



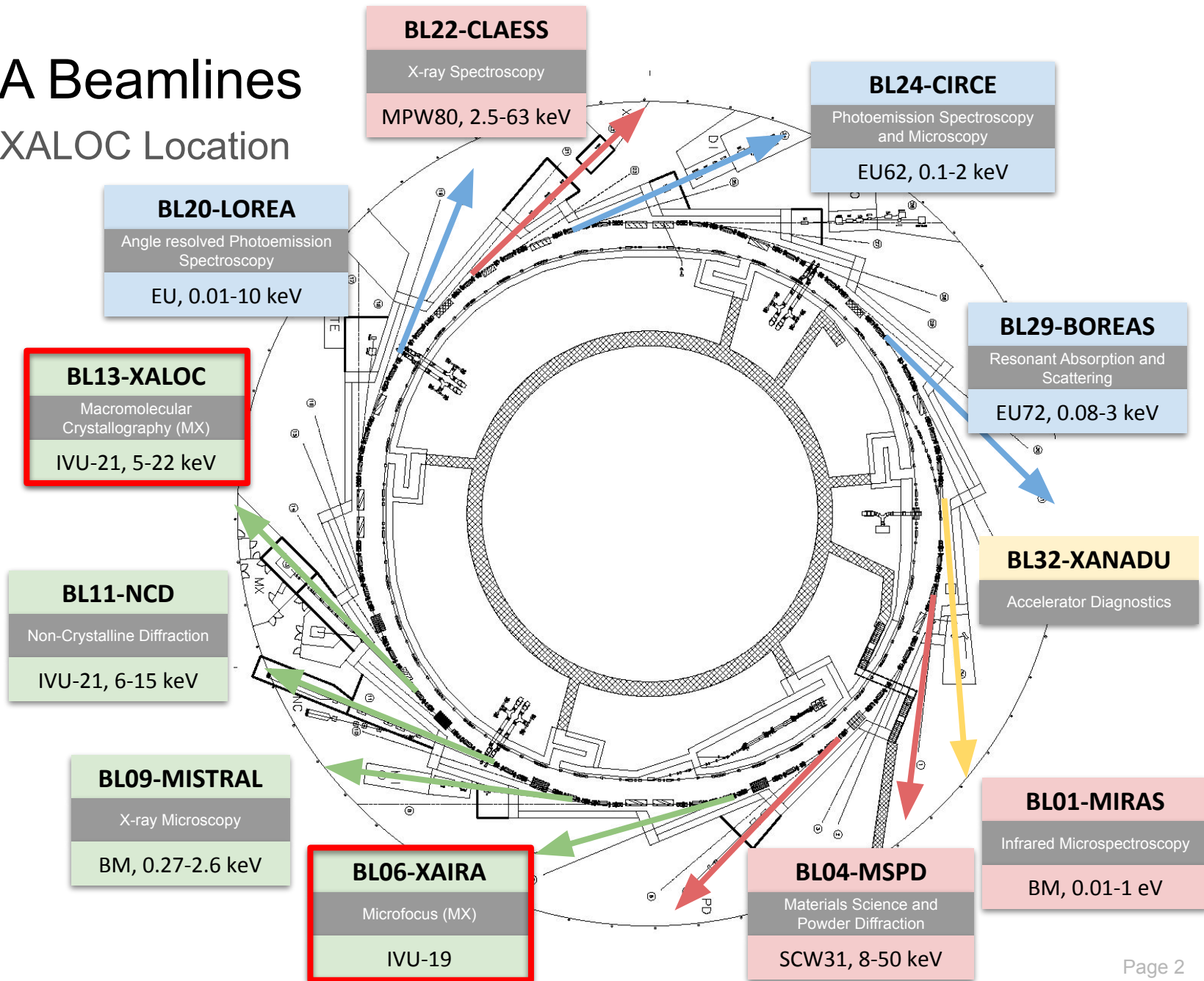
MXCuBE 2 @ ALBA status report

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On behalf of the controls group

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Barcelona

ALBA Beamlines

BL13-XALOC Location



BL13 - XALOC Beamline

MX experiments



Detector: Pilatus2 6M (Dectris) LimaCCDs (Core 1.7) OS openSuSE 10.3.

Diffraction: MD2M (Arinax) Icepap driven + BZoom OAV..

Sample Changer: CATS (Irelec) spine/unipuck (double gripper) + plates.

Instrumentation control: Sardana/Taurus4 + Tango 7/9.

