

SFB 608

Einladung zum Kolloquium

- Ort:** Universität zu Köln
II. Physikalisches Institut
Seminarraum 201
- Zeit:** 30. Januar, 2008, 14:30 Uhr
- Sprecher:** Andrei Pimenov
Experimentelle Physik IV,
Würzburg
- Thema:** Magnetolectric Excitations in
Rare-Earth Manganites

Most interactions in physics are accompanied by characteristic excitations, which can be observed with spectroscopic techniques as absorption modes. The excitations responsible for the magnetolectric coupling are called "electromagnons" and can be observed at terahertz frequencies. Contrary to the conventional magnons the electromagnons can be excited by the electric component of the electromagnetic wave only and contribute to the static dielectric permittivity. The suppression of electromagnons in external magnetic field provides a natural explanation for the magnetolectric effects in broad frequency range between dc and terahertz. The corresponding spectral weight is transferred to the lowest lattice vibration demonstrating the strong coupling of phonons with electromagnons.

Gez. J. Hemberger