

TITLE

PROJECT

Continued from page

SG16 (Continued) Sextant 1

Moved to
a_z=100, e_l=0.02, m₃=0

run#

~~Ge~~ SDD ~~run~~ ~~81668~~ ~~81673~~ 81672 - 81679

~~Ge~~ SDD 81680 - 81687

... Continued

~~Ge~~ SDD 81688 - 81695

run#

10 ~~Ge~~ SDD 81696 - 81703

SDD 81776 - 81783

~~Ge~~ SDD 81704 - 81711

SDD 81784 - 81791

15 ~~Ge~~ ~~Ge~~ SDD 81712 - 81719

SDD 81792 - 81799

~~SDD~~ Ge 81720 - 81727

SDD 81800 - 81807

~~SDD~~ ~~run~~ Ge 81728 - 81735

20 ~~Ge~~ SDD 81736 - 81743

~~Ge~~ SDD 81744 - 81751

25 Ge SDD 81752 - 81759

~~SDD~~ Ge 81760 - 81767

~~SDD~~ Ge 81768 - 81775

30

Direct beam measurements:

a_z=0.5 e_l=0.15 m₃=2000

35 Horizontal scan run# 81808 - 81820

Roll scan run# 81821 - 81841

Ge direct beam run# 81842 SDD direct beam run# 81843

40

45

Continued to page

SIGNATURE

DATE

DISCLOSED TO AND UNDERSTOOD BY

DATE

TITLE

PROJECT

Continued from page

Number of runs per measurement:

Direct beam 36

Sector 1 136

Sector 2-6 16

Sextant 2, SG16 04:50 AM $\alpha Z = 99.44$, $\epsilon l = 0.7$, $m_3 = 60000$

run# 81844 - 81859

Sextant 3, SG16 05:04 AM $\alpha Z = 100.7$, $\epsilon l = -0.4$, $m_3 = 120000$

run# 81860 - 81875

Sextant 4 SG16: 05:20 AM $\alpha Z = 100.5$ $\epsilon l = 0.3$ $m_3 = 180000$

run# 81876 - 81891

Sextant 5 SG16: $\alpha Z = 100.6$ $\epsilon l = 0.21$ $m_3 = 240000$

run# 81892 - 81907

Sextant 6 SG16: 05:54 AM $\alpha Z = 99.7$ $\epsilon l = 0.4$ $m_3 = 300000$

run# 81908 - 81923

Direct beam measurement 06:11 AM $\alpha Z = -0.2$ $\epsilon l = -0.002$ $m_3 = 20000$

Horizontal scan run# 81924 - 81936

Roll scan run# 81937 - 81957

Ge direct beam run# 81958 SDD direct beam run# 81959

Continued to page

SIGNATURE

DATE

DISCLOSED TO AND UNDERSTOOD BY

DATE

TITLE

PROJECT

Continued from page

SG18

06:45 AM, March 12

Direct beam measurement:

$\alpha Z = -0.7$, $\epsilon l = -0.2$, $m3 = 2$

Horizontal scan run # 81860 - 81872

Roll scan run # 81873 - 81893

Ge direct beam run # 81894

SDD direct beam run # 81895

Starting with sextant 2

Sextant 2 SG18

07:02 AM

$\alpha Z = 100.1$ $\epsilon l = -0.4$ $m3 = 600$

run # 81996 - 82011

Sextant 3 SG18

07:22 AM

$\alpha Z = 100.4$ $\epsilon l = 0.1$ $m3 = 1200$

run # 82012 - 82027

Sextant 4 SG18

07:37 AM

$\alpha Z = 100.2$ $\epsilon l = 0.8$ $m3 = 1800$

run # 82028 - 82043

Sextant 5 SG18

$\alpha Z = 101.1$ $\epsilon l = 0.08$ $m3 = 2400$

run # 82044 - 82059

Sextant 6 SG18

08:15 AM

$\alpha Z = 99.6$ $\epsilon l = -0.2$ $m3 = 3000$

run # ~~82060~~ 82060 - 82075

Direct beam:

