

July 2010 Alba mini newsletter

Beamlines:

<http://www.cells.es/Beamlines>

- * Core Level Absorption & Emission Spectroscopies (CLÆSS)
 - Programming of the beamline's control software has started.

- * Materials Science and Powder Diffraction (MSPD)
 - Bake-out of the main optics is currently in progress.

- * Macromolecular Crystallography (XALOC)
 - Site acceptance tests (SATs) of the automated sample changer (CATS) have been passed successfully.
 - The contract to procure the main data collection detector (PILATUS 6M) has been signed with DECTRIS.
 - Optics metrology of the Vertical Focusing Mirror has been performed.

- * Non-Crystalline Diffraction (NCD)
 - The white beam slits, xbpms, high-resolution fluorescent screen, and sample table with five degrees of motion have been installed and/or received. These four components have passed their Factory Acceptance Tests (FATs) and two of three of them their SATs.
 - Bake-out of sections along the beam line with equipment available has been carried out.

- * Photoemission Spectroscopy and Microscopy (CIRCE)
 - Mirror chillers have been tested.
 - Bake-out of several beamline components (diagnostics) has been performed.
 - The first image with the PEEM has been taken.

- * Resonant Absorption and Scattering (BOREAS)
 - The first optical sections of the beamline are all now in Ultra High Vacuum (UHV) ($p < 10^{-9}$ mbar).
 - We are continuing with the bake-out of the optical sections downstream the monochromator, including the gas cell which was recently installed.
 - The computing network installation is finished and the control system is being installed.
 - The first phase of the fluids installation is completed.
 - The 3 superconducting coils of the XMCD end-station have been successfully tested by Scientific Magnetics, which will proceed with their integration in the cryostat.
 - The contract for the sample cryomanipulator of the RSXS end-station (MARES) is about to be awarded.

- * X-Ray Microscopy (MISTRAL)
 - Bake-out is being carried out to reach working vacuum at the end of September.
 - In vacuum motor tests of the mirror are being carried out.

IDs:

http://www.cells.es/Divisions/Accelerators/Insertion_Devices/Ids/

- SCW30: SATs have been passed successfully. Maximum reachable field is 2.2 T and long-term stability has been tested for a deposited power on the vacuum chamber of 20 W (estimated in real case to be always lower than 10 W). Helium consumption is null even in the case of a single quench because cryostat is working at 0.5 bar pressure below atmospheric pressure.

- IVU21: New time schedule has been fixed by manufacturer. Delivery of IVU #1 will take place at the end of July. IVU #2 will be delivered in mid August.

- 2nd phase beamlines: a rough conceptual design of the electromagnetic undulator for LOREA beamline has started.

Accelerators:

<http://www.cells.es/Divisions/Accelerators>

- The Storage Ring is now closed, from a vacuum point of view, and installation of the interfaces (piping and cabling) is proceeding at a good speed. All the front-ends have also been baked out.

- Meanwhile, we are working very closely with the Controls Group and we are finalizing the preparations for the Booster commissioning scheduled to start on July 19th.



Figure 1. BL11-NCD: A section of the optics.

