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- g esellschaft

Gegründet im Jahre 1869 von H. Hlasiwetz,
J. Loschmidt, J. Petzval und J. Stefan

EINLADUNG

zum Vortrag von

Ao.Prof. Dr. Roland Grössinger

Institut für Festkörperphysik, Technische Universität Wien

über

Magnetoelectric Materials

am

Dienstag, 12. Juni 2007, um 17.30 Uhr

Ort: Großer Hörsaal der Experimentalphysik, Universität Wien,
1090 Wien, Strudlhofgasse 4 / Boltzmanngasse 5, 1. Stock

Abstract:

Magnetoelectric materials become magnetized when placed in an electric field and electrically polarized when placed in a magnetic field. This effect can occur in single phase materials (as e.g. Cr₂O₃) which needs special symmetry conditions for the lattice. The ME effect obtained in composites is more than a hundred times that of single-phase ME material. An overview over these new family of materials will be given. Also the for the characterisation necessary measuring methods (magnetostriction as well as piezoelectric constant) will be described. The magnetoelectric constant is measured in a static field produced by an electromagnet superimposing an ac-field. In this case a voltage appears on the surface of the sample which can be detected using a lock-in amplifier. Additionally a pulsed field method which allows the direct observation of the magnetoelectric constant was developed. Representative results on composites of CoFe₂O₄-BaTiO₃ will be shown and discussed.

CHEMISCH-PHYSIKALISCHE GESELLSCHAFT

c/o Ao.Univ.Prof. Dr. Georg Reischl, Sekretär, Universität Wien, Fakultät für Physik, 1090 Wien, Boltzmanngasse 5
Tel.: +43-(0)1-4277/51108, 51153 - Fax: +43-(0)1-4277 9511 - Email: Christl.Langstädlinger@univie.ac.at -
<http://www.cpg.univie.ac.at>

Vorsitzender 2006/07: Ao.Univ.Prof. Dr. Wolfgang Linert, Institut für Angewandte Synthesechemie, Techn.Univ. Wien