



EINLADUNG zum IFP-SEMINAR

Thema: **The low-temperature electric response of glassy materials**

Vortragender: **Catalin Gainaru**
Technische Universität Dortmund, Experimentelle Physik III

Host: Silke Bühler-Paschen

Termin: **Donnerstag, 03. Februar 2011, 14:00 Uhr**

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

Abstract:

Glasses, with respect to their crystalline counterparts, exhibit peculiar physical behavior at temperatures below few K. For example, their acoustic attenuation displays a temperature independent “plateau” having quite similar value for all glasses, independent of the chemistry. The widely accepted model to explain the low-temperature anomalies, the standard tunneling model (STM) assumes “defects” in the glass, where atoms or groups of atoms that can tunnel between two configurations with similar energy (two-level systems TLS). Up to now the microscopic nature of the TLS systems is not yet fully understood. The purpose of this contribution is to study the dielectric response of molecular glasses at cryogenic temperatures. The results prove that glasses show here an universal relaxation behavior and help identifying the tunnelling entity with the constituent molecule as a whole.

