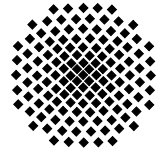


Stuttgarter Physikalisches Kolloquium

Max-Planck-Institut für Intelligente Systeme
Max-Planck-Institut für Festkörperforschung
Fachbereich Physik, Universität Stuttgart

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Dienstag, 1. Dezember 2015

17.15 Uhr

Hörsaal 2 D5

Stuttgarter Max-Planck-Institute, Heisenbergstraße 1, 70569 Stuttgart-Büsnau

Gastgeber: Prof. Gisela Schütz, Max-Planck-Institut für Intelligente Systeme, Telefon: 0711 - 689-1950

Dynamical solitons in individual and mutually synchronized spin-torque and spin-hall effect driven nano-oscillators

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Abstract

Nano-contact spin-torque nano-oscillators (STNOs) and spin Hall effect nano-oscillators (SHNOs) provide excellent playgrounds for the study of highly non-linear and nanoscopic spin wave modes and phenomena. While originally studied for their potential as highly broadband microwave signal generators, these devices now attract a rapidly growing interest as spin wave generators in magnonic devices and as skyrmion injectors in magnetic nanowire based memories. In my talk I will give an overview of how magnetodynamical solitons, such as spin wave bullets, magnetic droplets, and dynamical skyrmions, can be nucleated and controlled in both STNOs and SHNOs and how these, as well as propagating spin waves, can be utilized to mutually synchronize a very large number of STNOs and SHNOs.