SFB 608

Einladung zum Kolloquium

Ort: Universität zu Köln
II. Physikalisches Institut, Seminarraum 201

Zeit: Mittwoch, den 11. Februar 2004, 15 Uhr c.t.

Sprecher: Dr. A. Liebsch
IFF, Forschungszentrum Jülich

Thema: Coulomb Correlations in Multi-Orbital Materials.

The influence of local Coulomb interactions on the electronic properties of transition metal oxides is investigated within the Dynamical Mean Field Theory and multi-orbital Quantum Monte Carlo method. In materials such as VO_2, $SrVO_3$, and Sr_2RuO_4 the quasi-particle spectra exhibit correlation features which cannot be understood within density functional theory. In particular, we discuss the enhancement of correlation effects due to orbital polarization induced by Peierls distortion, the enhancement of correlations at surfaces due to band narrowing, and the nature of Mott transitions in multi-orbital systems.

Gez. Prof. A. Freimuth