

SFB 608

Einladung zum Kolloquium

- Ort:** Universität zu Köln
II. Physikalisches Institut, Seminarraum 201
- Zeit:** 20. April 2005, 14 Uhr c.t.
- Sprecher:** Dr. Martine Hennion
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- Thema:** The peculiar magnetic state of low-doped
 $\text{La}_{1-x}(\text{Sr,Ca})_x\text{MnO}_3$ manganites

The phase diagram of hole-doped manganites exhibits a variety of spectacular properties like Colossal Magnetoresistance, charge ordering, orbital ordering etc. The microscopic nature of these systems as well as the mechanism which gives rise to such properties are still much debated. We will review the observations by inelastic neutron scattering in $\text{La}_{1-x}\text{B}_x\text{MnO}_3$ ($\text{B}=\text{Ca}, \text{Sr}$), in the canted state and in the doping range just before the occurrence of the true metallic state ($x_{\text{Ca}} < 0.22$ and $x_{\text{Sr}} < 0.17$) where a ferromagnetic and quasi-metallic state occurs. In this range, illustrated by the three compounds $\text{La}_{.83}\text{Ca}_{.17}\text{MnO}_3$, $\text{La}_{.8}\text{Ca}_{.2}\text{MnO}_3$ and $\text{La}_{.7/8}\text{Sr}_{.1/8}\text{MnO}_3$ very peculiar magnetic excitations are observed, analysed in terms of confined spin waves into nanosize domains.

Gez. Prof. M. Braden