

EINLADUNG

zum Vortrag
von

Univ.Prof. Dr. Oskar Paris
Institut für Physik, Montanuniversität Leoben

über

Nanomaterials in the new light: Scattering experiments with synchrotron radiation and neutrons

am

Dienstag, 17. November 2009, um 17 Uhr

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

Abstract:

Our research is directed towards the structural characterization and the understanding of structure-function relationships of hierarchical biological and synthetic nanoscale composites. In this lecture we give an overview about recent synchrotron and neutron scattering experiments on mineralised biological tissues and on the phase behaviour of fluids in confined geometry. In particular, we discuss the thermal stability of amorphous minerals in lobster cuticle, and the origin of the self sharpening mechanism in sea urchin teeth. We further present recent results on *in-situ* fluid adsorption in ordered mesoporous silica, with particular emphasis on the deformation of the porous solid upon capillary condensation of the fluids.