**Command cheat sheet**

|  |  |
| --- | --- |
| shb.opn() / shb.close() | Open / close the photon shutter |
|  |  |
| tu() / td() | Tune the mono 2nd crystal |
| TUNE\_STEP=0.004 | Tuning step size – 0.004 is good for the Si(111), 0.002 for the Si(311) |
|  |  |
| RE(mv(dcm.energy, <value>)) | Move **TO** an energy value |
| RE(mvr(dcm.energy, <value>)) | Move **BY** an energy step |
|  |  |
| RE(mv(xafs\_liny, <value>)) | Move motor **TO** a position |
| RE(mvr(xafs\_liny, <value>)) | Move motor **BY** an amount |
|  |  |
| dcm.wh() | where's the mono? |
| slits3.wh() | where are the slits? |
| m2.wh() | where's mirror 2? (focusing) |
| m3.wh() | where's mirror 3? (flat, harmonic rejection) |
| xafs\_table.wh() | where's the XAFS table? |
|  |  |
| RE(change\_mode('X')) | set mirror mode, see table below |
| RE(change\_xtals('h11')) | set monochromator, Si(111) or Si(311), h=1 or h=3 |

To stop a scan or a move

**Ctrl-C**

then

RE.stop()

|  |  |  |
| --- | --- | --- |
| **Mode** | **focused** | **energy range** |
| A | yes | 8keV + |
| B | yes | 6keV to 8keV |
| C | yes | below 6 keV |
| D | no | 8keV + |
| E | no | 6keV to 8keV |
| F | no | below 6 keV |

Slits3 coordinated motions:

* hsize (nominally 8 mm) and hcenter
* vsize (nominally 1.4 mm) and vcenter

**Common motors:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Motor** | **description** |  | **xafs\_linxs** | **foil position** |
| xafs\_linx | sample stage, X direction |  | 90 | bottom |
| xafs\_linx | sample stage, X direction |  | 45 | 2nd from bottom |
| xafs\_pitch | tilt stage, roll |  | 0 | middle |
| xafs\_roll | tilt stage, pitch |  | -45 | 2nd from top |
| xafs\_linxs | reference foil stage |  | -90 | top |

Where is a sample motor? : xafs\_<motor>.wh()

What are the soft limits? : xafs\_<motor>.hlm.value / xafs\_<motor>.llm.value

Set a soft limit: xafs\_<motor>.hlm.put(<value>) / xafs\_<motor>.hlm.put(<value>)

**Energy scan:**

RE(xafs('/path/to/myscan.ini'), DerivedPlot(<plot macro>))

where the <plot\_macro> is usually one of

|  |  |
| --- | --- |
| dt\_norm | plot dead-time corrected fluorescence |
| xmu\_trans | plot transmission |

**Line scan:**

RE(scan([quadem1,vor], <motor>, <start>, <stop>, <N>), DerivedPlot(<plot\_macro>))

RE(rel\_scan([quadem1,vor], <motor>, <start>, <stop>, <N>), DerivedPlot(<plot\_macro>))

where

<motor> usually is xafs\_linx or xafs\_liny

<start>,<stop>,<N> are the boundaries of the line scan and the number of steps.

scan() is a scan over absolute motor positions

rel\_scan() is a scan relative to the current motor positions

where the <plot\_macro> is usually one of

|  |  |
| --- | --- |
| xscan | It/I0 v. xafs\_linx |
| yscan | It/I0 v. xafs\_liny |
| dt\_x | If/I0 v. xafs\_linx |
| dt\_y | If/I0 v. xafs\_liny |