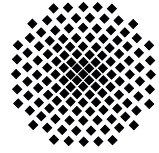


Stuttgarter Physikalisches Kolloquium

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

Ansprechpartner: Dr. Michael Hirscher
E-Mail: hirscher@mf.mpg.de
Telefon: 0711 - 689-1808



Dienstag, 12. Juni 2012

17.15 Uhr

Hörsaal 2 D5

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

Gastgeber: Prof. Gisela Schütz, Max-Planck-Institut für Intelligente Systeme*, Telefon: 0711 - 689-1950

X-ray free-electron lasers - New microscopes for structure and function of matter

Wilfried Wurth

Department of Physics and Center for Free-Electron Laser Science, University of Hamburg

Abstract

New light sources based on linear accelerators such as the free-electron laser FLASH at DESY in Hamburg in the extreme ultraviolet, the Linac Coherent Light Source LCLS in Stanford as the world's first X-ray laser and the European XFEL currently under construction in Hamburg provide ultrashort, extremely powerful short wavelength pulses with unprecedented coherence properties.

These new sources open up new possibilities in spectroscopy and microscopy with exciting applications in physics, chemistry, materials science and life science. The talk will give an introduction into the physics of these light sources and their properties and will review recent highlight experiments with these sources.