SIXS: Surfaces Interfaces X-ray Scattering

SOLEIL staff:

A. Coati (Head of beamline)
A. Vlad (Scientist)
A. Resta (Scientist)
B. Voisin (Technical assistant)
M. Sauvage-Simkin (Emeritus researcher)
Y. Garreau (Associated Professor)

Areas of application, instrumentation and methodologies used
Energy range: 5-25 keV.

SIXS is a beamline dedicated to the structural studies of surfaces, interfaces (solid/solid or solid/liquid), as well as nano-objects in controlled environments (UHV, catalysis reactor, electrochemical cells) using surface-sensitive X-ray scattering techniques.

Grazing Incidence X-ray diffraction (GIXD), grazing Incidence small-angle X-ray scattering (GISAXS), X-ray reflectivity (XRR), magnetic surface X-ray scattering, coherent scattering, anomalous scattering.
Experimental station 1: diffractometer coupled with UHV chambers equipped with surface preparation tools (ion guns, evaporators, leak valves…) and surface sensitive probes (STM, LEED, Auger spectroscopy).
Experimental station 2: multi-environment diffractometer which can host huge sample environments setups (catalysis reactor, electrochemistry cell, Langmuir trough, etc…)

Major disciplines
Structure and morphology of surfaces, thin films and nano-objects, self-organized surfaces, surfaces in reactive media (catalysis or electrochemical), liquid/liquid and liquid/gas surfaces and interfaces.