JOHANNES KEPLER UNIVERSITÄT LINZ

PHYSIKKOLLOQUIUM

Fachbereich für Physik

Johannes-Kepler-Universität Linz

Im Rahmen des Physikkolloquiums spricht

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ELI Beamlines laser facility, Prag

über

Material Science applications at ELI Beamlines: VUV ellipsometer

Abstract:

ELI Beamlines (ELI-BL) is a user facility being built in Prague, Czech Republic, as one of the three pillars of the transnational European Extreme Light Infrastructure (ELI) project that will hold some of the most intense lasers in the world. At EL-BL, the high power lasers will drive secondary sources such as X-ray plasma source, High Harmonic Generation Source and Optical Parametric Amplifiers coupled with second and third harmonic generation crystals.

One of the applications of these secondary sources is the study of fast processes in solid state materials by using the techniques of X-ray Diffraction, X-ray Absorption Spectroscopy, VUV ellipsometry and Optical spectroscopy (absorption and Raman) in a time-resolved way.

The first technique, dedicated to material science, to be implemented at ELI-BL is the VUV pump-probe magneto-optical ellipsometer. This new ellipsometer covers the spectrum from the IR to wavelengths shorter than the VUV, from 1 to 40 eV, with a 1 KHz switchable magnetic field of up to 1.5 T. Time-resolved pump-probe measurements in the range of the femto and picoseconds are also possible.

In this talk, an introduction to the ELI-BL user facility, to the planned material science applications and to the VUV ellipsometer will be presented. Currently, experiments with time-resolved ellipsometry in the optical range are being carried out and by these results the advantage of this technique will be explained.

Datum: Do, 01.12.2016 **Zeit: 17:15 Uhr** **Ort: HS 8**