Spin-wave devices based on metamaterial concepts (TRR80)

Dr. Stefan Mendach

Institut für Angewandte Physik und Mikrostrukturforschungszentrum,
Universität Hamburg

Abstract

Optical metamaterials with a hyperbolic light dispersion recently paved the way to novel devices, e.g., for light wave guiding [1], perfect imaging [2] or spontaneous emission enhancement [3]. Interestingly, spin waves travelling in thin ferromagnetic films - under certain conditions – exhibit such a hyperbolic dispersion, which offers the possibility to build the aforementioned metamaterial devices also for spin waves. In this talk I discuss, both, our recent progress in the area of optical metamaterials [4] and how we transfer metamaterial concepts to the research area of spin-wave optics [5].


There will be coffee, tea, and cookies in front of the lecture hall at 17.00 h