



Tutorial on Micromagnetics

April 17-18, 2012

Magnetism at finite temperature

Professor Dr. Ulrich Nowak
Universität Konstanz

17.04.2012 16:00 ct Gernot-Graff Raum 05-431, Staudinger Weg 7

This talk focuses on thermal equilibrium and non-equilibrium properties of magnetic systems and how to treat them theoretically and by means of computer simulations. Topics include the Landau-Lifshitz equation of motion, its generalization to Langevin dynamics as well as multiscale aspects: how to connect first principles calculations with spin models and micromagnetic calculations on larger, experimental length scales. As examples some aspects of ultra-fast spin dynamics and spin-caloritronics will be discussed.

Principles of micromagnetic simulations

Dr. Kristof M. Lebecki
Uni Konstanz

18.4.2012 10:00 ct Medienraum 03-431, Staudinger Weg 7

In my talk I will concentrate on basic principles of micromagnetic simulations. I will start with an overview of available modeling programs, theory underlying and affecting the modeling will be summarized as well. Then I will describe the difference between analytical approach and its numerical application. Most common sources of errors appearing during this process will be discussed, together with some recommendation how to avoid them (or at least to control them). At the end I will try to formulate an outlook presenting possible future evolution of the numerical micromagnetism.