

SPEC commands

SPEC common commands

General

osh	# open fast shutter
csh	# close fast shutter
shopen	# Open safety shutter
shclose	# Close safety shutter
shbreak	# Break interlock of EH2
att [0 -15];	# insert attenuator '0', ..., '15' (GINIX attenuator box)
pon	# Start: Spec session as displayed on screen will be also printed
poff	# Stop: Spec session as displayed on screen will be also printed
plotsselect <counter>	# select counter to plot ('diode')
plot	# plot last scan with selected counter
where	# Show current motor position in plot
pic	# go to peak position
cen	# got to center position
newrun	# start a new experiment
newfile <filename>	# set a new filename
ct <exposure time>	# Count for 1 second
dada on	# activate DADA GUI

Motors

wa	# show all motor positions
wm <motor>	# show motor position
set <motor> <position>	# set motor position
mv <motor> <position>	# move absolute
mvr <motor> <position>	# move relative
umv <motor> <position>	# move absolute and update positional change
umvr <motor> <position>	# move relative and update positional change
set_lm <motor name> <position_min> <position_max>	# Set software limits

Scans

dscan <motorname> <rel. start position> <rel. end position> <number of intervals> <exposure>	# relative scan
ascan <motorname> <abs. start position> <abs. end position> <number of intervals> <exposure>	# absolute scan
mesh	# Absolute mesh
dmesh	# Relative mesh

Detectors

lsdef *eiger*	# List of all commands for Eiger
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```

pcooff # Switch off PCO camera
pilatuson # Switch on PILATUS
pilatusoff # Switch off PILATUS
pilatusstatus # Show status of PILATUS
pilatusenergy <energy in eV> # Set threshold energy of Pilatus
piacqset 0.1 100; # Set Pilatus for acquiring 100 frames with 0.1 s exposure
    ct 0.1 # If executed after 'piacqset' it will make a series of frames
diodeon # Switch on (activate) diode
diode_in # Insert diode
diode_out # Extract diode
live_print # Print live viewer image

```

Microscopes

```

wm mic* # Show positions of mic-related motors
mic_print # print front microscope image
oav_print # print exit microscope image
umv micexpo 100 # set microscope exposure
umv micgain 33 # set microscope gain
umv miczoom 10 # adjust the zoom of the microscope (0, 10, 20, 30, 40)

```

Commands to be checked/clarified:

```

SPEC> savstate
SPEC> reconfig
SPEC> config
SPEC> debug 192
SPEC> h chg_dial
SPEC> chg_dial( mdetz , "lim-")
SPEC> waitmove
SPEC> liveshowlin # show detector? live view plot in linear scale
SPEC> liveshowlog # # show detector? live view plot in log scale
SPEC> liveshowroi 1
SPEC> cp_defaults
SPEC> sync
SPEC> motor_par(stzrot,"send","nreset")
SPEC> motor_par(px,"send","AZ");sleep(10);motormotor_par(py,"send","AZ");sleep(10);_par(pz,"send","AZ")
SPEC> DO_DIR = "/home/desy/2012A/20120523/spec/macros/"

```

Macros

The macros can be written in .mac file and compiled by qdo in SPEC.

Example: qdo /usr/local/lib/spec.d/macros/pilatus1M.mac

Syntax:

```
def <command> '{  
    <motor> <position>;  
}
```

Existing macros:

- takahashi in/out
- sample in/out
- dada_ on/off - gives additional information after ct command
- eiger<on> / off / slow(single image) / scan(linescan) - switch before scans or meshes

Components

- Takahashi - beam cleaning pinhole of 50 um

Data organization for dmesh

Every line of the scan is saved in a separate .h5 file