



WIEDNER HAUPTSTRASSE 8-10
A-1040 WIEN, AUSTRIA
TEL.: ++43-1-58801-13801
FAX: ++43-1-58801-13899
E-MAIL: SEKRETARIAT@IFP.TUWIEN.AC.AT



Einladung zum Seminar

Sven Friedemann

Max-Planck-Institut für Chemische Physik fester Stoffe, Dresden

" Interplay of the magnetic instability and the Fermi surface reconstruction in YbRh_2Si_2 "

An antiferromagnetic (AF) quantum critical point (QCP) is conventionally described by the quantum generalization of finite temperature phase transitions. Recently, a new scenario emerged for heavy-fermion metals based on the breakdown of the Kondo effect. The heavy fermion system YbRh_2Si_2 is best described within the latter model where the Kondo breakdown and the AF QCP coincide.

Here, we report thermodynamic and transport results on YbRh_2Si_2 under positive and negative chemical pressure as realized by Co and Ir substitution on the Rh side. Surprisingly, for positive pressure the AF QCP seems to be shifted into the regime with intact Kondo screening with the AF QCP being transformed to the conventional type. Negative pressure by contrast induces a separation of the Kondo breakdown and the AF QCP. Here, an intermediate spin-liquid type ground state emerges in an extended field range. Consequently, our results indicate a new quantum phase arising from the interplay of the Kondo breakdown and the AF QCP.

Host: S. Bühler-Paschen

Dienstag, 01. September 2009, 14:00 Uhr
Seminarraum 138B, 7. OG, Turm C (rot)
Wiedner Hauptstraße 8-10
1040 Wien