



Sonderkolloquium des SFB 450 (FU) und des MBI

am Dienstag, den 18.11.2003, um 11.30 Uhr

Max-Born-Saal

es spricht

**Dr. Alexander Föhlisch, Institut für Angewandte Physik,
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über

„ Probing ultrafast dynamic processes on surfaces:

**Resonant spectroscopy with soft X-rays and stroboscopic
experiments with accelerator based short pulse facilities.”**

Abstract

Using resonant excitation with soft X-rays, dynamic processes can be investigated spectroscopically by relating them to the femtosecond timescale of the core-hole state. With this approach charge transfer processes as fast as 0.1 fs have been determined in adsorbate systems.

In particular resonant inelastic X-ray scattering (RIXS) as a photon-in/photon-out technique is a tool to investigate ultrafast dynamic processes in external electric and magnetic fields without restrictions on the sample environment (adsorbates, buried interfaces, liquids). The feasibility of RIXS to yield dynamic information and to

determine simultaneously the occupied density of states in an atom specific and orbital symmetry selective way is presented.

The complementary approach using directly the stroboscopic time structure of a synchrotron light source at the MBI beamline at BESSY II is presented and an outlook of the upcoming experiments at the Hamburg free-electron-laser TTF2 with intense fs soft X-ray pulses is given.

Interessenten sind herzlich eingeladen

Prof. W. Radloff