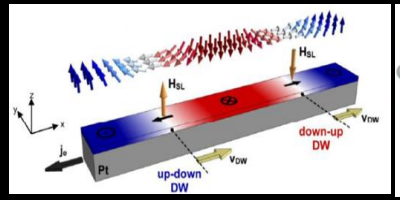
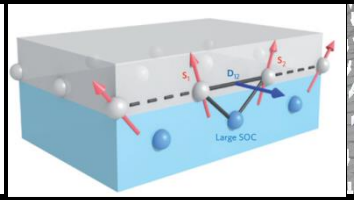
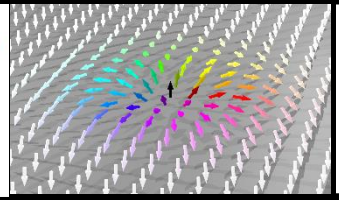
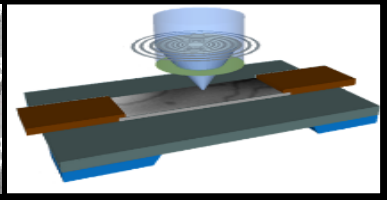
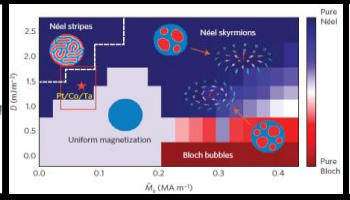
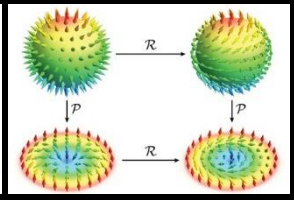




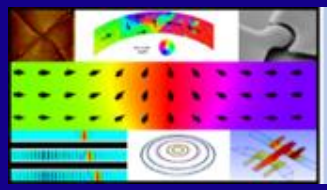






Spin-Orbit Induced Skyrmion Dynamics in Thin Multilayers

Motivation: We study promising new candidates for bits in future magnetic storage devices. These structures, so-called skyrmions, are magnetic quasi-particles with special and very interesting new physical properties. They could allow to increase the storage density of modern hard drives significantly while reaching ultra-low access times and conserving energy.

System: We study magnetic nanoscale structures with ferromagnetic out-of-plane ordering in various shapes prepared by electron-beam lithography.



KLÄUI - LAB

JG|U

Bachelor and Master Thesis in the group of Prof Kläui

Experiments: Growth and characterization of magnetic multilayer thin films; nanofabrication of spintronic devices; investigation of current-induced dynamics of magnetic skyrmions.

Techniques: Sample growth by sputtering; Magneto-optical Kerr effect (MOKE); Kerr microscopy; Electron-beam lithography; micromagnetic simulations; directly imaging of current induced magnetization dynamics by scanning transmission X-ray microscopy, at the large facility synchrotron BESSY.

MAX-PLANCK-GESELLSCHAFT

MATERIALS IN MAINZ SCIENCE

Horizon 2020 Programme

SPIN+X SFB/TRR 173 Kaiserslautern • Mainz

DFG Deutsche Forschungsgemeinschaft

DAAD Deutscher Akademischer Austausch Dienst German Academic Exchange Service

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