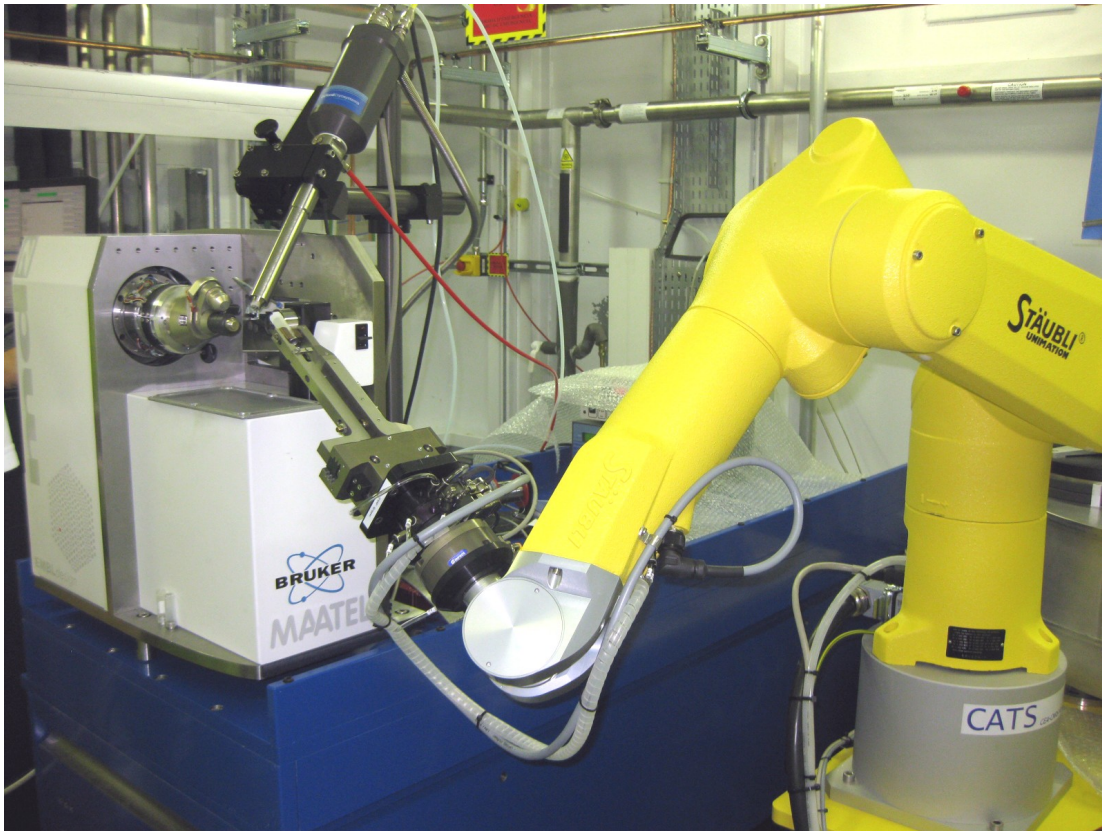


Figure 2. BL13-XALOC: The automated sample changer (CATS) about to place a sample on the diffractometer.

