3.197E-01	3.534E-02	3.838E-02	9.375E-04	3.931E-02
2.0000	27.212	31.526	393.28	1.234E-01	3.318E-02	1.005E-02	1.454E-03	1.151E-02
3.0000	40.818	45.132	274.72	6.734E-02	2.601E-02	4.287E-03	1.279E-03	5.567E-03
5.0000	68.030	72.344	171.38	3.042E-02	1.713E-02	1.403E-03	8.897E-04	2.292E-03
6.0000	81.635	85.950	144.25	2.278E-02	1.446E-02	9.344E-04	7.531E-04	1.688E-03

XE VIII 20P EO= 1.9304E-01 (RYD) N*= 18.2083 MU= 1.7917

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.626	4720.68	5.555E+00	-1.235E+00	1.698E+00	1.679E-01	1.866E+00
.1000	1.361	3.987	3109.73	2.768E+00	-4.488E-01	6.399E-01	3.365E-02	6.736E-01
.2000	2.721	5.348	2318.53	1.694E+00	-1.968E-01	3.214E-01	8.675E-03	3.301E-01
.3000	4.082	6.708	1848.27	1.159E+00	-9.034E-02	1.886E-01	2.294E-03	1.909E-01
.4000	5.442	8.069	1536.61	8.498E-01	-3.807E-02	1.220E-01	4.900E-04	1.225E-01
.5000	6.803	9.429	1314.89	6.540E-01	-9.942E-03	8.449E-02	3.905E-05	8.453E-02
.6000	8.164	10.790	1149.09	5.214E-01	6.109E-03	6.144E-02	1.687E-05	6.146E-02
.7000	9.524	12.151	1020.41	4.269E-01	1.558E-02	4.639E-02	1.236E-04	4.652E-02
1.0000	13.606	16.232	763.82	2.621E-01	2.862E-02	2.335E-02	4.817E-04	2.384E-02
2.0000	27.212	29.838	415.53	9.377E-02	2.462E-02	5.498E-03	7.579E-04	6.254E-03
3.0000	40.818	43.444	285.39	4.970E-02	1.893E-02	2.248E-03	6.523E-04	2.900E-03
5.0000	68.030	70.656	175.48	2.188E-02	1.223E-02	7.087E-04	4.427E-04	1.151E-03

XE VIII 5D EO= 4.9947E+00 (RYD) N*= 3.5796 MU= 1.4204

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	67.957	182.45	1.782E-01	-1.067E-01	5.424E-02	2.914E-02	8.339E-02
1.0000	13.606	81.563	152.01	1.335E-01	-2.782E-02	3.652E-02	2.380E-03	3.890E-02
1.6000	21.769	89.727	138.18	1.148E-01	-4.852E-04	2.972E-02	7.963E-07	2.972E-02
1.8000	24.491	92.448	134.11	1.095E-01	6.533E-03	2.786E-02	1.488E-04	2.801E-02
2.2000	29.933	97.890	126.66	1.000E-01	1.819E-02	2.463E-02	1.221E-03	2.585E-02
3.4000	46.260	114.218	108.55	7.842E-02	3.997E-02	1.766E-02	6.879E-03	2.454E-02
6.0000	81.635	149.593	82.88	5.123E-02	5.496E-02	9.870E-03	1.704E-02	2.691E-02
10.0000	136.059	204.017	60.77	3.137E-02	5.313E-02	5.046E-03	2.172E-02	2.676E-02
11.0000	149.665	217.622	56.97	2.832E-02	5.148E-02	4.386E-03	2.175E-02	2.613E-02
12.0000	163.271	231.228	53.62	2.571E-02	4.971E-02	3.843E-03	2.155E-02	2.539E-02

