

Seminar: Hard Condensed Matter Theory

Room: Galilei Raum, 01-128 (Staudinger Weg 9)

Time: February 14th, 2017 at 14:00

Joo-Von Kim

Centre for Nanoscience and Nanotechnology, CNRS, Univ. Paris-Sud,
91405 Orsay France

Skyrmion dynamics in nanostructures: Breathing modes, oscillators, and the role of disorder

Magnetic skyrmions are nontrivial spin configurations that are stabilised by chiral interactions. They are nanoscale objects with particle-like properties and are potentially useful for information storage and processing. In this talk, I will give an overview of our recent theoretical and numerical work on skyrmion dynamics in magnetic nanostructures. In particular, I will discuss breathing modes in dots, self-sustained oscillations due to spin-transfer torques, and the role of disorder for current-driven motion. I will discuss how these results could be useful for experimental detection of skyrmions and their consequences for potential applications.

All interested are cordially welcome!