



E I N L A D U N G

zum

V E R A - S E M I N A R

von

Hubert Gnaser

Department of Physics and
Institute for Surface and Thin-Film Analysis IFOS
University of Kaiserslautern, Germany

Atom Probe Tomography

Atom probe tomography (APT) is a lens-less point-projection microscopy that resolves individual atoms on the surface of a sharply pointed tip (radius of curvature $R < 100$ nm), at a magnification of the order of $\sim 10^6$. The specimen tip is pulsed to a positive potential V with respect to ground, thereby generating electric fields $E \sim V/R$ of some 10 V/nm. Ions released from the apex due to field evaporation are sent flying to a position sensitive detector where they are identified by time-of-flight mass spectrometry. Continuous removal of single atoms provides the possibility of a 3D elemental characterization of solids with sub-nm spatial resolution. The basic principles of the technique and some selected analytical applications will be discussed.

Donnerstag, 01. Dezember 2011, 16:30 Uhr

**1090 Wien, Währinger Str. 17, "Kavalierstrakt",
1. Stock, Victor-Franz-Hess Hörsaal**