

Master thesis

Setup and first experiments with an ultra-high vacuum (UHV) chamber for in-situ X-ray diffraction and spectroscopy experiments at ANKA

The group NANODYNAMICS at the Institute for Photon Science and Synchrotron Radiation (IPS), KIT offers excellent mentoring and insight into the fascinating field of surface science and nanotechnology.

This thesis deals with the setup and mounting of an UHV chamber for in-situ X-ray diffraction and spectroscopy experiments at the synchrotron radiation facility ANKA (Angströmquelle Karlsruhe) of the Karlsruhe Institute of Technology.

The aim is to investigate the interplay between structure, lattice dynamics, and magnetic properties of ultra-thin films and nanostructures based on rare earth metals. The experiments take place at UHV conditions, in-situ (during growth process) and at low temperatures (below 80K).

We are looking for a physics student, whose interests are in experimental solid-state physics, surface physics, nanotechnology and/or synchrotron radiation.

Institute/Department:

Laboratory for Applications of Synchrotron Radiation (LAS) and Institute for Photon Science and Synchrotron Radiation (IPS) of the Karlsruhe Institute of Technology

Beginning on agreement

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