08:31 AM

$\alpha Z = 0.55$ $\epsilon l = -0.5$ $m3 = 26$

Horizontal scan run # ~~82076~~ 82076 - 82088

Roll scan run # 82089 - 82109

Ge direct beam run # 82110

SDD direct beam run # 82111

Continued to page

SIGNATURE

DATE

DISCLOSED TO AND UNDERSTOOD BY

DATE

TITLE PROJECT

Continued from page

Sextant 1

08:45 AM

$\alpha = 100.9$ $\epsilon = 0.77$ $m3 = 0$

run #

SDD	82112 - 82119
SDD	82120 - 82127
SDD	82128 - 82135
SDD	82136 - 82143
SDD	82144 - 82151
SDD	82152 - 82159
Ge	82160 - 82167
Ge	82168 - 82169 82175
SDD	82176 - 82183
SDD	82184 - 82191
SDD	82198 - 82205
Ge	82206 - 82213
Ge	82214 - 82221
SDD	82222 - 82229
SDD	82230 - 82237
SDD	82238 - 82245
SDD	82246 - 82253

10:50 am done.
March 12.

~~March 12th, 11:30 am~~

Took out CWJET/0066 A3 A (56/8)
fine aperture stop (60 degree, full flood),
coarse aperture stop and beam monitor (BEAM
MONITOR IS OFF) so do quick
alignment check of full flood optic before
installing new alignment cube

Direct beam: $m1 = -19500$, $m3 = 26500$, $m5 = 62800$, $m6 = 12800$
 $m7/9 = 6000$ $m8/10 = 6000$

$I = 1 \text{ mA}$: Run# 82256

$I = 0.2 \text{ uA}$: Run# 82257

$I = 0.05 \text{ uA}$: Run# 82258

$I = 0.02 \text{ nA}$: Run# 82259 continued to page 1

SIGNATURE DATE

TITLE

PROJECT

Continued from page

Doing yaw and pitch scans at several roll angles

Yaw scan : Run# 82263-82273

$m3 = 0$

Pitch scan : Run# 82274-82284

Yaw scan : Run# 82285-82295

$m3 = 60000$

Pitch scan : Run# 82296-82306

Yaw scan : Run# 82307-82317

$m3 = 120000$

Pitch scan : Run# 82318-82328

Yaw scan : Run# 82329-82339

$m3 = 180000$

Pitch scan : Run# 82340-82350

Yaw scan : Run# 82351-82361

$m3 = 240000$

Pitch scan : Run# 82362-82372

Yaw scan : Run# 82373-82383

$m3 = 300000$

Pitch scan : Run# 82384-82394

Vertical scan Run# 82395-82406

$m3 = 0$

Horizontal scan Run# 82407-82418

Installed new mirror (^{flight}cube). Redoing yaw and pitch scans.

Yaw scan run# 82420-82450

$m3 = 0$

$\alpha_{2 peak} \approx -20$

Pitch scan run# 82451-82471

$\epsilon_{1 pitch} \approx 10$

Yaw scan run# 82472-82502

$m3 = 30000$

$\alpha_{2 peak} \approx 20$

Pitch scan run# 82503-82528

$\epsilon_{1 peak} \approx$

Continued to page

SIGNATURE

DATE

DISCLOSED TO AND UNDERSTOOD BY

DATE

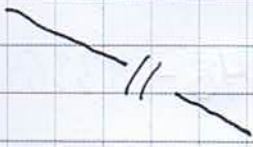
TITLE PROJECT

Continued from page

Yaw scan run# 82529 - 82559

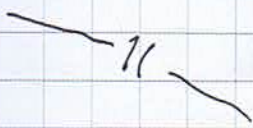
Pitch scan run# 82560 - 82585

e/pair -25 mdeg



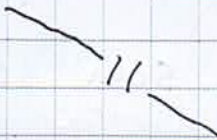
run# 82586 - 82616

run# 82617 - 82642



run# 82643 - 82673

run# 82674 - 82699

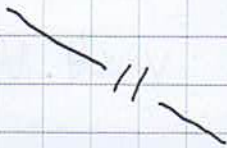


run# 82700 -

run#

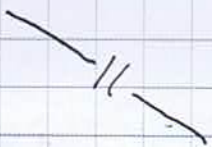
edc

run#



run#

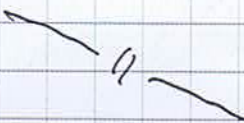
ef



run#

until

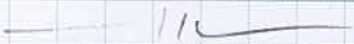
run#



run#

- 83212

m3 = 330000



run#

- 83219

m3 = 360000

- 83326

m3 = 0

Direct beam : I = 0.02 mA : Run# 83327 - 83328

I = 0.05 mA : Run# 83330 I = 0.2 mA : Run# 83331

I = 1 mA : Run# 83332

Reinstalled fine and coarse aperture stop

SIGNATURE

DATE

Continued to page

DISCLOSED TO AND UNDERSTOOD BY

DATE

60 degree full flood

TITLE

PROJECT

Continued from page

~~at well~~ along with CWE 10-10064 A1 (
Following SG2 radial subgroup measurement procedure

