Max-Planck-Institut für Struktur und Dynamik der Materie

Max Planck Institute for the Structure and Dynamics of Matter

Tuesday, January 28th 2020 – 11:00
CFEL, Seminar room IV (Bldg. 99)

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Cavity Optomagnonics

Optomagnonics studies the quantum-coherent coupling of light to collective magnetic excitations in solid state systems. The magnetic material hosting the magnetic excitations can be also used as an optical cavity if patterned appropriately. This not only enhances the magnon-photon coupling (making these systems promising for applications in quantum technologies) but also allows studying cavity-modified light-matter interaction in a novel platform. In my talk I will go over the basics of cavity optomagnonics and present results on recent theory developments in my group, including optomagnonics with magnetic textures, optical heralding of magnon Fock states, and antiferromagnetic cavity optomagnonics.

Host: Guido Meier / Andrea Cavalleri

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