



Festkörper-Kolloquium und Seminar TRR 80

am Donnerstag, 29.01.15

um 17:15 Uhr

spricht

Dr. Kirsten von Bergmann

Department of Physics, University of Hamburg, Germany

im HS 3 im Physik-Department

über das Thema

Manipulation of magnetic skyrmions with spin-polarized STM

Spin textures of ultra-thin magnetic layers exhibit a surprising variety. The loss of inversion symmetry at the interface of magnetic layer and substrate gives rise to the so-called Dzyaloshinsky-Moriya interaction which favors non-collinear spin arrangements with unique rotational sense [1].

An ideal tool to investigate such systems down to the atomic scale is spin-polarized scanning tunneling microscopy, which has enabled the discovery of spin spirals with unique rotational sense at surfaces [2-4]. Recently, different interface-driven skyrmion lattices have been found, that either exist without external magnetic field [5,6] or are induced by it [7]. A tuning of the magnetic properties can be realized by tiny variations of the electronic structure due to different stacking of the magnetic layer and the writing as well as the deletion of individual skyrmions based on local spin-polarized current injection has been demonstrated. These interface-induced non-collinear magnetic states offer new exciting possibilities to study fundamental magnetic interactions and to tailor material properties for spintronic applications.

ab 17:00 Uhr Kaffee vor dem Hörsaal

Einführung: C. Pfleiderer