Direct beam: Horizontal scan : Run# 83357-83366

Roll scan : Run# 83370-83390

Ge direct beam : Run# 83391

SDD direct beam : Run# 83392

SG2 sextant 1, coarse PSF, 2B and 1B scan series
started at ^{run#} 83393

Clear overlap between the 1B and 2B for yaw. ~~Not~~

1B now off by ~3m towards the west.

Run# 83393 - 83528

25 → Now adding in yaw and pitch scan on sector 1

Yaw scan run# 83549 - 83563

Pitch scan run# 83564 - 83584

SG2 sextant 2, run# 83585 - 83600

SG2 sector 3, run# 83601 - 83616

SG2 sector 4, run# 83617 - 83632

SG2 sector 5, run# 83633 - 83648

SG2 sector 6, run# 83649 - 83664

Direct beam: Horizontal scan : Run# 83665 - 83677

Roll scan : Run# 83678 - 83690

45 Ge direct beam run# 83691 SDD direct beam run# 83692

SIGNATURE

DATE

DISCLOSED TO AND UNDERSTOOD BY

DATE

Continued to page

TITLE

PROJECT

continued from page

3/12/11 11:55 pm

Changed app plate to SG 1

Dir beam: run # 83693 - 83705	Horizontal
# 83706 - 83718	Roll
# 83719	Ge direct
# 83720	SDD direct

SG 1 sector 1 # 83721 - 83760

Script crashed motion controller. After investigating for alternatives, and not finding any, motion controller will be turned off and back on in hopes of resetting error. It is believe that error occurred when trying to stop m/5 21441 steps, as read out reads it as "21441.2" and ~~was~~ was unable to move motors following this command.

Controller is looping, filling the receive buffer continuously with

```

DD EXT DLL RTR DATA
0000 0 8 0 20 02 02 86 00 0000.00
x1-3 times in a row
0010 0 8 0 20 02 00 00 00 00 00 00
x1-3 times in a row

```

Error status is green, indicating too many errors have occurred.

$m1 = 0$, $m2 = 8$ $m3 = 0$ $m4 = 29500$ $m5 = 29500$ $m6 = 2769$
 $m7 = 6000$ $m8 = -6000$ $m9 = -6000$ $m10 = -10000$ $m11/12/13/14 = 0$

NATURE: m15 = 21441.2 m16/17/18 = 0 Az = -7.65 EL = 9.21

Continued to page

TITLE

PROJECT

Continued from page

Upon restarting motion controller set motors to following positions before restarting it once more

$m1/2/3/11/12/13/14/16/17/18 = 0$ $m4 = -24500$ $m5 = -26000$
 $m6 = -27699$, $m7 = -6000$, $m8 = 6000$, $m9 = 6000$, $m10 = 10000$
 $m15 = -21990$

All now set to zero. Scanning direct beam and focus beam to ensure nothing is misplaced

Direct beam scan. Horizontal scan run# 8376) - crashed

Found something to be wrong, likely stemming from m9 value prior to reset not having been updated because this was where error was. As such

Last command "SETPOS 9 8000"

blade was all the way to the east, not at center of

Realigning blade using direct beam.

Found "Closed" with $m10 = 0$, $m9 = -1912$

Moving all but m9 to zero and resetting once

Attempting yet another direct beam measurement.