XE VIII 6D EO= 2.9976E+00 (RYD) N*= 4.6207 MU= 1.3793

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	40.785	304.00	2.929E-01	-2.604E-01	8.796E-02	1.043E-01	1.923E-01
.5000	6.803	47.588	260.54	2.280E-01	-1.527E-01	6.217E-02	4.186E-02	1.040E-01
1.0000	13.606	54.391	227.95	1.836E-01	-8.656E-02	4.606E-02	1.537E-02	6.143E-02
1.6000	21.769	62.554	198.21	1.463E-01	-3.747E-02	3.368E-02	3.312E-03	3.699E-02
2.0000	27.212	67.997	182.34	1.279E-01	-1.585E-02	2.794E-02	6.441E-04	2.859E-02
2.2000	29.933	70.718	175.33	1.200E-01	-7.319E-03	2.560E-02	1.428E-04	2.574E-02
2.4000	32.654	73.439	168.83	1.129E-01	9.174E-06	2.352E-02	2.331E-10	2.352E-02
2.6000	35.375	76.160	162.80	1.064E-01	6.319E-03	2.169E-02	1.147E-04	2.180E-02
4.0000	54.424	95.209	130.23	7.421E-02	3.202E-02	1.318E-02	3.680E-03	1.686E-02
6.0000	81.635	122.420	101.28	4.946E-02	4.272E-02	7.528E-03	8.423E-03	1.595E-02
8.0000	108.847	149.632	82.86	3.579E-02	4.345E-02	4.817E-03	1.065E-02	1.547E-02
9.0000	122.453	163.238	75.95	3.110E-02	4.251E-02	3.969E-03	1.112E-02	1.509E-02
10.0000	136.059	176.844	70.11	2.733E-02	4.118E-02	3.321E-03	1.131E-02	1.463E-02
11.0000	149.665	190.450	65.10	2.425E-02	3.967E-02	2.816E-03	1.130E-02	1.412E-02

XE VIII 8D EO= 1.4491E+00 (RYD) N*= 6.6458 MU= 1.3542

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	19.716	628.87	5.981E-01	-6.716E-01	1.773E-01	3.353E-01	5.126E-01
.5000	6.803	26.519	467.54	3.669E-01	-3.238E-01	8.971E-02	1.048E-01	1.945E-01
1.0000	13.606	33.322	372.09	2.518E-01	-1.689E-01	5.312E-02	3.583E-02	8.895E-02
2.0000	27.212	46.928	264.21	1.433E-01	-4.401E-02	2.422E-02	3.427E-03	2.764E-02
2.4000	32.654	52.370	236.75	1.196E-01	-2.140E-02	1.883E-02	9.045E-04	1.973E-02
2.6000	35.375	55.091	225.06	1.100E-01	-1.297E-02	1.677E-02	3.494E-04	1.711E-02
2.8000	38.097	57.812	214.46	1.016E-01	-5.959E-03	1.501E-02	7.741E-05	1.509E-02
4.0000	54.424	74.139	167.23	6.750E-02	1.779E-02	8.491E-03	8.847E-04	9.375E-03
6.0000	81.635	101.351	122.33	4.038E-02	2.846E-02	4.154E-03	3.095E-03	7.249E-03
9.0000	122.453	142.169	87.21	2.318E-02	2.825E-02	1.920E-03	4.277E-03	6.197E-03
10.0000	136.059	155.775	79.59	1.996E-02	2.718E-02	1.560E-03	4.339E-03	5.898E-03
11.0000	149.665	169.381	73.20	1.740E-02	2.600E-02	1.289E-03	4.317E-03	5.606E-03

XE VIII 10D EO= 8.5449E-01 (RYD) N*= 8.6544 MU= 1.3456

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	11.626	1066.45	9.941E-01	-1.215E+00	2.888E-01	6.467E-01	9.355E-01
.5000	6.803	18.429	672.78	4.639E-01	-4.477E-01	9.968E-02	1.393E-01	2.390E-01
1.0000	13.606	25.232	491.39	2.758E-01	-2.056E-01	4.825E-02	4.021E-02	8.846E-02
2.0000	27.212	38.838	319.24	1.351E-01	-5.060E-02	1.781E-02	3.749E-03	2.155E-02
2.8000	38.097	49.723	249.36	8.969E-02	-1.107E-02	1.005E-02	2.298E-04	1.028E-02
3.0000	40.818	52.444	236.42	8.211E-02	-5.373E-03	8.888E-03	5.708E-05	8.945E-03
3.2000	43.539	55.165	224.76	7.551E-02	-6.888E-04	7.906E-03	9.869E-07	7.907E-03
3.4000	46.260	57.886	214.19	6.972E-02	3.180E-03	7.073E-03	2.207E-05	7.095E-03
3.6000	48.981	60.607	204.57	6.461E-02	6.387E-03	6.360E-03	9.322E-05	6.453E-03
4.0000	54.424	66.050	187.72	5.604E-02	1.127E-02	5.213E-03	3.165E-04	5.530E-03
6.0000	81.635	93.262	132.94	3.166E-02	2.042E-02	2.350E-03	1.466E-03	3.816E-03
9.0000	122.453	134.079	92.47	1.739E-02	2.021E-02	1.019E-03	2.064E-03	3.083E-03
10.0000	136.059	147.685	83.95	1.483E-02	1.937E-02	8.161E-04	2.090E-03	2.906E-03
11.0000	149.665	161.291	76.87	1.282E-02	1.846E-02	6.667E-04	2.073E-03	2.740E-03

