

Commonly Used ICE Command Examples

Move incident or final energy:

```
ei 14.7
```

or Move ef 14.7

This moves ei (incident energy) or ef (final energy) to 14.7 meV.

Setting monochromator mode

```
energy
```

```
hf flat
```

```
vf flat
```

```
vf sagittal
```

“hf energy” set monochromator to horizontal energy focusing mode.

“hf flat” set monochromator to horizontal flat mode.

“vf flat” set monochromator to vertical flat mode.

“vf sagittal” set monochromator to vertical sagittal focusing mode.

Move in-pile filter (this filter is before the monochromator):

```
filtran in
```

or move filtran out

This moves in pile filter in and out of beam.

set the collimator before monochromator

premonocoll open

move premonocoll 50min

move premonocoll 25min

move premonocoll 10min

This moves collimation before monochromator to open, 50 minute, 25 minute, and 10 minute.

Monitor rate

rate

This command gives the monitor rate/second and monitor rate per minute.

Move a motor:

A4 50.0

This moves A4 to 50 degrees. The destination is usually in degrees, but it is motor specific (the slits for example are in mm).

Read a motor position or sample environment variable

Print A4

or Device read A4

Print temp

or device read temp

 Print magfield

or device read magfield

This reads and prints motor positions and sample environment variables.

Update all motor or a particular motor position:

 update

or

 update a4

This comand will interrogate server to update all motor position or a particular motor position (for example, a4)

Move a motor relative to its current position:

 MOVE A4 -RELATIVE 5

This moves A4 5 degrees in the positive direction from its current position. The destination is usually in degrees, but it is motor specific (the slits for example are in mm).

Fix or Free a motor:

 device fix a3

 device free a3

This fix or free motor a3. When a3 is fixed, if you run a scan, a3 will not move. However, "gmove a3" h command will

move a3.

Redefine the software position of a motor:

DEVICE SET A3 20

The changes the zero of A3 such that the software position of A3 is now 20. This does NOT change the hardware position of A3. Caution: make sure you do not use this command on A1, A2, A4, A5, A6 without checking with instrument scientist.

HOW TO HOME SLITS:

DEVICE ACTION SMPLWDTH HOME

DEVICE ACTION SMPLHGT HOME

device action bksltwidth HOME

DEVICE ACTION BKSLTHGHT HOME

THIS WILL HOME (REZERO) THE WIDTH AND HEIGHT OF SLITS BEFORE (SMPLWDTH AND SMPLHGT) AND AFTER (BKSLITWDTH AND BKSLTHGHT) SAMPLE.

CHANGE A SAMPLE ■ FS TEMPERATURE:

MOVE TEMP 150.7

This changes a temperature to 150.7 degrees Kelvin.

Set properties of temperature/magnetic controller

device setproperty temp tolerance 0.1

```
device setproperty Magfield tolerance 0.1
```

This will set the tolerance for temperature or magnetic field.

Get properties of temperature/magnetic controller

```
device getproperty temp tolerance
```

```
device getproperty magfield tolerance
```

This will get the tolerance for temperature or magnetic field.

Change the magnetic field to which the sample is exposed:

```
Move magfield 2.5
```

This changes a magnetic field to 2.5 Tesla.

Turn on or off persistence mode:

```
device setproperty Magfield persistenceflag 0
```

```
device setproperty Magfield persistenceflag 1
```

This turn off (0) and on (1) for persistence mode for superconducting magnet (Oxford11T)

Perform a count against time:

Ct/t 100

or CountAndPrint time 100

Either of these commands counts for 100 seconds. Monitor and detector counts are printed. It is also often used as a “waiting” command (for example, use this command to wait for 100 seconds).

Perform a count against the number of monitor counts:

Ct/M 10000

OR CountAndPrint monitor 10000

Either of these commands will count for 10000 monitor counts.

Activate or deactivate the PSD detector:

DEVICE ACTIVATE PSDCOUNTER

Device deactivate PSDCounter

This will cause the PSD detector to be used/not used when performing a count. Deactivating the PSD detector will make scans run faster, but it will not collect any data.

Setting the detector mode:

SETDETMODE DD

This sets the detector mode to DD. The other available detector modes are: SD and PSD.

Getting the detector mode:

Getdetmode

This gets the detector mode. The modes are DD, SD, PSD.

Setting the analyzer mode:

SETANALZYERMODE FLAT

The other available mode is: energy.

Getting the analyzer mode:

GETANALZYERMODE

This returns the current analyzer mode. The available modes are: flat and energy.

Setting the collimator (inside analyzer house) mode:

SETCOLLMODE OPEN

This sets the collimator mode to OPEN. The other available modes are: OUT, RC, 50, 25 and 10.

Getting the collimator (inside analyzer house) mode:

Getcollmode

This returns the current collimator mode. The available modes are OPEN, OUT, RC, 50, 25 and 10.

Parking positions for PSD-2axis mode with radial collimator:

```
move collsoller 63
```

```
move collrc 260
```

Parking positions for SD-3axis energy focusing mode with radial collimator:

```
move diffdet 205 (only "gsuperuser" h can do it )
```

```
move collrc 260
```

Running a peak scan:

```
FINDPEAK A3 5 1 MONITOR 5000 DETECTOR -ACCEPT
```

This performs a peakscan around the current position of A3. It will scan 5 degrees in both directions with a step size of 1. At each point it will count for 5000 monitor counts and use the detector reading to determine the fit. The -accept option causes the instrument to drive to position of the calculated peak when the scan concludes.

```
FINDPEAK A3 5 1 TIME 5 MONITOR -ACCEPT -t 0.1 -FUNC POLY3
```

This performs a peakscan around the current position of A3. It will scan 5 degrees in both directions with a step size of 1. At each point it will count for 5 seconds and use the monitor reading to determine the fit. The -accept option causes the instrument to drive to position of the calculated peak when the scan concludes. The -t 0.1 option causes the software position of A3 to be set to its initial position before the scan, after A3 has

been moved to the calculated peak. This effectively changes the zero of A3 so that it now measures the original software position while being at the peak position. The -func POLY3 causes the fitting function to be changed from the default Gaussian fit to a 3rd order polynomial fit.

findpeak A4 5 1 Time 5 Detector -bragg A3 -lattice

This will perform a theta-2theta scan and calculate d-spacing using the fitted peak position.

Define lattice parameter:

CorrectLattice 4 -c

correctlattice 2 -a

This command will update the lattice parameter (for example: c or a) from the d-spacing calculated from A3-A4 scan performed around ((004) or (200)).

Running a scan:

scan runscan scanname

or run scanname

This command will run the scan named 'gscanname' h. For example, scan runscan E200 (or run E200 will run scan named 'gE200' h.

Dryrun a scan :

scan dryrun E200

This command will dryrun scan named 'gE200' h. It will

*calculate all the motor positions for each point in scan.
No motor is moved.*

Delete all the scans in server queue:

scan clearlist

This will delete all the scans.

Delete one scan

scan delete scanname

This will delete one scan.

Change the order in the queue

stack move xxx yyy

for example: stack move 443 438. This command changes the order in the queue. It will move the command associated with ID 443 before the command associated with ID 438.