Run # 83826-83838 (Horizontal)

Run # 83839-83850 (Roll)

Ge direct run# 83851 SDD direct run# 83853

Continued to page

SIGNATURE

DATE

DISCLOSED TO AND UNDERSTOOD BY

DATE

TITLE

PROJECT

Continued from page

SG1

Sextant 1 0455 AM $\alpha Z = 99.7$ $e1 = 0.09$, $m3 = 0$

run# 83853 - 83989

Direct beam 0656 AM $\alpha Z = 0.57$, $e1 = -0.9$, $m3 = 26060$

Run # 83990 - 84002 (Horizontal scan)

Run # ~~83900~~ 84003 - 84015 (Roll scan)

Run # 84016 Ge direct

Run # 84017 SDD direct

Sextant 2 $\alpha Z = 100.6$ $e1 = -0.7$ $m3 = 60000$

Run # 84018 - 84033

Sextant 3 $\alpha Z = 100.8$ $e1 = 0.1$ $m3 = 120000$

Run # 84034 - 84049

Sextant 4 $\alpha Z = 100.9$ $e1 = 0.014$ $m3 = 180000$

Run # 84050 - 84065

Sextant 5 $\alpha Z = 99.3$ $e1 = -0.07$ $m3 = 240000$

Run # 84066 - 84081

Sextant 6 $\alpha Z = 99.7$ $e1 = 0.3$ $m3 = 300000$

Run # 84082 - 84097

Direct beam $\alpha Z = 0.0$, $e1 = 0.9$, $m3 = 26060$

Horizontal : 84098 - 84110

Roll : 84111 - 84123

Ge direct : 84124

SDD direct : 84125

Continued to page

SIGNATURE

DATE

DISCLOSED TO AND UNDERSTOOD BY

DATE

TITLE

PROJECT

Continued from page

SG11

Direct beam

09:05 AM

$\alpha Z = -0.4$ $\epsilon = 0.1$

$M3 = 26000$

Horizontal: 84126 - 84138

Roll: 84139 - 84151

Ge direct: 84152 SDD: 84153

Sextant 1

$\alpha Z = 100.9$ $\epsilon = 0.07$ $M3 = 26000$

Run # 84154 - 84290
84331

(since pitch/yaw scan was added to script by Nicole)

Direct beam

11:33 AM

$M3 = 26060$

$\alpha Z = 0.09$ $\epsilon = -0.03$

Run # 84332 - 84344 (Horizontal scan)

Run # 84345 - 84357 (Roll scan)

Run # 84358 (Ge direct)

Run # 84359 (SDD direct)

Sextant 2

$\alpha Z = 100.8$, $\epsilon = -0.07$
 $M3 = 60000$

Run # 84360 - 84375

Sextant 3

$\alpha Z = 99.9$, $\epsilon = 0.04$, $M3 = 12000$

Run # 84376 - 84391

Sextant 4

$\alpha Z = 99.6$ $\epsilon = -0.04$ $M3 = 18000$

Run # 84392 - 84407

Sextant 5

$\alpha Z = 100.4$ $\epsilon = 0.01$ $M3 = 24000$

Run # 84408 - 84423

Continued to page

SIGNATURE

DATE

DISCLOSED TO AND UNDERSTOOD BY

DATE

TITLE

PROJECT

Continued from page

Sextant 6AZ = 100.2 ϵ = 0.07

M3 = 300 000

Run # 84424 - 84439

Direct beam 1:27 PMAZ = 0.09 ϵ = -0.19

M3 = 26060

Run # 84440 - 84452 (Horizontal scan)

Run # 84453 - 84465 (Roll scan)

Run # 84466 (Ge direct)

Run # 84467 (SDD direct)

SG5Direct beam

M3 = 26060

AZ = -0.05 ϵ = -0.02

Run # 84468 - 84480 (Horizontal scan)

Run # 84481 - 84493 (Roll scan)

Run # 84494 (Ge direct)

Run # 84495 (SDD direct)

Sextant 1 = 2 pmAZ = 100.5 ϵ = 0.3

M3 = 0

Run # 84496 - 84673

Direct beam : = 4:18 pmAZ = -0.09 ϵ = -0.11

M3 = 26060

Run # 84674 - 84686 (Horizontal scan)

Run # 84687 - 84699 (Roll scan)

Run # 84700 (Ge direct)

Run # 84701 (SDD direct)

SIGNATURE

DATE

DISCLOSED TO AND UNDERSTOOD BY

DATE

Continued to page

TITLE

PROJECT

at line 3 (Setpos)

Continued from page

Direct beam script started again automatically. Aborted it and set M1 back

Sextant 2:

