

August 2011 Alba mini newsletter

Accelerators & IDs

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

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

- During this shutdown period the last 3 Insertion Devices of Phase 1 beamlines have been installed. The IVU for XALOC is ready for commissioning (Figure 1), the IVU for NCD has been installed, connected, and we are now performing a bakeout (Figure 2). Together with the colleagues from BINP the installation of the superconducting wiggler for MSPD is in progress and should be completed before August 8th (Figure 3).

- In addition several small jobs on different accelerator sub-systems have been carried out to improve performance and robustness of the facility.

- On the 22nd of August the machine will re-start with some weeks first dedicated to sub-systems tests. First beam in the storage ring is expected for September 12th.

Beamlines

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

* BL04-MSPD: Materials Science and Powder Diffraction.

- Motion tests on the high pressure beam conditioning table have been performed successfully.

- The design of the high pressure end station layout has finalized.

- The cabling of the end stations has started.

- The KB mirrors have arrived.

* BL09-MISTRAL: X-Ray Microscopy.

* BL11-NCD: Non-Crystalline Diffraction.

- We have received two ion chambers from Oken, Japan that work in air. The choice of using ion chambers for recording photon intensities before and after the sample has been made in order not to have to use window materials in the beam path in order to maintain the 'high' photon beam quality and not generate scattering unnecessarily.

- All beamline components downstream the mirror systems in the optics hutch (OH) ending in the experimental hutch (EH) including slit units, monochromatic photon shutter, acoustic delay line with pneumatic height control, diagnostic components and vacuum stages are installed, aligned, have undergone bakeout, and are ready to take photon beam when available to the beam line.

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- Time Frame Generators to be integrated into the beamline data collection system and sample control have been delivered. They will provide triggering signals to detectors, sample systems, etc. with a user defined time sequence.

- The Equipment Protection System (EPS) installation/configuration has started for the beamline and is expected to be finished by third week of August 2011.

- Control hutch for BL11 is being installed as of 18th of July. Simultaneously the necessary infrastructures such as lighting, telephone connections, internet network and connections, power sockets, racks associated with the EH are being put in. Work expected to be completed by end of August 2011.

* BL13-XALOC: Macromolecular Crystallography.

- The EPS is currently being implemented and preliminary tests on the OH & EH EPS have been successful.

- The design of the optics system of the fluorescence screens and the diagnostics unit at the detector is advancing.

* BL22-CLÆSS: Core Level Absorption & Emission Spectroscopies.

- Diamond and carbon plates and metal foils have been delivered and installed as white- and monochromatic- beam attenuators.

- Vacuum isolated LN₂-cryo (and heating) systems integrated with a catalytic in-situ cell and a standard sample exchanger are being designed.

* BL24-CIRCE: Photoemission Spectroscopy and Microscopy.

- The refocusing KB mirrors for the PEEM branch have been delivered. A leak in the cooling circuit of the M1 mirror has been repaired. Other minor interventions have been required in a couple of other chambers, and the vacation period is going to be used for the bakeouts.

* BL29-BOREAS: Resonant Absorption and Scattering.

- The final bakeouts of the PM/TM mirror system and of the monochromator are progressing well.

- The rotating platform and the XMCD support have been installed.

- Installation of the conventional hutch has started.

- The Factory Acceptance Tests of the XMCD end-station have successfully been performed. Installation and testing at Alba are expected by the middle of September.

- The double rotary feedthrough of the MARES end-station has been received at Alba (Figure 4).

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Figure 1.IDs: In vacuum undulator 1 (IVU-1) for BL13-XALOC is ready for operation.