XE VIII 12D EO= 5.6337E-01 (RYD) N*= 10.6585 MU= 1.3415

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	7.665	1617.54	1.474E+00	-1.881E+00	4.188E-01	1.023E+00	1.442E+00
.5000	6.803	14.468	856.96	5.148E-01	-5.180E-01	9.639E-02	1.464E-01	2.428E-01
1.0000	13.606	21.271	582.89	2.718E-01	-2.124E-01	3.951E-02	3.617E-02	7.568E-02
2.0000	27.212	34.877	355.50	1.196E-01	-4.868E-02	1.255E-02	3.116E-03	1.567E-02
3.0000	40.818	48.483	255.73	6.922E-02	-6.659E-03	5.839E-03	8.106E-05	5.920E-03
3.2000	43.539	51.204	242.14	6.321E-02	-2.510E-03	5.143E-03	1.216E-05	5.155E-03
3.4000	46.260	53.925	229.92	5.800E-02	8.813E-04	4.560E-03	1.579E-06	4.562E-03
3.6000	48.981	56.646	218.88	5.345E-02	3.665E-03	4.067E-03	2.869E-05	4.096E-03
3.8000	51.702	59.368	208.85	4.944E-02	5.960E-03	3.647E-03	7.951E-05	3.727E-03
4.0000	54.424	62.089	199.69	4.589E-02	7.855E-03	3.287E-03	1.444E-04	3.431E-03
6.0000	81.635	89.301	138.84	2.510E-02	1.546E-02	1.414E-03	8.051E-04	2.219E-03
8.0000	108.847	116.512	106.41	1.615E-02	1.578E-02	7.640E-04	1.095E-03	1.858E-03
9.0000	122.453	130.118	95.29	1.345E-02	1.527E-02	5.920E-04	1.143E-03	1.735E-03
10.0000	136.059	143.724	86.27	1.141E-02	1.460E-02	4.707E-04	1.156E-03	1.627E-03
11.0000	149.665	157.330	78.81	9.830E-03	1.389E-02	3.821E-04	1.145E-03	1.527E-03

XE VIII 16D EO= 2.9771E-01 (RYD) N*= 14.6621 MU= 1.3379

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	4.051	3060.95	2.672E+00	-3.564E+00	7.267E-01	1.940E+00	2.666E+00
.2000	2.721	6.772	1830.93	1.140E+00	-1.376E+00	2.213E-01	4.836E-01	7.050E-01
1.0000	13.606	17.657	702.21	2.329E-01	-1.894E-01	2.407E-02	2.389E-02	4.796E-02
2.0000	27.212	31.262	396.60	9.006E-02	-3.923E-02	6.374E-03	1.814E-03	8.188E-03
3.0000	40.818	44.868	276.33	4.934E-02	-6.106E-03	2.745E-03	6.308E-05	2.808E-03
3.2000	43.539	47.590	260.53	4.473E-02	-3.004E-03	2.393E-03	1.619E-05	2.409E-03
3.4000	46.260	50.311	246.44	4.077E-02	-4.924E-04	2.102E-03	4.600E-07	2.102E-03
3.6000	48.981	53.032	233.80	3.734E-02	1.545E-03	1.859E-03	4.770E-06	1.863E-03
3.8000	51.702	55.753	222.38	3.435E-02	3.212E-03	1.654E-03	2.169E-05	1.676E-03
6.0000	81.635	85.686	144.70	1.679E-02	9.905E-03	6.073E-04	3.170E-04	9.243E-04
9.0000	122.453	126.504	98.01	8.791E-03	9.754E-03	2.457E-04	4.538E-04	6.996E-04
10.0000	136.059	140.110	88.49	7.421E-03	9.313E-03	1.939E-04	4.582E-04	6.522E-04
11.0000	149.665	153.716	80.66	6.365E-03	8.843E-03	1.565E-04	4.532E-04	6.097E-04

