

D2am, a multipurpose CRG beamline at ESRF available for DAFS studies

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D2am is a diffraction beamline mainly concerned with anomalous scattering. This beamline is shared between three communities :

- life sciences crystallographers, who are interested in structural investigation using MAD techniques;
- small angles scattering scientists, who can use the anomalous capacity of the beamline to study demixion processes in metallurgical alloy;
- material sciences crystallographers, who use this beamline for various studies from powder diffraction experiments to diffuse scattering studies.

One of the specificities of the beamline is to perform diffraction anomalous fine structure (DAFS) studies. This has been realized by different users on various kind of samples: from FeIr multilayers to a GaPAs superlattice grown on perfect GaAs and tried more recently with powders. The beamline optic uses a Si(111) monochromator located between two Pt-coated mirrors. This design allows the choice of the incident energy between 5 and 25 keV and focusing in both the horizontal and vertical planes up to 300x300 μm at a fixed sample position. In DAFS experiments, the monochromator is moving like a channel-cut one while the sample and the detector are moved. Examples will be given of various strategies used for data collection according to the sample characteristics.