TUTORIAL

Surface X ray Diffraction (SXRD) data reduction and analysis

Tuesday, the 28th of January, 2025

In this tutorial the reduction and analysis of surface diffraction and scattering data will be shown for users.

Location: Reception Building, SOLEIL

Organizers: SixS beamline (A. Coati, Y. Garreau, A. Resta, M. Sauvage-Simkin, A. Vlad), GRADES group (F. Picca, E Farhi) and S2UO (F. Cheynis)

Number of participants: 50

After a brief reminder on the technique basis and data collection strategy, the participants will be guided in the use of BINoculars-NG, a program developed at ESRF and refurbished at SOLEIL that allows to reduce the data, starting from images collected by a 2D hybrid detector. Data can be projected in a datacube in different spaces, depending on the experimental needs. Available spaces are *q*-space, *hkl*-space, angular-space, mixed (time, angle, q,…) – spaces. Once the dataset reduced in the desired space, data integration along desired space directions can be achieved.

The tutorial will show how to manage the data collected on a sample surface and how to obtain the surface structure starting from the diffusion rods integrated by BINoculars. ROD program developed by E. Vleg will allow to solve the structure.

All the users who want to discover surface x-ray diffraction data treatments available at the SixS beamline are welcome.

The participant needs a PC with no special requirements but a wifi connection. The program and the data will be available on a dedicated space on the DARTS platform.

(1) http://dx.doi.org/10.1107/S1600576715009607
(2) https://doi.org/10.1107/S0021889899013655