

On-line SPICE-SPIN+X Seminars



Wednesday, 14th April 2021, 15:00 (German Time)

The seminar will be via Zoom ([Meeting ID: 835 7204 6979](#)) and live streamed in the SPICE YouTube Channel.



Jörg Wunderlich

Regensburg University

Magneto-Seebeck microscopy of spin-orbit-torque driven domain wall motion in a collinear antiferromagnet

We introduce a novel microscopy for antiferromagnetic nanostructures based on the local generation and detection of photo-currents. We apply this method to the collinear and fully compensated antiferromagnet CuMnAs where the photocurrents result from the local variation of the magneto-Seebeck effect (MSE). Using a scattering near-field microscope, we display narrow 180-degree domain walls (DWs) and provide experimental evidence for reversible spin-orbit torque-driven domain wall motion of 180-degree domain walls. MSE-based microscopy can be applied in principle to the large class of conductive antiferromagnets. Unlike the established X-ray linear dichroism microscopy based on large-area synchrotrons, photocurrent-based microscopy can be easily performed with ordinary laboratory equipment.