AZ=100.4 $\epsilon = -0.06$ M3=60000

Run # 84702 - 84717

Note: All scripts for SGS are named

m3=0 instead of actual m3 value
e.g. 60000 for Sextant 2
but in script m3 is set to correct value

Sextant 3:

AZ=100.03 $\epsilon = -0.03$ M3=12000

Run # 84718 - 84733

SEXTANT 4:

AZ=100.9 $\epsilon = 0.06$ M3=18000

Run # 84734 - 84749

SEXTANT 5

AZ=100.9 $\epsilon = -0.6$ M3=24000

Run # 84750 - 84765

SEXTANT 6

AZ=100.5 $\epsilon = -0.04$ M3=30000

Run # 84766 - 84781

Direct beam 6:20 pm

AZ=-0.17 $\epsilon = -0.01$ M3=26000

Run # 84782 - 84794 (Horizontal scan)
Run # 84795 - 84807 (Roll scan)
Run # 84808 (Ge direct)
Run # 84809 (SDD direct)

Continued to page

SIGNATURE

DATE

DISCLOSED TO AND UNDERSTOOD BY

DATE

TITLE

PROJECT

Continued from page

SGG

DIRECT BEAM

AZ = 0.6 $\epsilon = -0.16$ MB = 26060

Run# 84810 - 84822 (Horizontal scan)

Run# 84823 - 84835 (Roll scan)

Run# 84836 (Ge direct)

Run# 84837 (SDD direct)

Script ran automatically again
↳ reason unclear

Run# 84838 - 84850

Run# 84851 - 84863

Run# 84864

Run# 84865

SEXTANT 1 ~ 7:30 pm
AZ = 100.1 $\epsilon = 0.66$ MB = 0

Run# 84866 - 85043

DIRECT BEAM 9:48 pmAZ = 0.2 $\epsilon = 0.3$ MB = 26060

Run# 85044 - 85056 (Horizontal scan)

Run# 85057 - 85069 (Roll scan)

Run# 85070 (Ge direct)

Run# 85071 (SDD direct)

Continued to page

SIGNATURE

DATE

DISCLOSED TO AND UNDERSTOOD BY

DATE

TITLE

PROJECT

Continued from page

Sextant 2

AZ = 100.77 EL = -0.5

M3 = 60000

Run # 85072 - 85087

SEXTANT 3

AZ = 99.89 EL = 0.29

M3 = 120000

Run # 85088 - 85103

SEXTANT 4

AZ = 100.42 EL = -0.06

M3 = 180000

Run # 85104 - 85119

Sextant 5

AZ = 99.44 EL = 0.33

M3 = 240000

Run # 85119 - 85135

sextant 6

AZ = 99.52 EL = -0.35

Run # 85136 - 85151

Dirbeam :


AZ = -0.04 , EL = -0.1

85152 - 85164

85165 - 85177

85178

85179

SG  3

12:01 AM.

Dirbeam :

85180 - 85207

~~85180 - 85192~~

12:15 AM

85180 - 85192

85193 - 85205

85206

85207

~~85193 - 85205~~
~~85206~~
~~85207~~

(Horizontal Scan)
(Roll Scan)
(Ge direct)
(SPB direct)

Continued to page

SIGNATURE

DATE

DISCLOSED TO AND UNDERSTOOD BY

DATE

TITLE

PROJECT

Continued from page

563Sector 1) $A_2 = 100.5$, $EL = -0.1$, $m_3 = 0$

Runs # 85208 - 85385

Direct Beam 2:25AM $A_2 = -0.5$, $EL = 0.7$, $m_3 = 26060$

Horizontal: 85386 - 85398

Roll: 85399 - 85411

Ge Direct: 85412

SPD Direct: 85413

Sector 2) $A_2 = 0.2$ $EL = -0.9$ $m_3 = 60000$ X Runs 85414 - 85429 BAD RUNS (2:45AM)Sector 3) $A_2 = 100.6$ $EL = 0.04$ $m_3 = ~~120000~~ 60000$