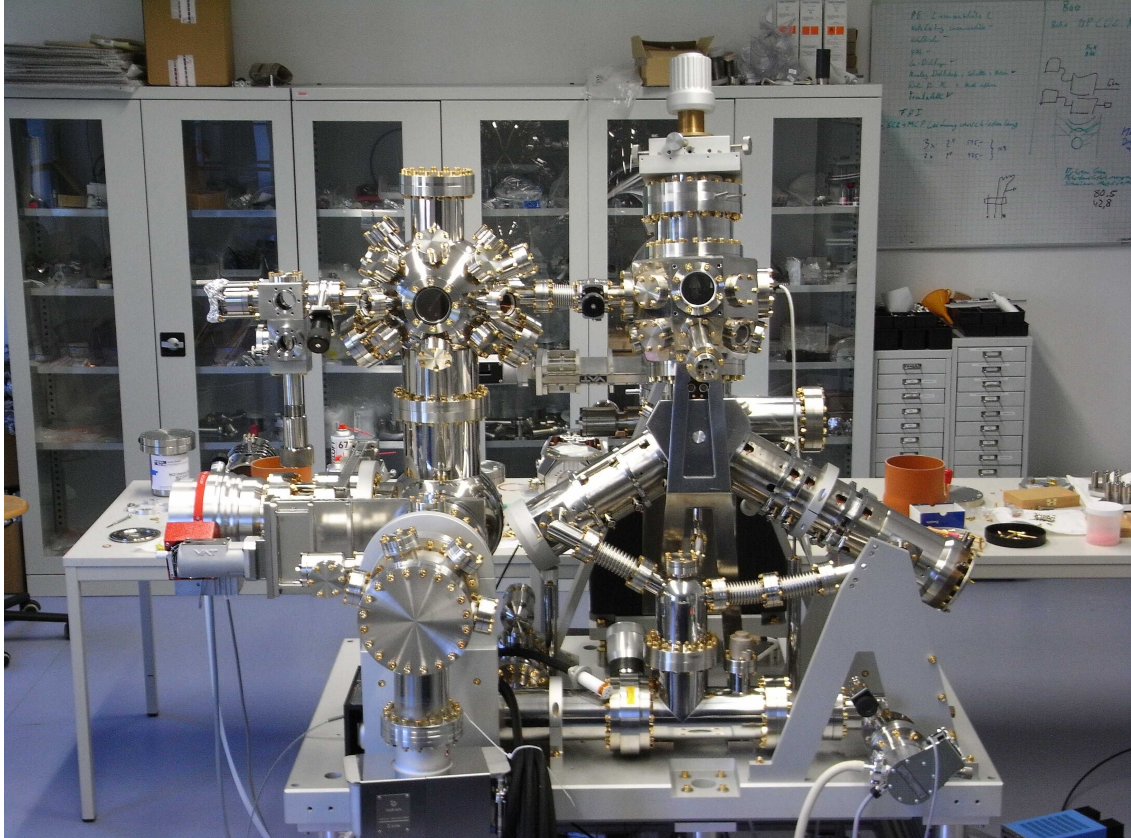


Figure 3. BL24-CIRCE PEEM microscope already mounted (excluding the energy analyzer) and vacuum tested at the company.

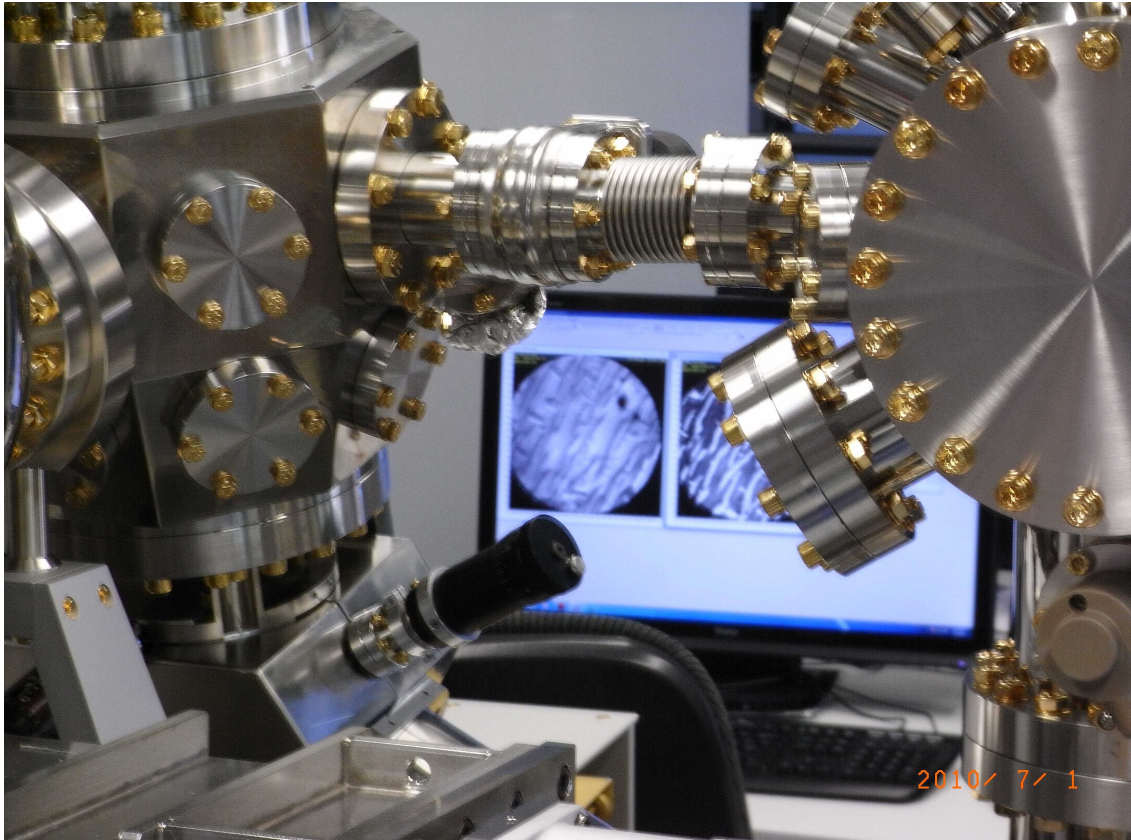


Figure 4. First image obtained with the ALBA PEEM during the electron optics tests. The field of view is about 20 micron.