Multiscale Magnetization Dynamics Simulations

Motivation: current storage and logic devices are reaching their intrinsic limits. Novel technologies are required in order to overcome them. Multiscale simulations are a brand new computational tool developed by our group that allows one to simulate the devices at the base of such technology with unprecedented accuracy.

Bachelor and Master Thesis in the group of Prof Kläui

System: Landau-Lifshitz-Gilbert equation simulated with a Runge-Kutta algorithm modeled on two different scales

Experiments: Simulation of Skyrmions, Magnetic Vortices, further candidates for technological development.

Technique: Multiscale simulations employing the Micromagnetic and classical Heisenberg model to describe different regions of a ferromagnetic system.

Contact: **Prof. Dr. Mathias Kläui**
(01-531), 39-23633   klaeui@uni-mainz.de