Runs 85430 - 85445

Sector 4) $A_2 = 99.9$ $EL = 0.7$ $m_3 = 120000$

Runs 85446 - 85461

Sector 5) $A_2 = 99.3$ $EL = 0.4$ $m_3 = 180000$

Runs 85462 - 85477

Sector 6) $A_2 = 99.8$ $EL = 0.7$ $m_3 = 240000$

Runs 85478 - 85493

Sector 6) $A_2 = 99.9$ $EL = -0.6$ $m_3 = 300000$

Runs 85494 - 85509

4:30AMDirect Beam : $m_3 = 26060$, $A_2 = -0.3$ $EL = -0.7$

Horizontal: 85510 - 85522

Roll: 85523 - 85535

Ge: 85536

SPD: 85537

Continued to page

SIGNATURE

DATE

DISCLOSED TO AND UNDERSTOOD BY

DATE

SAM

TITLE

SG 13

PROJECT

Continued from page

Direct beam: $m3 = 26060$, $Az = -0.5$, $El = -0.2$

Horizontal: 85538 - 85590

Roll: 85551 - 85563

Ge: 85564

SDD: 85565

Section 1) $m3 = 0$, $Az = 100.8$, $El = +0.1$

Runs 85566 - 85743

Direct beam: $m3 = 26060$, $Az = 0.7$, $El = -0.9$

Horizontal: 85744 - 85756

Roll: 85757 - 85769

Ge: 85770

SDD: 85771

7:55 AM

Section 2) $m3 = 60000$, $Az = 100.2$, $El = -0.8$

Runs 85772 - 85787

Section 3) $m3 = 120000$, $Az = 100.8$, $El = -0.02$

Runs 85788 - 85803

Section 4) $m3 = 180000$, $Az = 100.7$, $El = 0.8$

Runs 85804 - 85819

Section 5) $m3 = 240000$, $Az = 100.5$, $El = -0.01$

Runs 85820 - 85835

9:10 AM

~~Section 6) $m3 = 300000$, $Az = 60$~~

Preparing for RMD alignment test, replacing
plate w/ SG 1

Continued to page

SIGNATURE

DATE

DISCLOSED TO AND UNDERSTOOD BY

DATE

FILE

PROJECT

Continued from page

9:30 AM: MS position may be off by 30 steps
as READPOS shows its position at 24470 instead
of 24500.

Finished all odd SGs for FM1 and changed
aperture plate to SG1 for further RMD measurement.

Moved all motors to zero position.

MOTOR CONTROLLER OFF

Slit stage removed and replaced with RMD Setup.

~~to be replaced with RMD Setup~~
MOTOR CONTROLLER ON.

11 am: Put RMD detector back in after taking out
slits

6 PM: Todd made small blocks to
mark position of skew. RMD
~~removed from skew~~
~~in position~~

With RMD on moved skew
back so RMD is now at 1082e

Use SG 1, 9, 15, 19 - plate

AA Roll $0^\circ, 90^\circ, 180^\circ, 270^\circ$ etc

3 YAW ($-20''$, $0''$, $+20''$) and

3 Pitch ($-30''$, $0''$, $+30''$) around

Continued to page

SIGNATURE

DATE

RECLOSED TO AND UNDERSTOOD BY

DATE

Optimum YAW & Pitch from Jasons Be-data
analysis.

TITLE

PROJECT

Continued from page

Additional RND-data: For every 18° in roll → go to optimum pitch & yaw - take pictures of all 4 rings.

- At one roll position. go to optimum Pitch & yaw take image with various filters to do different energy bands.

March 15, 2.40 am **Ge and SDD reinstalled**

Doing full flood subgroup measurement

Direct beam Horizontal scan: run# 86085 - 86097

Roll scan: run# 86098 - 86110

Ge direct beam: run# 86111

~~SDD~~ ^{Ge} direct beam: run# 86113 (redo, different)

Note that SDD may be off after reinstallation. Should be prior to FM2 measurements

Doing all measurements at $m3 = 180000$, i.e. "sector 4" position from single subgroup measurements.

