Software Environment Status on DESY Beamline P11

mxCuBE, Crystallography Control & Co.

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DESY

Crystallography Control

> ## LiveView speed up

- now works as ZMQ receiver, served in parallel to the central storage system

- fixed refresh rate for acquisition runs, every single image for screening and scans

> ## Auto processing enhanced

- short pre and detailed post processing

- xdsapp instead of plain xds

- outputs MTZ files

> ## Grid fly scan

- to detect crystals in a loop

- massive speed up compared to the former step scan

- auto evaluation using Spotfinder – counts the Bragg spots

- result visualisation as coloured on-axis overlay

Sardana

> mxCuBE is supposed to work on top of Sardana

> Sardana is now working at P11 for most motors and some basic stuff

- Modifications to the FS-EC standard Sardana motor controller to support other devices

- Modifications to the FS-EC Sardana packages and startup

> setexp macro to assign speaking device names according to the current experiment

```
>setexp xtal
```

For example assigns the alias *sampx* to *motor/galil_dmc_eh4/1*

mxCuBE

> installed the mxcube/master using Qt4

> configuration for most motors, energy and on-axis camera

> new HWOs:

- SardanaMotor – makes use of Vicentes SardanaCommand and SardanaChannel

- MotorWPositions – generic Motor object with predefined positions

- MjpgStreamVideo – Video object to use with mjpg_streamer

- DigitalZoomMotor – virtual motor to interface digital zoom features in the Video object

- NanoDiff – work in progress

> modified Bricks:

- Qt4_MotorPredefPosBrick – fixed issues with position 0

- Qt4_CameraBrick – even more controls than Ivars added

Outlook

> Sardana controllers for all frequently used devices

  ▪ BPM, shutters, distance sensor, bunch clock, other timing devices, ...

> use TaurusGUIs instead custom PyQt4 GUIs

> continue mxCuBE implementation

Many thanks to Ivars

for his help and patience