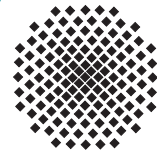


Stuttgarter Physikalisches Kolloquium

Max-Planck-Institut für Festkörperforschung
Max-Planck-Institut für Intelligente Systeme
Fachbereich Physik, Universität Stuttgart

Ansprechpartner: Christian Ast
E-Mail: C.Ast@fkf.mpg.de
Telefon: 0711 - 689-5250



Dienstag, 30. Juni 2015

17.15 Uhr

Hörsaal 2 D5

Stuttgarter Max-Planck-Institute, Heisenbergstraße 1, 70569 Stuttgart-Büsnau

Time Domain Materials Science: X-ray Imaging of Excitations in Metal Nanoparticles

Ian Robinson

London Centre for Nanotechnology, University College London, United Kingdom

Abstract

Coherent X-ray Diffraction is a method of imaging materials on the nanometre length scale using the high coherent flux of the latest synchrotron sources. Diffraction signals can be used to identify specific parts of the sample under investigation. When Bragg peaks of the sample are used, the resulting image becomes highly sensitive to the presence of strain, so the method is effective in exploring structural changes in materials. Bragg Coherent Diffraction Imaging (BCDI) can be used with XFEL sources from which the X-rays are highly coherent, but also in very short pulses. These can be used to “freeze” vibrations in materials and observe new transient phenomena. This also opens an opportunity to discover new phases of matter during the transients between more stable states.