XE VIII 20D EO= 1.8373E-01 (RYD) N*= 18.6636 MU= 1.3364

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.500	4959.71	4.167E+00	-5.688E+00	1.091E+00	3.050E+00	4.141E+00
.2000	2.721	5.221	2374.74	1.231E+00	-1.512E+00	1.987E-01	4.498E-01	6.486E-01
.4000	5.442	7.942	1561.10	6.144E-01	-6.839E-01	7.535E-02	1.401E-01	2.154E-01
1.0000	13.606	16.106	769.82	1.902E-01	-1.573E-01	1.464E-02	1.502E-02	2.966E-02
2.0000	27.212	29.712	417.30	6.864E-02	-3.071E-02	3.518E-03	1.057E-03	4.575E-03
3.0000	40.818	43.318	286.23	3.660E-02	-4.960E-03	1.459E-03	4.017E-05	1.499E-03
3.2000	43.539	46.039	269.31	3.307E-02	-2.805E-03	1.265E-03	1.178E-05	1.277E-03
3.4000	46.260	48.760	254.28	3.004E-02	-7.115E-04	1.106E-03	9.306E-07	1.107E-03
3.6000	48.981	51.481	240.84	2.744E-02	8.220E-04	9.744E-04	1.311E-06	9.757E-04
3.8000	51.702	54.202	228.75	2.518E-02	2.063E-03	8.639E-04	8.694E-06	8.726E-04
4.0000	54.424	56.924	217.81	2.320E-02	3.080E-03	7.704E-04	2.037E-05	7.908E-04
6.0000	81.635	84.135	147.37	1.210E-02	6.995E-03	3.095E-04	1.552E-04	4.647E-04
9.0000	122.453	124.953	99.23	6.265E-03	6.885E-03	1.233E-04	2.234E-04	3.466E-04
10.0000	136.059	138.559	89.48	5.276E-03	6.565E-03	9.694E-05	2.252E-04	3.221E-04
11.0000	149.665	152.165	81.48	4.517E-03	6.231E-03	7.803E-05	2.227E-04	3.007E-04

XE VIII 4F EO= 5.5378E+00 (RYD) N*= 3.3996 MU= .6004

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	75.346	164.56	5.115E-02	6.985E-01	5.309E-03	1.320E+00	1.326E+00
1.0000	13.606	88.952	139.39	4.396E-02	5.603E-01	4.629E-03	1.003E+00	1.007E+00
2.0000	27.212	102.558	120.89	3.825E-02	4.608E-01	4.042E-03	7.819E-01	7.859E-01
8.0000	108.847	184.194	67.31	1.963E-02	1.916E-01	1.912E-03	2.429E-01	2.448E-01
16.0000	217.695	293.041	42.31	1.032E-02	8.603E-02	8.398E-04	7.787E-02	7.871E-02

XE VIII 5F EO= 3.3186E+00 (RYD) N*= 4.3915 MU= .6085

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	45.153	274.59	7.833E-02	6.313E-01	7.461E-03	6.462E-01	6.536E-01
1.0000	13.606	58.759	211.01	5.799E-02	4.925E-01	5.322E-03	5.117E-01	5.170E-01
10.0000	136.059	181.212	68.42	1.374E-02	1.111E-01	9.212E-04	8.033E-02	8.125E-02
18.0000	244.906	290.059	42.75	6.788E-03	5.041E-02	3.599E-04	2.646E-02	2.682E-02

