

Steps for grazing incidence measurement:

Ctrl + C command will stop whatever SPEC is doing. Use this command if you notice something wrong.

1. Load a new sample, or translate the sample holder to new sample: `umv combx 150`.
2. Close the hutch, open shutters (ACIS panel button, or "opsh", or Wiggler User screen)
3. `ccd_off`
4. `fsopen` (opens fast shutter)
5. `umv th 0` (moves sample angle "th" to 0 degree)
6. `umv z 0` (moves sample height "z" to 0 mm)
7. `dscan z -1 1 26 0.1` (scan sample height "z")
8. `umv z CEN` (moves "z" to inflection point)
9. `set z 0` (sets new zero for "z" at the current position)
10. `dscan th -1 1 26 0.1` (scans "th", the beam incidence angle relative to the sample surface)
11. `umv th pl_xMAX` (moves "th" to the peak position)
12. `set th 0` (sets new zero for "th" at the current position)
13. `dscan z -0.5 0.5 50 0.1` (repeating sample height "z" scan)
14. `umv z CEN`
15. `set z 0`
16. `dscan th -0.8 0.8 60 0.1` (repeating sample angle "th" scan)
17. `umv th pl_xMAX`
18. `set th 0`
19. `fsclose` (closes the fast shutter)
20. `mvr combx 2` (small lateral move to an unexposed sample region)
21. `ccd_on`
22. `ccdfile _____` (no spaces or special characters. Include angle of incidence and dwell time)
23. `umv th X.X` (insert the desired angle of incidence "th", in degree)
24. `ct 1` (This command will count and acquire an image during 1 second. If the signal is weak, count longer. If signal is saturated (red), count shorter)