

SFB 608

Einladung zum Kolloquium

Ort: Universität zu Köln
II. Physikalisches Institut, Seminarraum 201

Zeit: 12. September 2005, 14 Uhr c.t.

Sprecher: Prof. I. Terasaki
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Thema: Title : Novel room-temperature ferromagnetism
in the ordered perovskite $\text{Sr}_{1-x}\text{Y}_x\text{CoO}_{3-d}$

Abstract:

We have discovered $\text{Sr}_{0.75}\text{Y}_{0.25}\text{CoO}_{3-d}$ exhibits ferromagnetic transition at 335 K, which is the highest T_c among the Co oxides. This ferromagnetic state is highly unconventional:

- (1) It is highly susceptible to the A-site ordering,
- (2) Only the 6% Mn doping suppresses the ferromagnetism,
- (3) The formal valence of Co is trivalent, and
- (4) The ground state is insulating.

We have explained these features in terms of a ferromagnetism state driven by an orbital ordering.

(PRB in press, <http://arxiv.org/abs/cond-mat/0411671>)

Gez. Dr. T. Lorenz