XE VIII 6F EO= 2.2055E+00 (RYD) N*= 5.3869 MU= .6131

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	30.008	413.18	1.172E-01	6.065E-01	1.110E-02	3.963E-01	4.075E-01
.0200	.272	30.280	409.47	1.159E-01	6.038E-01	1.096E-02	3.964E-01	4.073E-01
.0400	.544	30.552	405.82	1.146E-01	6.011E-01	1.081E-02	3.963E-01	4.072E-01
.2000	2.721	32.729	378.83	1.052E-01	5.783E-01	9.754E-03	3.931E-01	4.028E-01
1.0000	13.606	43.614	284.28	7.340E-02	4.656E-01	6.328E-03	3.395E-01	3.458E-01
8.0000	108.847	138.855	89.29	1.557E-02	1.165E-01	9.062E-04	6.767E-02	6.857E-02
14.0000	190.483	220.491	56.23	7.829E-03	5.692E-02	3.639E-04	2.565E-02	2.602E-02

XE VIII 8F EO= 1.1740E+00 (RYD) N*= 7.3833 MU= .6167

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	15.974	776.18	2.073E-01	5.047E-01	1.849E-02	1.461E-01	1.646E-01
.4000	5.442	21.416	578.94	1.408E-01	4.899E-01	1.143E-02	1.846E-01	1.960E-01
.6000	8.164	24.137	513.67	1.202E-01	4.637E-01	9.387E-03	1.864E-01	1.957E-01
.8000	10.885	26.859	461.63	1.043E-01	4.353E-01	7.867E-03	1.828E-01	1.906E-01
1.0000	13.606	29.580	419.16	9.170E-02	4.073E-01	6.699E-03	1.762E-01	1.829E-01
4.0000	54.424	70.397	176.12	2.785E-02	1.725E-01	1.470E-03	7.523E-02	7.670E-02
6.0000	81.635	97.609	127.02	1.740E-02	1.144E-01	7.962E-04	4.588E-02	4.667E-02
12.0000	163.271	179.245	69.17	6.989E-03	4.785E-02	2.358E-04	1.474E-02	1.497E-02
16.0000	217.695	233.668	53.06	4.602E-03	3.123E-02	1.333E-04	8.183E-03	8.316E-03
20.0000	272.118	288.092	43.04	3.272E-03	2.183E-02	8.304E-05	4.929E-03	5.012E-03

XE VIII 10F EO= 7.2710E-01 (RYD) N*= 9.3819 MU= .6181

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	9.893	1253.29	3.024E-01	3.205E-01	2.437E-02	3.649E-02	6.086E-02
.4000	5.442	15.335	808.50	1.689E-01	4.188E-01	1.178E-02	9.657E-02	1.084E-01
.6000	8.164	18.056	686.66	1.359E-01	4.009E-01	8.976E-03	1.042E-01	1.132E-01
.8000	10.885	20.778	596.73	1.125E-01	3.752E-01	7.087E-03	1.050E-01	1.121E-01
1.0000	13.606	23.499	527.63	9.531E-02	3.482E-01	5.749E-03	1.023E-01	1.081E-01
2.0000	27.212	37.105	334.15	5.089E-02	2.397E-01	2.588E-03	7.658E-02	7.917E-02
4.0000	54.424	64.317	192.78	2.330E-02	1.332E-01	9.402E-04	4.099E-02	4.193E-02
8.0000	108.847	118.740	104.42	9.402E-03	6.054E-02	2.827E-04	1.563E-02	1.591E-02
12.0000	163.271	173.164	71.60	5.258E-03	3.481E-02	1.289E-04	7.536E-03	7.665E-03

XE VIII 12F EO= 4.9408E-01 (RYD) N*= 11.3813 MU= .6187

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	6.722	1844.37	3.964E-01	5.657E-02	2.845E-02	7.725E-04	2.923E-02
.2000	2.721	9.444	1312.91	2.532E-01	3.061E-01	1.630E-02	3.178E-02	4.809E-02
.6000	8.164	14.886	832.91	1.386E-01	3.429E-01	7.700E-03	6.286E-02	7.056E-02
.8000	10.885	17.607	704.18	1.106E-01	3.209E-01	5.805E-03	6.513E-02	7.093E-02
1.0000	13.606	20.328	609.92	9.108E-02	2.961E-01	4.542E-03	6.399E-02	6.853E-02
2.0000	27.212	33.934	365.37	4.486E-02	1.970E-01	1.840E-03	4.727E-02	4.911E-02
4.0000	54.424	61.146	202.77	1.929E-02	1.056E-01	6.128E-04	2.449E-02	2.510E-02
8.0000	108.847	115.570	107.28	7.455E-03	4.680E-02	1.730E-04	9.088E-03	9.261E-03
12.0000	163.271	169.993	72.94	4.096E-03	2.665E-02	7.682E-05	4.335E-03	4.412E-03

