Short manual user guide to PROXIMA-1 beamline

Connection to MXCuBE

How to find LOGIN/ PASSWORD to connect to MXCuBE and NoMachine

- 1- Log-in the SunSET : <u>http://sunset.synchrotron-soleil.fr/sun/</u>
- 2- Click on « Proposal Management », then on « Before experiment »



3- Search for your project : Write your project number and then click on the magnifying glass

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▲ Enter search string here	in the mail sent by the User Office
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Proposal Type: Block Allocation Group Standard Rapid Access Next TransNational Access_EU In House Test Training Other Facilities	comming your beamtime.
BAG proposal type is: OMX/BioSAXS on tot MX/BioSAXS	
Show proposals as: 🔄 Main Proposer 📄 Coproposer 📄 BAG Coordinator 📄 Principal Investigator	
Participants List Status: O Not Submitted O Submitted O Accepted O Declined Laboratory :	
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User declaration to print, to fill in, to sign and to give at your arrival at SOLEIL Or Proposal account password to view and to change it	
Team members to add or view (BAG: FX1, FX2A and SWING) 70 access to ISPy8 (BAG: FX1, FX2A and SWING)	

4- Your project appears in the bottom of the page, click on the key icon to see your password :
Hint : the assigned password can be changed, for convenience purposes, by the PI of the project.

Introduction to PROXIMA-1 Data collection

Recommendations / parameters for data collection optimization

Typical transmission settings - Data characterization : 10-20 % transmission

- Data collection : 50% transmission @ 450mA 40% transmission @ 500mA

- Helical scan : up to 100% transmission

Visualization interfaces

Important :

- ADXV is in the « follow » mode (*adxv_follow*) only for characterization visualization (not for standard collection) when *.h5 is replaced by *.cbf in the pattern field of the ADXV Load window.

- ALBULA can be used for live data collection visualization (*in Auto LOAD, EIGER monitor, check if IP address is* 195.221.8.71 port 80 Pause 2)

Centring parameters

Define the number of clicks for centring in the Proxima 1 -> Edit Preferences tab.

Default setting : <u>3 clicks and 180°</u> Often used alternate setting : <u>5 clicks and 72°</u>

PX1Preferences • • ×	PX1Preferences
PX1 Preferences Diffractometer ✓ Use Capillary Pin Length (mm) ✓ Use Cryostream Beamstop position 19.999998	PX1 Preferences Diffractometer ✓ Use Capillary Pin Length (mm) ✓ Use Cryostream Beamstop position 19.999998
Centring Sample Type LOOP ▼ #Points 3 Omega Increment, 120.0 Data Analysis After characterization Auto <u>OK</u> <u>Cancel</u>	Centring Sample Type LOOP ▼ #Points 5 Omega Increment 72 Data Analysis After characterization Auto <u>OK</u> <u>Cancel</u>

Beamstop position

You can change the beamstop position in the Proxima 1 -> Edit Preferences tab

The Beamstop default position is 20 mm The beamstop may be moved from 10 to 40 mm from the sample.

Helical scan



6- Start data collection

Misc. Features

- a light blue color will highlight every mounted samples on the tree view that have been unmounted without being exposed to X-rays.



- Above the Tree view a chat window will allow you to interact with the local contact

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l	Say: Send					Say: Send				
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Shortcuts during centering

- Centering by Double clicking : double clicking on the loop will bring it on the beam.



- Keyboard arrows : using keyboard arrows will slide the loop/crystal position within the camera window plane.

Fixes on issues that might happen on PROXIMA1

Issue : Robot stay stuck (at the goniometer or in the dewar).

A collision (soft or hard) occured :

A pop up window will show up accordingly a will tell you the procedure to follow.

Pop up for soft collision

Pop up for hard collision

Cryotong Collision COllision Detected Collision location: Dewar Power on Cryotong: Yes Sample detected on Tool: Yes	Cryotong Collision <@proxima1-20.exp.synchrotron-soleil.fr> Collision location: Unknown Power on Cryotong: No Sample detected on Tool: No Message: Collision detection
A soft collision occured in the dewar ATTENTION : your sample is still in the gripper This SAMPLE will be LOST during the DEBUG procedure.	An unknown collision event has been detected in the Sample Changer. The supposed location of the collision is: unknown
Please click on DEBUG to fix the collision	Call your local contact or the hall coordinator and ask for help phone number: 016935-9797
21 Debug Close	Debug Close

Issue: Grayed out angle fields preventing the goniometer action



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v 🗌 1		Zoom	150 µ		(🎽	Warning		
	1:1 1:2 1:3						WARNING: referencing the goni sample. You need to remove it f	ometer may destroy your from the goniometer first
	1:5						Do you really want to perform a goniometer?	a referencing of the

- In Proxima1 tab (1), click on **Reference Gonio** command (2).

- Then Confirm **ok** (3) in the pop up window to launch the referencing procedure

- At the end of the procedure you can go on mounting the next sample (the one on the gonio during the procedure is lost)

Issue : Robot won't execute a mount or unmount command (frozen).

In the Robot tab (1 - after clicking on « Show Robot menu » on the main window-)

- The Robot is in moving state
 (2)
- In the robot message field there is the following error message : « WAIT for SplOn condition / not TRUE / 53 not FALSE » (3)





Fix :

- In Proxima1 tab (4), click on **Debug Un-Mount** command (5).
- Then Confirm **ok** (6) in the pop up window informing that the procedure is finished.
- You can mount the next sample

Bugs: ADXV frozen or visualization screen whited/blacked out



- In Proxima1 tab (1), click on Restart Camera or Restart ADXV command (2) accordingly.



Bug : for stopping a started data collection/characterization

<u> Fix :</u>

Uncheck all the currently checked sample boxes (1-2) before clicking on STOP (3)



