

Diagnostic screen in the way!

426 repeat again!

set $th = 4.67 \rightarrow 5.00^\circ$

427 scan th 4 0.02 mag 16 f.

pos $src = 8.83$.

428 repeat

pos $src = 8.00$

429 repeat

pos $src = 8.83$, pos $th = 100$ (cl. = 5)
camera = $-30^\circ C$

430 1s \rightarrow saturated } can see diff
431 0.001s \rightarrow pattern

pos th 102

432 0.001s

433 0.01s

pos $chi = 89.5$

434 0.005s

pos chi 88.5

435 0.005s

pos th = 110 ~~pos th = 8.5~~, pos th = 6

436 0.005 good

pos th = 5

437 0.005 good but more faint

pos ul-as = 70.3 (500m)

438 0-1s. faint signed

439 1s ditto good. (not as clear as 444)

440 10s diff → but quite saturated

pos th = 6

441 1s OK not great

442 5s → very faint

pos th = 5.5

443 5s

pos th = 4.5

444 9s really good

445 5s → better but some ^{spots} faint ~~in it~~ are also saturating

pos th = 4.0

446 1s really good - best

447 5s can see more things oversaturated

pos th = 3.5

448 1s straightened & up - get less curved

449 2s

pos th = 86.

very good

450 15sec -30K
451 25 -30K

~~mode~~ pos chi 92

452 15sec -30C
453 25sec -20C

scan chi 93 86 0.2 andor 1
→ file 46454 andor files 0, 02, etc.

pos th = 2

456 andor 1
pos th = 3

457 andor 1

scan th 2.5 8 0.1 andor 1
→ file 46458 andor files

pos idd circ pos energy (706 eV)
pos th = 4.5

~~457~~ 46459 andor 1

pos th = 3.5

46460 andor 1
pos ul-as = 74.3 [$\phi = 20 \mu m$]

461 andor 1 dim

pos ul-as = 78.3 (10 km²)

462
463

pos andor 1
por andor 5

→ 100 point

} can see something but it's really in the noise.

pos ~~th~~ = 115, ~~pos th = 28~~

464

pos andor 5 ? whoops

465

pos th 6
pos andor 5 no signal

466

10s can't see anything

467

10s. pos ~~th~~ 107, pos th 4
oversat

pos ~~th~~ 109

468

~~10s~~ 10s

469

1s

470

5s

471

5s

← repeat mint hint
pos idd - air - pos - energy

(~~700~~ 700)

472

5s bit brighter still faint
cooled camera to -35°C

473

repeat

cooled camera to -40°C

} look the same as -40°C

474

repeat

scan 5x 9 7 0.05 andor 5
46475 andor piled

pos ~~th~~ 120

pos user1-as = 60 , pos lth = 10 , pos 20 = 5
HIGH TO OPEN pos size = 8 ,

scan idd - circ pos energy 680 730 0-2 mac116 1.

loaded bad sample & smaller Perouse again 11/03/13
and pumped down overnight

~~pos~~ Noticed ~~the~~^a cable on the 20 am blocks the beam ~~was~~ at $90^\circ \rightarrow 120^\circ$ (during measurements with array detector) although couldn't find anything to hold back with \therefore venting this morning so that Mark can fix it

$$(p = 7 \times 10^{-4} \text{ Torr})$$

pos $\theta_{th} = 0$

pos $s_y = 0 - 1$

pos $s_{y_{20}} = 6.5$ (using overhead camera)

pos $u1 - a5 = 60$

46500
- cscan $\theta_{th} \ 2 \ 0.2 \ \text{mac116} \ 1$ - check θ_{th} wasn't slipped

pos $\theta_{th} = 0.6 \rightarrow \text{set } 0$

46501
- return to check it is centred at 0.

46502 scan $s_y \ 0 \ 3 \ 0.1 \ \text{mac116} \ 1$

pos $s_y = 1.55$

pos $\theta_{th} = 10$, pos $\theta_{th} = 5$

03 cscan $\theta_{th} \ 4 \ 0.1 \ \text{mac116} \ 1$

pos $\theta_{th} = 7.6 \rightarrow \text{set } 5$

04 cscan $\theta_{th} \ 2 \ 0.05 \ \text{mac116} \ 1$

~~05~~ 05 $\text{CHAIN } 10^\circ$, Locking curve to see if we are on the sample

05 cscan $\theta_{th} \ 4 \ 0.02 \ \text{mac116} \ 1$

pos $\theta_{th} \ 100^\circ$

Don't think s_y with this sample will be able to see the diff. pattern without 2D detector \therefore moving it in.

