Surface and Interface Science Group

While investigations relating to surfaces and interfaces are performed at a number of beamlines around the ESRF storage ring, the three beamlines ID01, ID03, and ID32 of the Surface and Interface Science (SIS) group are highly specialised in this area of research. Resolving structural properties is the predominant goal, because the structure determines many other properties of a material. The X-ray tools are diffraction in grazing incidence geometry at all three beamlines and X-ray standing waves (XSW) at ID32. Work at ID03 and ID32 is mostly concentrated on the picometer scale, i.e. the precise atomic structure, whereas investigations at ID01 are more focused on the nanoscale. However, chemical composition as well as electronic and magnetic properties of surfaces and interfaces are also within the reach of the capabilities of the three beamlines. The method of choice is anomalous scattering at ID01, photoelectron- and fluorescence spectroscopy at ID32, and magnetic scattering at ID03.

At the tenth anniversary of the start of user operations in 1994, ID03 could look back at ten years of successful user experiments. ID32 will also celebrate its tenth anniversary of user mode this year, while ID01 will have to wait for another five years until 2010.