

Séminaire SOLEIL

The P11 X-ray microscope at PETRA III for the investigation of biological samples

Alke MEENTS

(DESY, Hamburg, Germany)

Invité par Andrea SOMOGYI

Lundi 3 février à 14h00

Grand Amphi SOLEIL

Beamline P11 at PETRA III is dedicated to structural investigations of biological samples. It provides two experimental stations, one for macromolecular crystallography and one for X-ray microscopy. The X-ray microscope will serve an energy range between 2.5 KeV and 10 keV, will be operated in-vacuum and allow for cryogenic sample cooling to reduce radiation damage. The microscope is built in a modular way so that different microscopy techniques can be combined. X-ray Zernike phase contrast microscopy in full field mode with a field of view of $50 \times 50 \mu\text{m}^2$ and a resolution of 50 nm will allow to generate an overview image of the sample and to select regions of interest for later inspection e.g. of the element distribution by X-ray fluorescence in scanning mode. All techniques can be applied in 2D (mapping) and in 3D (tomographic mode).

Although the in-vacuum version of the microscope is not operational yet, different microscopy experiments such as Zernike full-field tomography and ptychography have been performed already. The results give a good impression of the capabilities of the final version of the microscope. A modified version of this microscope will be also installed at the Nanoscopium beamline at SOLEIL. The presentation will cover both technical aspects of the microscope as well as first scientific results.



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

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