



EINLADUNG zum IFP-SEMINAR

Thema: **Microwave and THz Spectroscopy on Ferromagnetic Thin Films**

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Host: Silke Bühler-Paschen

Termin: **Mittwoch, 13. April 2011, 16:00 Uhr**

Ort: TU Wien, Institut für Festkörperphysik
Freihaus Seminarraum 138B, Turm C, 7. OG (rote Leitfarbe)
Wiedner Hauptstraße 8-10, 1040 Wien

Abstract:

Two different questions on ferromagnetism were addressed with low-energy optics in the microwave and THz region. On the one hand, ferromagnetic resonance was measured in a thin film of the Heusler material $\text{Co}_2\text{Cr}_{0.6}\text{Fe}_{0.4}\text{Al}$ with broadband microwave spectroscopy. On the other hand, different thin-film samples of the system $\text{Sr}_{1-x}\text{Ca}_x\text{RuO}_3$ with a quantum phase transition at $x \sim 0.8$ were investigated. In order to be sensitive to the low energy scales of the possible quantum critical behavior expected close to the quantum phase transition, we use THz frequency domain spectroscopy down to ^4He temperatures. While SrRuO_3 and two doped samples with 40% and 80% doping show conventional metallic behavior, CaRuO_3 shows an unconventionally suppressed optical conductivity around 10 cm^{-1} .