OS platform: Linux (openSuSE 11.1/12.1/**Debian9**) + conda

Remote connection: NX Enterprise (No Machine)

MXCuBE 2 Qt4 @ BL13-XALOC

New MXCuBE app snapshot

The screenshot displays the MXCuBE 2 Qt4 control interface. The main window is titled '<@pcb1307>' and contains several panels:

- Top Panel:** Includes 'Sample centring' and control fields for Omega (-271.57), Omega Centring (-271.57), Kappa (0.00), Phi (0.00), and Omega X (1.09). It also features 'BackLight' and 'FrontLight' indicators and a 'Zoom' control set to 1.
- Sample Video:** A large central window showing a video feed of a sample. A red crosshair is visible on the sample. A scale bar at the bottom left indicates 50 μm and 100 μm. Coordinates are shown as X: 152 Y: 578.
- Sample Tree:** A tree view showing a hierarchy of sample components, including 'Sample changer' and 'Sample' with sub-items 1.1 through 2.14.
- Sample: manually-mounted:** A panel for configuring the sample. It includes 'Acquisition' settings (Oscillation start: -271.57, Osc. range per frame: 0.1, Number of images: 1, Total osc. range: 0.1, First image: 1, Exposure time: 0.1, Detector mode: Full range), 'Data location' (Folder: /manually-mounted), and 'File name' (manually-mounted_1_###.cbf). It also has checkboxes for 'Shutterless' and 'Compress data'.
- Machine Info:** A panel on the right showing machine status: '0.0 mA', 'ON', and 'TopUp Remaining: 0.0 s'. It also displays 'Energy' (15.0000 keV), 'Wavelength: 0.827 Å', 'Transmission: 8.82%', and 'Resolution: 2.099 Å'.
- Beam size:** A panel showing 'Horizontal: 55 μm' and 'Vertical: 17 μm'.
- Beam Stop Z:** A panel showing 'Beam Stop Z: -95.30'.
- Photon Shutter:** A panel with 'Open' and 'Close' buttons.
- Status Bar:** At the bottom, it shows '[2020-06-29 08:46:00] MXCuBE READY' and 'mx201800222@BL13 - XALOC State: Diffractometer: Sample changer: Disabled Last collect:'. There are also buttons for 'File system', 'EDNA', and 'ISPyB'.

MXCuBE 2 @ BL13-XALOC

MXCuBE running in a conda environment

- **mxcube:** (master frozen + local changes)
- **hwr:** (master frozen + local changes)
- **Miniconda3:** 4.6.14

# Name	Version	Build	Channel
python	2.7.13	heccc3f1_16	
pytango	9.2.5	py27he9270ad_0	tango-controls
pyqt	4.11.4	py27_4	
gevent	1.1.2	py27_0	
numpy	1.11.3	py27h3dfced4_4	
scipy	0.18.1	np111py27_1	
pydispatcher	2.0.5	py27_1	
jsonpickle	1.1	py_0	
lxml	4.3.3	pypi_0	pypi
matplotlib	1.5.1	np111py27_0	
pillow	4.2.1	py27_0	
pyyaml	5.1	py27h7b6447c_0	
suds-jurko	0.6	py27_3	
openldap	2.4.36	1	
tabulate	0.8.3	py27_0	
enum34	1.1.6	py27_1	
lucid2	1.0	pypi_0	pypi
opencv-python	4.1.0.25	pypi_0	pypi
sardana	2.5.0	pypi_0	pypi
taurus	4.5.1	pypi_0	pypi
xaloc	1.9.0	pypi_0	<develop>
slurm_client	0.1.0	dev_0	<develop>

MXCuBE 2 @ BL13-XALOC

General controls system issues

Controls System General Update:

- Change OS:
 - OpenSuSE 11/12 -- > Debian9 (MXCuBE running in a conda environment)
 - Native Debian packages (no more Bliss Packages , rpm).
 - New CI pipelines: from push to deployment.
 - New deployment tools: SALT.
 - BZoom OAV integration (Arinax TANGO server).
- Upgrade Tango7/Tango8 → Tango9.
- Upgrade Taurus3 → Taurus4. Supports PyQt4/PyQt5 and Py2/Py3.
- Upgrade Sardana Py2 → Sardana Py3 (no longer support to Py2 version).
- Upgrade screens (3x1920x1080 -> 2x2560x1440).

Ongoing projects @ XALOC:

- Integrate new OAV system (BZoom, Arinax server).
- MXCuBE/ISPyB user experience improvements (Adapt UIs).
- Improve post-processing cluster access/performance (AutoPROC via EDNA plugins).

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BL13-XALOC

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