Development of synchrotron methods for material science

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SEMINAIRE

Lundi 7 juillet 2025 – 14h00
Amphithéâtre SOLEIL

In the presentation I will describe a development of two novel experimental methodologies for material science. As first an x-ray standing wave (XSW) technique for studying the magnetism in crystals at the atomic level will be addressed. This method is a combination of standard XSW and x-ray magnetic circular dichroism (XMCD) and can provide directly information about magnetic moments of specific atomic sites. I will present theoretical foundations, simulation results and experimental data from the proof-of-principle experiment on yttrium-iron-garnet single crystal.
Secondly, I will talk about the real-time *in situ* studies of the growth of thin films using a combination of grazing-incidence small-angle x-ray scattering (GISAXS) and substrate curvature measurements. I will address in more details an issue of performing GISAXS for the sample deposited on the curved substrate. The application of the technique will be presented on the example of the sputter-deposition of Ag with N2 gaseous additive. This work is a part of the Frech-German ANR-DFG project IRMA, which is a collaboration between KIT, SOLEIL and Institute Pprime.

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 piece d'identité (à échanger à l'accueil contre un badge d'accès).

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