WIENER PHYSIKALISCHES KOLLOQUIUM

TU-WIEN - UNIVERSITÄT WIEN

SS 2011

Einladung zum Vortrag von

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Microwave quantum optics in superconducting circuits and hybrid systems

Artificial atoms with macroscopic dimensions (up to mm) can be realized in superconducting Josephson-junction circuits. Their large dipole moment and small dissipation enable us to study coherent interaction of such "atoms" and microwave fields confined in resonators and waveguides [1]. Microwave quantum optics with itinerant microwave provides various functionality for quantum information processing.
The advanced technology of superconducting quantum circuits can also be applied to quantum state control and measurement of other physical systems. We are particularly interested in manipulating collective excitations in solid. As an example, we construct a hybrid quantum system with magnon modes in a ferromagnetic crystal. Strong coupling of a magnon mode with a superconducting qubit is demonstrated.

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TU Wien-Freihaus, Hörsaal 5, 2. Stock, grüner Bereich

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