COLLOQUIUM FÉDÉRATION FRIEDEL JACQUINOT

FFJ Fédération Friedel-Jacquinot

MERCREDI 8 JUIN 2022

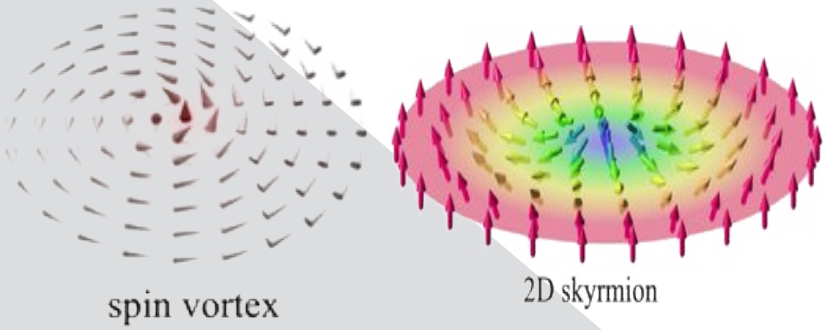
université PARIS-SACLAY

Grand Amphithéâtre de l'Institut Pascal

16h00 : séminaire de John M. KOSTERLITZ

17h00 : cocktail apéritif

A Random Walk to the Nobel Prize «Topological Defects and Phase Transitions»



Examples of topological defects (adapted from Volovik et al 2018)

This talk reviews some of the applications of topology and topological defects in phase transitions in two-dimensional systems for which Kosterlitz and Thouless split half the 2016 Physics Nobel Prize. The theoretical predictions and experimental verification in two dimensional superfluids, superconductors and crystals will be reviewed because they provide very convincing quantitative agreement with topological defect theories.

J. Michael KOSTERLITZ is a theoretical physicist known for his work with David J. Thouless on the application of topological ideas to the theory of phase transitions in two-dimensional systems. This work was recognized by the Lars Onsager prize in 2000, membership in the AAAS 2007, by the 2016 Nobel Prize for physics and election to the NAS in 2017. He graduated from Cambridge University earning a BSc in physics in 1965, an MA in 1966 and received a D. Phil. from Oxford in 1969. He was a postdoctoral fellow at Torino University, Italy, in 1970 and at Birmingham University, U.K., from 1970-73. There he met David Thouless and together they did their groundbreaking work on phase transitions mediated by topological defects in two dimensions. He is Professor of Physics at Brown University since 1982.

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