XE VIII 16F EO= 2.7054E-01 (RYD) N*= 15.3807 MU= .6193

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	3.681	3368.34	5.694E-01	-6.970E-01	3.214E-02	6.421E-02	9.635E-02
.1000	1.361	5.042	2459.30	3.804E-01	-9.085E-02	1.965E-02	1.494E-03	2.114E-02
.1500	2.041	5.722	2166.90	3.236E-01	4.216E-02	1.614E-02	3.652E-04	1.650E-02
.2000	2.721	6.402	1936.65	2.802E-01	1.249E-01	1.354E-02	3.585E-03	1.712E-02
.3000	4.082	7.763	1597.20	2.186E-01	2.104E-01	9.992E-03	1.234E-02	2.233E-02
.7000	9.524	13.205	938.93	1.089E-01	2.463E-01	4.216E-03	2.877E-02	3.298E-02
.8000	10.885	14.566	851.22	9.548E-02	2.374E-01	3.576E-03	2.949E-02	3.306E-02
.9000	12.245	15.926	778.50	8.466E-02	2.276E-01	3.074E-03	2.961E-02	3.269E-02
1.0000	13.606	17.287	717.23	7.576E-02	2.174E-01	2.672E-03	2.934E-02	3.201E-02
2.0000	27.212	30.893	401.34	3.386E-02	1.385E-01	9.541E-04	2.127E-02	2.222E-02
4.0000	54.424	58.105	213.38	1.359E-02	7.129E-02	2.892E-04	1.060E-02	1.089E-02
6.0000	81.635	85.316	145.33	7.663E-03	4.451E-02	1.349E-04	6.070E-03	6.205E-03
8.0000	108.847	112.528	110.18	5.024E-03	3.076E-02	7.649E-05	3.823E-03	3.900E-03

XE VIII 20F EO= 1.7039E-01 (RYD) N*= 19.3804 MU= .6196

E (RYD)	E (EV)	E PHOT (EV)	LAMBDA (A)	(L/R/L-1)	(L/R/L+1)	SIGMA L-1	SIGMA L+1	SIGMA (MB)
.0000	.000	2.318	5348.00	7.125E-01	-1.736E+00	3.170E-02	2.508E-01	2.825E-01
.1000	1.361	3.679	3370.15	4.035E-01	-3.593E-01	1.613E-02	1.706E-02	3.319E-02
.1500	2.041	4.359	2844.21	3.271E-01	-1.279E-01	1.256E-02	2.562E-03	1.513E-02
.2000	2.721	5.040	2460.26	2.731E-01	3.041E-03	1.012E-02	1.673E-06	1.013E-02
.3000	4.082	6.400	1937.24	2.022E-01	1.278E-01	7.047E-03	3.755E-03	1.080E-02
.5000	6.803	9.121	1359.30	1.283E-01	1.898E-01	4.043E-03	1.180E-02	1.584E-02
.8000	10.885	13.203	939.07	7.875E-02	1.813E-01	2.205E-03	1.558E-02	1.778E-02
.9000	12.245	14.564	851.34	6.904E-02	1.734E-01	1.870E-03	1.573E-02	1.760E-02
1.0000	13.606	15.924	778.60	6.119E-02	1.652E-01	1.606E-03	1.561E-02	1.722E-02
2.0000	27.212	29.530	419.86	2.596E-02	1.027E-01	5.361E-04	1.119E-02	1.173E-02
4.0000	54.424	56.742	218.51	1.007E-02	5.181E-02	1.549E-04	5.469E-03	5.624E-03
6.0000	81.635	83.954	147.68	5.604E-03	3.208E-02	7.100E-05	3.102E-03	3.173E-03