



EINLADUNG zum IFP-SEMINAR

Recent insights on the normal state of Sr_2RuO_4 : High-resolution photoemission and Hall effect

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Host: Karsten Held
Termin: **Dienstag, 7. Jänner 2020, 16:00 Uhr (Sondertermin)**
Ort: Institut für Festkörperphysik, TU Wien
Wiedner Hauptstraße 8-10, 1040 Wien
Seminarraum DC rot 07 (roter Bereich, 7. OG)

In this talk I will present recent theoretical and experimental results on electron-electron correlations and spin-orbit coupling in the model Fermi liquid Sr_2RuO_4 . High-resolution laser-based photoemission spectroscopy measurements of the Fermi surface confirm the importance of spin-orbit coupling in this material and reveal that its effective value is enhanced by a factor of about two. The analysis of self-energies extracted directly from the experimental data strongly supports the notion of dominantly local-orbital self-energies, where the momentum-dependence of quasiparticle states arises from a substantial orbital mixing induced by the spin-orbit coupling. The near quantitative agreement with single-site dynamical mean-field theory calculations provides also evidence for an electronic origin of the observed non-linear frequency dependence of the self-energies. These insights are for example of immediate relevance to understand the puzzling temperature dependence of the Hall coefficient with its two sign reversals.