Nanomaterials in the light of soft x-rays

Gisela SCHÜTZ

(Max Planck Institute for Intelligent Systems, Stuttgart, Germany)

Lundi 4 mars 2019 – 14h00
Amphithéâtre SOLEIL

SEMINAIRE

Advanced soft x-ray microscopy provides an element-specific visualization of nanostructures with lateral resolution of typically 20 nm using Fresnel Zone Plate optics and 3 nm on the basis of coherent imaging via ptychography. The department Schütz runs an own scanning x-ray microscope at the storage ring BESSY II in Berlin. Chemical and magnetic maps of the specimen are taken using the spectroscopic techniques of NEXAFS and XMCD as contrast mechanism. By different detection modes surface and bulk contributions can be monitored at once as demonstrated for Li battery particles. Fast single photon detectors allow stroboscopic imaging with time resolutions limited only by the time structure of the synchrotron with typically 10 – 100 ps flashes. The unique combination of spatial and time resolution gives excellent possibilities to investigate nanoscale magnetization dynamics and model devices covering a wide field of spintronics and magnonics.

References:

*Science **337**, 1075 (2012)*
*Nature **444**, 461 (2008)*
*Nature Nanotechnology **11**, 948 (2016)*
*Nature Materials **15**, 501 (2016)*
*Nature Physics **13**, 170 (2017)*
*Nature Electronics **1**, 288 (2018)*

Ce séminaire sera suivi d'une pause café

Formalités d'entrée : accès libre dans l'amphi du pavillon d'Accueil.
Si la manifestation a lieu dans le Grand Amphi SOLEIL du Bâtiment Central merci de vous munir d'une pièce d'identité (à échanger à l'accueil contre un badge d'accès)

SYNCHROTRON SOLEIL
L'Orme des merisiers - Saint-Aubin - BP48 - 91192 GIF S/YVETTE cedex
www.synchrotron-soleil.fr/fr/evenements
CONTACT : sandrine.vasseur@synchrotron-soleil.fr