SG2: Aligned. AZ=3, EL=-14
 ☆ First subgroup $m3=0$, all at

Yaw scan: scan 2 80 -120 20 30 #86114-

Pitch scan: scan 6 29485 25485 400 30 #86125-

Continued to page

SIGNATURE

DATE

DISCLOSED TO AND UNDERSTOOD BY

DATE

TITLE

PROJECT

Continued from page

SG12: $A_z = 3.2$ $E_l = -13.9$

Yaw = 86136 - 86146

Pitch = 86147 - 86157

SG6: $A_z = 3.2$ $E_l = -13.9$

Yaw: 86158 - 86168

Pitch: 86169 - 86179

SG15: $A_z = \overset{2.6}{3.7}$ $E_l = -14.1$ ~~Yaw: 86180 - 86190~~ Count rate too high here, need
~~Pitch: 86191 - 86193~~ still too high @ I 0.5mA86194 check d/s: 9000 w/ I = 0.1mA
put @ 0.25mA + do yaw: 86190

Yaw: 86200 - 86210

Pitch 86211 - 86221

SG7: $A_z = 3.15$ $E_l = -14.3$

Yaw: 86222 - 86232

Pitch: 86233 - 86243

SG17: $A_z = 2.5$ $E_l = -13.8$

Yaw: 86246 - 86256

Pitch: 86257 - 86267

Run 86244-5 testing
count rate
changed to 0.2mASG19 $A_z = 2.8$ $E_l = -14.1$

Counting rate test. Run: 86268 16.5 kcts ✓

Yaw: ~~86268 - 86278~~ 86269 - 86279Pitch: ~~86279 - 86289~~ 86280 - 86290Run 86280 used to check lower current - slow/fast
rate is ~1.3, giving a red light, but rate w/in
range

Continued to page

SIGNATURE

DATE

ENCLOSED TO AND UNDERSTOOD BY

DATE

TITLE

PROJECT

Continued from page

8AM

SG 10: $Az = 2.9$ $El = -14.1$

Yaw ~~pitch~~: ~~86291~~ 86291 - 86301

Pitch ~~Yaw~~: 86302 - 86312

SG 4: $Az = 3.46$ $El = -14.2$

Coatingrate test run# 86314

1.05.16⁴

Yaw: 86315 - 86325

Pitch: 86326 - 86336

SG 8: $Az = 3.0$ $El = -13.5$

Yaw: 86338 - 86348

Pitch: 86349 - 86359

SG 18: $Az = 2.4$ $El = -14.6$

Yaw: 86360 - 86370

Pitch: 86371 - 86381

SG 9: $Az = 2.6$ $El = -15.1$

Yaw: 86382 - 86392

Pitch: 86393 - ~~86403~~

SG 13: $Az = 3.2$ $El = -14.5$

Yaw: 86404 - 86414

Pitch: 86415 - 86425

SG 14: $Az = 2.7$ $El = -14.5$

Yaw: 86426 - 86436

Pitch: 86437 -

PSF scan 86448 - 86465

(vertical
~~horizontal~~)

PSF scan run# 86466 - 86481

(horizontal
~~vertical~~)

SIGNATURE

Ge direct beam run# 86484

DATE

DISCLOSED TO AND UNDERSTOOD BY

DATE

Continued to page

TITLE

PROJECT

Continued from page

12pm : FM1 calibration DONE!

Move motors to optics aligned position (@ M3 = 0)

$$A_z = \cancel{3.4}, E_l = \cancel{-14.5} \quad (M_2 = -34, M_3 = 0, M_4 = 26322)$$

$$\quad \quad \quad -15 \quad \quad \quad 7$$

Actual values $A_z \approx -16$ $E_l = 8$

Slit stage in detector Bom moved backwards for RMB measurements (same as yesterday)

FM2 is installed
Todd & Ken adjusted the telescope in the Danish roll

We locked up everything, closed pump cabinet & reinstalled PD in detector room

XRAYON @ 11:11 PM

Autocollimator was not zeroed. Will be done once we determine the zero.

- M3 = 265000
- M4 = 24500
- M5 = 24500
- M6 = 26722
- M17 = -157500

$$A_z = +12.7$$

$$E_l = -8.3$$

Move U3 to 0°

Removed plastic foil from optics 11:44.

U3 = 0°	→ pitchyaw_3
M3 = 30°	4
M3 = 60°	5
90	6
120	7
150	8
180	9
210	10
240	11
270	12
300	13
330	14
360	15

Continued to page

DATE

DATE

TITLE

Continued from page

$m3 = 58000 \triangleq$ Sector 1 (used level on spider)

March 16 ~ 2am

Reinstalled slip stage and Ge detector, reset motion

Note that $m3 = 58000 \Rightarrow m3 = 0$

SDD was left OFF so both DC 0 and DD

Attempted to draw vacuum in detector pipe with
polluting high bay and calibration room air. Failed
in both and aborted attempts as pump was heating
fast and exhaust connection failed.

