



EINLADUNG zum IFP-SEMINAR

- Thema: **Low-energy properties and possible quantum phase transitions in the Kondo lattice model**
- Vortragender: **Thomas Pruschke**
Universität Göttingen, Theoretische Physik
- Host: Silke Bühler-Paschen
- Termin: **Mittwoch, 15. Dezember 2010, 16:00 Uhr**
- Ort: TU Wien, Institut für Festkörperphysik
Freihaus Seminarraum 138B, Turm C, 7. OG (rote Leitfarbe)
Wiedner Hauptstraße 8-10, 1040 Wien

I present results for the Kondo lattice model within dynamical mean-field theory (DMFT). This model is one of the paradigms for understanding the physics of Heavy-Fermion (HF) materials. A particular interest will be laid on the identification of the lowenergy scale in photoemission quantities and the influence of lattice degrees of freedom on it.

HF compounds frequently exhibit magnetic order at low temperature, and quite often a quantum phase transition between the ordered state and the HF phase. While a characterization of quantum criticality within DMFT is surely not possible, one can at least discuss more principle questions like the actual nature of the ordered state (HF or local moment driven) and identify possible regimes in parameter space for quantum criticality if one allowed for additional fluctuations. I will discuss some of these aspects and in particular present evidence for a transition between a local-moment like antiferromagnet and an ordered state emerging from the HF.

