Centre de Nanosciences et de Nanotechnologies

Mercredi 5 octobre 2016 à 14h00

Centre scientifique d'Orsay - Bât. 220 – Salle P.Grivet (R-d-C pièce 44) – *F 91405 ORSAY*

Vladimir V. Konotop
Faculty of Sciences, University of Lisbon, Portugal

PT-symmetric systems: from quantum mechanics to nonlinear physics

Nonlinear phenomena in media obeying parity-time (PT) symmetry, i.e. having dissipation and gain delicately balancing each other, attract rapidly growing attention due to their relevance to nonlinear optics, to the theory of Bose-Einstein condensate, as well as to other numerous physical applications. Starting with brief overview of the basics of PT-symmetric quantum mechanics I will discuss recent developments in the theory of nonlinear PT symmetric physics. The main focus will be on the models appearing in PT-symmetric optics including discrete PT-symmetric optics and nonlinear wave phenomena of guided modes including bright and dark solitons, breathers, rogue waves, and vortices.