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EINLADUNG zum IFP-SEMINAR

Thema: **Quantum Criticality driven by Frustration**

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Host: Silke Bühler-Paschen

Termin: **Mittwoch, 08. 04. 2015, 16:00**

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

Abstract:

Frustrated magnetism has become an active field of research due to various novel states such as gapped or gapless spin liquids, spin nematics, or spin ice, which are different from ordinary dipolar order. A strong influence of geometrical frustration is also discussed in the context of quantum phase transitions in Kondo metals, because quantum fluctuations arising from frustrated interactions are counter-acting Kondo singlet formation. I will present results on geometrically frustrated Kondo lattice materials like hexagonal CeRhSn [1], where the Kondo ions are located on distorted Kagome planes stacked along the c-axis, and pyrochlore Pr2Ir2O7 with quantum spin ice configuration [2]. A new type of dynamical frustration due to the Kitaev magnetic exchange arises in spin-orbit coupled Mott insulators such as Na2IrO3 [3] and Li2IrO3 [4,5].
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[4] Y. Singh, S. Manni, J. Reuther, T. Berlijn, R. Thomale, W. Ku, S. Trebst, P. Gegenwart, Phys. Rev. Lett. 108, 127203 (2012).
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