



EINLADUNG

zum Vortrag
von

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Recent advances in the theory of multiferroic materials

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Dienstag, 13. April 2010, um 17.00 Uhr

Ort: Lise-Meitner-Hörsaal, Fakultät für Physik, Universität Wien,
1090 Wien, Strudlhofgasse 4 / Boltzmannngasse 5, 1. Stock

Barrierefreier Zugang:

Boltzmannngasse 5, Lift, 1. Stock rechts über den Gang zum Hintereingang des Hörsaals

Abstract:

The existence in antiferromagnetic structures of a macroscopic moment asymmetric under both time-reversal and space inversion long remained elusive until the recent observation, by optical second harmonic generation, of the independent coexistence of ferrotoroidic and antiferromagnetic domains in the weak ferromagnetic structure of LiCoPO_4 . This result provides a motivation for investigating toroidic effects in the ferroelectric phases of magnetic multiferroic materials, in which the space asymmetric electric polarization is induced by a time asymmetric antiferromagnetic order.

After recalling the symmetry conditions allowing existence of a toroidal moment in antiferromagnetic structures, the toroidic effects that should be observed in various multiferroic materials, such as TbMnO_3 , TbMn_2O_5 , MnWO_4 , $\text{Ni}_3\text{V}_2\text{O}_8$ or $\text{NaFeSi}_2\text{O}_6$, will be described in the framework of the Landau theory of phase transitions.

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