



SPIN+X
SFB/TRR 173
Kaiserslautern • Mainz



Fachbereich Physik, Mathematik und Informatik

**SONDERTERMIN:
SFB TRR 173 Spin+X - Kolloquium**

**Wednesday 29th, 2020 at 3 pm
online via Skype for Business**

Max Hänze

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and

Max Planck Institute for Solid State Research, Stuttgart, Germany

Spin Dynamics: from Microstructures to Individual Atoms

The understanding and harnessing of noise in spin systems is of great current interest for applications of quantum mechanics in real world scenarios. More specifically, the process of stochastic resonance provides experimental access to the endemic noise of both classical and quantum systems. First I will introduce the topology of a classical system, the magnetic vortex, and demonstrate that its spin states can be manipulated based on the collective interaction and the critical excitation of eigenmodes in magnetic vortex crystals. Next, I will focus on a quantum system, atoms on a surface, and demonstrate that their spin dynamics can also be synchronized to a drive signal. This process is identified as a quantum stochastic resonance and provides a deep insight into the fundamental dynamic behavior of spins coupled to dissipative environments.

The guest is invited by Prof. Dr. M. Kläui
Everybody interested is welcome!