

ESRF-EBS and spectroscopy, example of beamline ID24

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Amphithéâtre SOLEIL

ID24 is an ESRF beamline dedicated to hard X-ray Absorption Spectroscopy (XAS). The beamline is based on an undulator source and comprises two branches, ID24-ED and ID24-DCM.

ID24-ED is an energy dispersive XAS beamline, optimized for ultrafast XAS measurements, reaching timescales down to the single bunch (100 ps), enabled by the high flux up to 10^{13} ph/s delivered by the undulator source. Its primary application is the study of matter under laser-induced dynamic compression, generated by the High-Power Laser Facility (HPLF).

ID24-DCM is a high-brilliance XAS beamline based on a next-generation scanning Double Crystal Monochromator (DCM) developed by the ESRF. It covers an X-ray energy range from 5 to 45 keV. Taking advantage of the new EBS characteristics, this branch combines high flux up to 10^{13} ph/s with a variable X-ray beam size ranging from $1 \times 1 \text{ mm}^2$ down to $500 \times 500 \text{ nm}^2$ (FWHM).

After a brief introduction of ESRF-EBS and spectroscopy activities at ESRF, I will describe the ID24 beamline, with particular emphasis on ID24-DCM branch, which has been specifically developed and optimized for ESRF-EBS. I will present the new DCM developed by ESRF and the effort made to improve the synchronization between the DCM and the undulator source. Finally, I will illustrate the capabilities of this beamline through recent technical and scientific results.

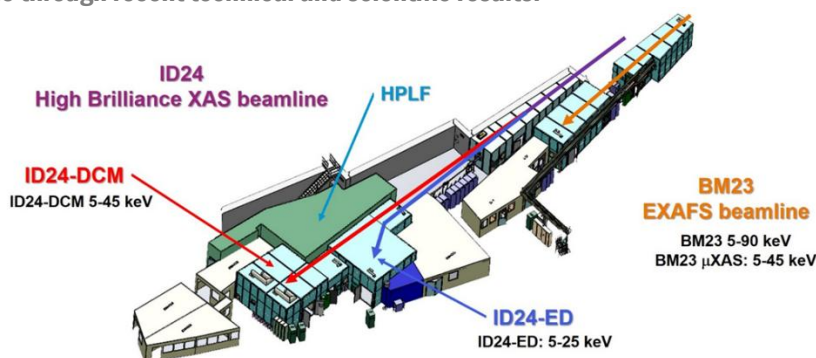


Figure 1. BM23 and ID24, a beamline complex dedicated to XAS at ESRF



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).

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