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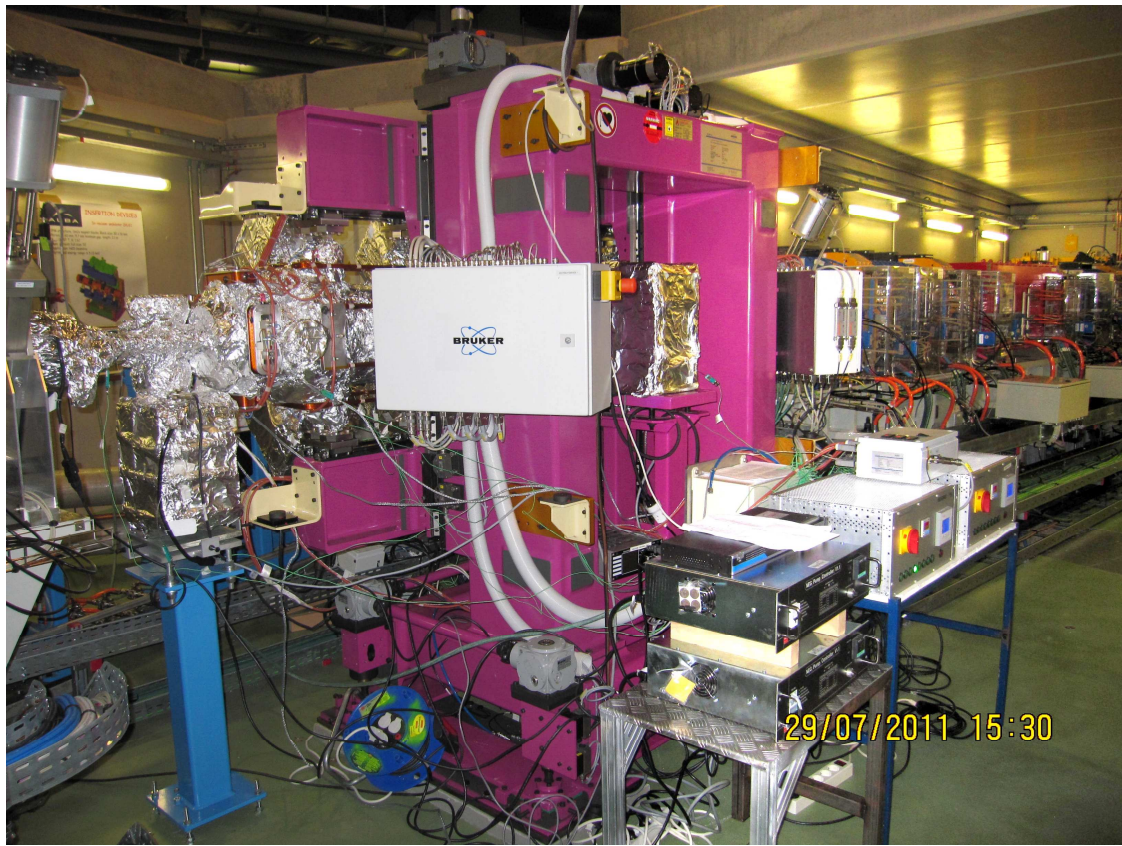


Figure 2.IDs: In vacuum undulator 2 (IVU-2) for BL11-NCD being baked out.

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Figure 3.IDs: The superconducting wiggler (SCW) for BL04-MSPD at final position and being pumped down.

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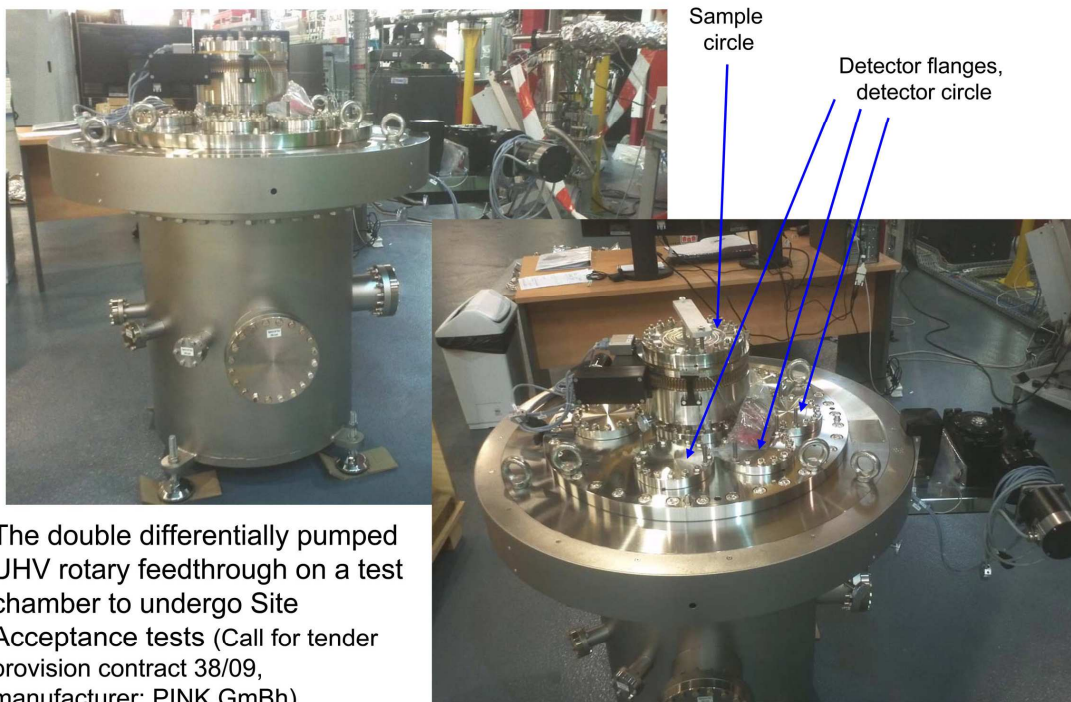


Figure 4. BL29-BOREAS: The ultra high vacuum rotary feedthrough (reflectometer).