NO VACUUM IN DETECTOR PIPE

BUT WINDOWS IN

Checking PSF with fixed width scan over focus.

Horizontal PSF scan run# 86488-86504

Vertical PSF scan run# 86505-86521

Direct beam measurement (no aperture plate)

Run# 86522 ($I = 0.05 \text{ mA}$), $12 \times 12 \text{ mm}^2$ $m3 = -1/500$

Run# 86523 ($I = 0.05 \text{ mA}$, $6 \times 6 \text{ mm}^2$) $m3/16 = 6280$

Run# 86524 ($I = 0.1 \text{ mA}$, $6 \times 6 \text{ mm}^2$) $m3 = 27000$

Run# 86525 ($I = 0.1 \text{ mA}$, $12 \times 12 \text{ mm}^2$)

Run# 86526 ($I = 0.5 \text{ mA}$, $12 \times 12 \text{ mm}^2$)

Run# 86527 ($I = 0.5 \text{ mA}$, $6 \times 6 \text{ mm}^2$)

Run# 86528 ($I = 1 \text{ mA}$, $6 \times 6 \text{ mm}^2$)

Run# 86529 ($I = 1 \text{ mA}$, $12 \times 12 \text{ mm}^2$)

Continued to page

SIGNATURE

DATE

DISCLOSED TO AND UNDERSTOOD BY

DATE

TITLE

PROJECT

Continued from page

Scanning yaw and pitch at $m3 = 0^\circ \rightarrow 360^\circ$ in steps of 30°		
$m3 = 0$	Yaw scan : Run# 86532 - 86552	$Az_{peak} \approx \overset{+10}{\cancel{+25}}$ (m2)
	Pitch scan : Run# 86553 - 86583	$El_{peak} \approx 25000$ (m6)
$m3 = 30000$	Yaw scan : Run# 86574 - 86594	$Az_{peak} \approx \overset{+35}{\cancel{+50}}$ (m2)
	Pitch scan : Run# 86395 - 86599 86615	$El_{peak} \approx 25000$ (m6)
$m3 = 60000$	Yaw : # 86616 - 86636	$Az \approx \overset{+45}{\cancel{+55}}$ (m2)
	Pitch : # 86637 - 86657	$El \approx 24750$ (m6)
$m3 = 90000$	Yaw : 86658 - 86678	$Az \approx \overset{+70}{\cancel{+55}}$ (m2)
	Pitch : 86679 - 86699	$El \approx 24750$ (m6)
$m3 = 120000$	Yaw : 86700 - 86720	$Az_{peak} = +75$ (m2)
	Pitch : 86721 - 86741	$El_{peak} = 25250$ (m6)
$m3 = \overset{150000}{\cancel{180000}}$ 150000	Yaw: 86742 - 86762	$Az_{peak} = +65$ (m2)
	Pitch 86763 - 86783	$El_{peak} = 25400$ (m6)
$m3 = \overset{150000}{\cancel{240000}}$ 150000	Yaw: 86784 - 86804	$Az \approx +65$
	Pitch 86805 - 86825	$El \approx \overset{+65}{\cancel{+55}} \sim 25750$
$m3 = \overset{210000}{\cancel{30000}}$ 210000	Yaw: 86826 - 86846	$Az \approx +45$
	Pitch: 86847 - 86867	$El \approx \overset{+45}{\cancel{+55}} \sim 25550$
$m3 = 240000$	Yaw : 86868 - 86888	$Az \approx +20$
	Pitch: 86889 - 86909	$El \approx 25750$
$m3 = 270000$	Yaw : 86910 - 86930	$Az +15$
	Pitch: 86931 - 86951	$El \approx 25400$
$m3 = 300000$	Yaw : 86952 - 86972	$Az +35$
	Pitch: 86973 - 86993	$El \approx 25225$
$m3 = 330000$	Yaw : 86994 - 87014	Az
	Pitch: 87015 - 87035	$El \sim$

Continued to page

DATE

REVISIONS TO AND UNDERSTOOD BY

DATE