



EINLADUNG zum IFP-SEMINAR

Thema: **Design and construction of a dilution fridge SQUID magnetometry system**

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Termin: **Mittwoch, 7. März 2012, 16:00 Uhr**

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

Abstract:

Although commonplace in the temperature range of 2 K – 300 K and commercially available down to 300 mK, SQUID magnetometer systems are rare in temperatures below 100 mK. I will present the design aspects and construction of a versatile system capable of measuring magnetisation down to temperatures of 100 mK. The system consists of a dc-SQUID coupled to a second-order gradiometer. The magnetic moment is measured by moving the sample through the gradiometer using a piezo-translation stage, which is thermally decoupled from the dilution fridge mixing chamber. Finally I will present investigations on a dipolar coupled spin-glass compound $\text{LiHo}_x\text{Er}_{1-x}\text{F}_4$, which was the motivation for developing the dilution fridge SQUID.