46506 pos andor 0.1 $T = +70^{\circ}\text{C}$

pos th = 105

507

0.1s

$T = -30^{\circ}\text{C}$

508

0.002s

pos th = 109

509

0.002s

pos user1 -axis 5 = 70.3 (50.2um)

510

0.2s

511 110-46511 folder scan 7.5 5.5 0.1 andor 0.5.

see no diffraction

pos th = 3.5

512

1s

pos th = 4

513

1s

pos sxc = 5.6

514

1s

pos th = 5

515

2s

→ saturating - poss diff but only along z° direction

pos ul - axis = 74.3 (20 um)

5216

2s

5217

10s.

$$ul_{-a5} = 78.3 \quad (10 \mu m)$$

S18

10s

} can't see any diffraction some
hints along the specular

S19

5s

moving to Penrose (700nm)

~~ul_{-a5}~~ $sz = -1.0$

S20

ul_{-a5} 5

$$pos \quad ul_{-a5} = 70.3$$

S21

5s

$$pos \quad ul_{-a5} = 60, \quad thh = 105^\circ, \quad th = 9^\circ$$

S22

0.2s.

saturated. saturated

S23

0.05s.

S24

0.005

$$pos \quad thh = 0, \quad th = 0, \quad sz = -1 \quad \text{HIGH TO OPEN}$$

S25

scan sy 0 3 mac116 1. \rightarrow sorted

gain 10^6

S26

scan sy 0 3 mac116 1

$$pos \quad sy = 1.8$$

S27

scan thh 2 0 1 (check it still in the middle)

$$pos \quad thh = 10, \quad th = 5.$$

528 cscan th 3 0 1 mac11b 1
pos sx = -1.2

529 " " " 0.05 " L
pos th = 110°

camera didn't work ∴ changed cable on
the atmosphere ~~side~~ side seems to have
worked.

531 0.01s.

532 0.002s

533 DIAGNOSTIC IN → dark image.
pos th 4

all done
w/ to open!

534 0.002s

camera rebooted ⇒ HIGH TO OPEN
change to LOW TO OPEN

535 0.002s → diffraction
pos th 109, $t_n = 3.5$

536 0.002s
pos th 110.

537 0.002s diffraction

538 0.005s oversat

pos ul - a 5 = 70.3

539 10s ~~oversat~~ oversat

540 5s still have oversaturation

$$\text{pos chi} = 86$$

<u>541</u>	1s
<u>542</u>	0.5
<u>543</u>	0.2
<u>544</u>	0.08
<u>545</u>	0.04
<u>546</u>	0.02

quite faint still there

$$\text{pos user1 - a5} = 74.3$$

<u>547</u>	0.1s
<u>548</u>	1s
<u>549</u>	5s

small bit of sub in diff spots
not too bad

$$\text{pos user1 - a5} = 78.3$$

<u>550</u>	5s	→
<u>551</u>	1s	→ hunk of speckel !!
<u>552</u>	0.5s	→

$$\text{pos user1 - a5} = 82.3$$

<u>553</u>	5s
<u>554</u>	10s

~~555~~

$$\text{pos th} = 111^{\circ}$$

152

<u>555</u>	10s
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$$\text{pos th} = 4$$

<u>556</u>	10s
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$$\text{pos th} = 3$$

<u>557</u>	10s
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dist.

pos th 110.5

58 10s

pos th = 3.25

59 10s

All above done at idd-circ-neg-energy 710eV

scan idd-circ-neg-energy 690 730 and/or 10

~~pos~~ folder 110-46560.dat / ...

~~pos add~~

~~scan~~ scan idd-circ-pos energy 730 690 and/or 10.

pos sy = -1
th = 0.

Taking dark image to see if the background is the same.

46562 10s

pos sy = 1.8, th = 3.25.

scan pin 0 240 1 and/or 10

p = 1.0 x 10⁻⁶

~~pos at 25 =~~

Folder 46565 → accident credit moved pin hole

pos ul - a 3 = 78.3

45	46	56	5	10s
	66			5s
	67			1s
	68			3s

pos tth 110 th = 3.5

} Trying to reproduce previous age.

69	10s
70	5s

pos idd-energy circ-pos 710

71	5s
72	5s

pos tth 110.5

looks to have slipped when moving as getting brighter b/ground on 71 of 550...

pos tth 111

73	5s
74	10s

(think lost intensity from the beam there can't see extent of speckel pattern as much so increased exposure time) too saturated

75	7.5
76	8
77	9
78	9.5

pos th = 3.3

79	5s
80	10s

81 7.5 S

82 8.5 S

83 8 S

MACRO energy scan - diff pinholes.

pos ul as 78.3

circ pos 680 750 1 andor 7.5
neg

} file

110 -
46588

ul as 74.3

andor 2.5

ul-as 70.3

andor 0.08

ul-as 78.3

scan phi 0 1000 0.1 andor 7.5