

EINLADUNG

zum Vortrag
von

Prof. Dr. Paul Heitjans

Leibniz Universität Hannover, Institut für Physikalische Chemie und Elektrochemie,
und ZFM – Zentrum für Festkörperchemie und Neue Materialien

Insights into Diffusion in Solid Ion Conductors from Inside

am

Dienstag, 4. Juni 2013, um 17:30 Uhr

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

Barrierefreier Zugang: Boltzmanngasse 5, Lift, 1. Stock rechts über den Gang zum Hintereingang des Hörsaals

Abstract:

Diffusion and ionic transport in solids, lithium compounds in particular, presently attracts great interest with respect to applications, e.g. Li ion batteries, as well as concomitant basic research being in the focus of the present talk.

One of the most versatile experimental methods to gain detailed insights into atomic/ionic diffusion in solids is nuclear magnetic resonance (NMR) utilizing spin bearing nuclei, inherent or introduced in the sample, as 'internal spies'. An arsenal of various NMR techniques gives access to jump rates over more than ten decades and the corresponding activation barriers. Information on the jump geometry may be obtained as well. Combining NMR results with those of other microscopic and macroscopic diffusion methods, such as ac and dc ionic conductivity and mass tracer measurements, and comparing solids in different structural forms yields additional insights, e.g., into diffusion mechanisms. Recent examples of diffusion studies in different materials classes deal in particular with crystalline, nanocrystalline, nanoglassy and glassy Li ion conductors.

CHEMISCH-PHYSIKALISCHE GESELLSCHAFT

c/o Universität Wien, Fakultät für Physik, 1090 Wien, Strudlhofgasse 4/Boltzmanngasse 5, Austria
Tel.: +43-(0)1-4277/51108 - Fax: ++43-(0)1-4277 9511 - E-Mail: Christl.Langstadlinger@univie.ac.at
ZVR-Zahl: 513907440 - <http://www.cpg.univie.ac.at>

Konto: Bank Austria Nr. 08644408000 - BLZ 12000 - IBAN: AT22 1100 0086 4440 8000 - BIC: BKAUATWW

Vorsitzender 2012/13: Ao.Univ.Prof.Dipl.Ing.Dr. Thomas Prohaska, Analytische Chemie, Universität für Bodenkultur, Wien