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Update Status MxCuBE3 at beamline XRD2

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XRD2

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XRD1

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In Operation since September 2019 (1 year) : Aim stability

Indian 35% - General User 35% **30%** in-house/maintenance/Proprietary/Course Allocation of time: all proposals are evaluated monthly, sometimes not fast enough, 8h shifts too long

Few new hardware implementation (lid for SC dewar): Refining our model of operation:

ESRF pucks ... New Capillary ... Smartmagnet ... Optimize beam ...

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UNIPUCK only no more MD2 Capillary collision more reliable to mount/unmount new card with different with different magnetic field Move beam to center of camera

- No more moving the aperture/capillary ٠
- Instead mono 2nd xtal roll/ mirror pitch

Problems ... Zoom (open loop), scintillator burn, conf files reset to non-working files **Computing environment**

- Data collection simplify, kappa ... smartmagnet issues •
 - barebone distl Data analysis



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March 2019

- Login :
- Rest authentication through ELETTRA VUO
- Logout restart server every time
- Data Collection Tab:
 - Beamline Actions
 - Changing md2 phases
 - Robot actions
 - Diffractomer (MD2):
 - Lights (Tango)
 - Zoom (Tango)
 - Camera: MD2 JPG (Tango)
 - 3 Click centring: MD2 command (Tango)
 - Automatic centring
- Sample Changer Tab:
 - XRD2 csv temporary solution -ISPyB
- Sample Overview Tab:
 - Data Collection—Characterisation added
 - MCA scans

October 2019

- Login :

- Rest authentication through ELETTRA VUO
- ISPyB
 - Connection with VUO, proposals, people
 - Populating the table with persons on sessions for logins
- Logout restart server every time

- Data Collection Tab:

- Beamline Actions
 - Optimize beam, intensity,vert/horizontal positions, shape
- Diffractomer (MD2):
 - Changing md2 phases moved to main menu
 - Automatic centring loop centering
 - Camera streaming
 - Better status of pin mounted/unmounted

- Sample Changer Tab:

- Fully integrated via SynchWeb-ISPyB
- Robot actions moves to SC
- Sample Overview Tab:
 - MCA scans



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Since last meeting

Resolving issues other than MXCuBE

Data acquisition computer died (twice)..... Two machines (dev machine)

Migrating to a new machine, different OS (Ubuntu 18.04), affecting everything not just MXCuBE

Mounting/unmounting undesired behavior ... pin over pin crash

When unmounting xtals sometimes we would have one pin umounted on an other.

Invested time at getting better status of the pin for different scenarios of failure to behave.

Add new standalone GUI for MCA

UnResolved issues

Overwritting the files! We have a database, we know what run each «name» has ?!? Login out



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Main focus since last meeting

Integration of the database – MXCuBE ISPyB (DLS version and SynchWeb)

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MISSION 1 CONTAINERS MANAGEMENT

We were using CSV files. Despite having instructions and a template on the website, we had to modify it *every* time.

Addressing issues such as 1- having to re-fill them at every start of MXCuBE Funky characters in name (space , %...) Bad habits (meta data in name date, time, hopes...) Same name (overwiriting data) Trays– freeze onsite

2- Users from India might or might not be synchronized with their dewars (Customs issues or Visa issues). The person having to deal with the data collections could be staff or a different user from India.



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Main focus during the last 6 months

Once the containers are done... why stop there?

- Login, Session
- In-house projects
- (unclear how mxcube in-house flag works)
- Harvesting the data collection parameters
- Displaying the snapshots of xtal and the diffraction pattern.
- Distl plot

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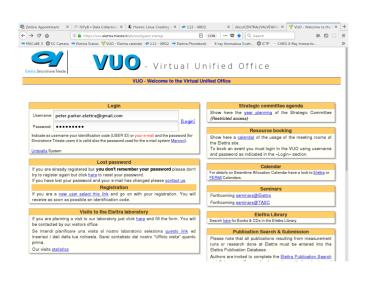
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Present focus : REMOTE tools and consolidating present user interfaces

VUO

- users need to register and added to proposal/investigations
- Dewar management
- Download data



MXCuBE3 Web version

Not ready but we have pressure to do a show and tell this month BRAGGY ???



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Status Now and QUESTIONS FRESH from 2 days ago

- Temporary solution in place to access the port on that daq machine
- Login same on master and observer,
- We can give control but can get it back. To regain control locally, kill server, overlay on top of buttons
- Observer can't log out, but re-login ok
- How can the local staff monitor what is going ON?
- Using Safari works LESS
- Braggy has a link in MXCuBE? How to authenticate? Aiming for future
- Move to server on DMZ
- Individual Login , we know who should have access
- Control switch
- We need to know what is going on
- We need to add some beamline optimization
- We need to have a view of robot camera
- We need to see diffraction
- Add some pipeline for data analysis

Feedback

- Users in India very pleased
- Beamlines scientists terrified

