



PhD position in imaging of spin dynamics using X-ray holography



A PhD position in the field of dynamic imaging of spin structures including domain dynamics and domain wall motion using X-ray holography is immediately available. The PhD position is part of a joint project between the group of Prof. Eisebitt at the Institut für Optik und Atomare Physik at the Technical University Berlin and the group of Prof. Kläui at the Institute of Physics at the Johannes Gutenberg University of Mainz. This collaboration combines the leading expertise in the fields of spin and domain dynamics (Kläui) and X-ray holographic imaging (Eisebitt), resulting recently in the first observation of domain wall motion in materials with perpendicular magnetic anisotropy with sub-50 nm spatial resolution and sub-nanosecond time resolution simultaneously.

The PhD student will be part of both groups, with access to a broad range of advanced fabrication equipment, such as two focused ion beam (FIB) devices, a dedicated electron beam (E-BEAM) writer, clean room facilities, sputtering, evaporation and PLD deposition systems. Furthermore, a variety of characterization tools (femtosecond time resolved MOKE, SQUID, MFM, VSM and transport measurement setups for the magnetic properties, X-ray diffractometers and TEM for the structural properties) are available in the project. Finally, external facilities, in particular synchrotron and free electron laser sources, with X-ray holography, STXM, PEEM and SAXS experiments, will be part of the project. The project includes research at the leading edge of spin dynamics combined with the latest technology, and thus requires particular skill, enthusiasm and willingness of the PhD student to learn a broad range of topics and techniques, independent thinking, and good communication skills to liaise with team members and collaboration partners.

We offer for very good candidates the possibility to be considered for the Graduate School of Excellence "Materials Science in Mainz" (www.mainz.uni-mainz.de), which was recently funded by the German Excellence Initiative.

The successful candidate will be part of the Helmholtz Virtual Institute "Dynamic Pathways in Multidimensional Landscapes" centered in Berlin and providing strong ties to a variety of international and excellent research institutions (www.helmholtz.de/forschung/virtuelle_institute/dynamic_pathways/)

For more information please see also the group web pages:

www.klaeui-lab.de

www.ioap.tu-berlin.de/menue/arbeitsgruppen/ag_eisebitt/

For questions and applications, please contact

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