

M2FS

Observing Log

Sep 2017

Sept 5, 2017 - M2PS Run Prep

↳ MM
Ian R.
Ying-Yi S.

21 Plots avail @ Clay Lounge

18 Fields marked

Plots:

<u>New</u>	AJ_Rot 2_2017B	not marked
	AB_ATLAS_2017B	2 fields marked
	AB_N7492_2017B	3 fields marked
	AK_Clusters_2017B	3 fields marked
	CJ_Clusters_2017B	4 fields marked
	GB_GOODSS_2017B	not marked
	ICZ_Clusters_2017B	2 fields marked
	JR_Clusters_2017B	4 fields marked
	TH_Fornax_2017B	not marked
	MM_SCI1183	"
	MM_SCI1221	"
	MM_SCI1421	"
	MW_CLASH-2017B	"

Re-use SMC Clusters
GM1-2 (MackWalker_Gru1-2_Hor1-2-Plate 2)

Ind2 (Mateo Walker_Ind1_2_Ph02_Plate3)

N151 → Linhua Jiang (sxd51, sxd54 fields)
N152

Oey SMC

Tue2 (A-lines + Med Res 0, 1)

Tue1-2 Plate ?? ← prob not to be used

→ all dropbox docs arrival via

Plates-Anthoritative/17-09-Plates

To load Plate files to M2FS —

sftp root@claym2fs (m2fs root pass)

cd /M2FS-Control

cd plates

cd output → put ~~del~~ Sep 2017 fibermaps
here

cd/plates → put Sep 2017 plate files
here

exit M2FS computer (exit sftp)

From Plates-Anthoritative
in DropBox
(or flashdrive)

~~2017~~ Sep 08/09, 2d (9UT)

Morning preparation:

① Install shoes @~11 AM

② Login m2fs @ CUANACO

check the connection by "ping claym2fs.lco.cl" worked!

③ Open M2FS GUI → Shoe-none → close GUI
@ 11:16 AM

④ Reopen GUI → Camera → DataPaths → ~~W~~efault (both)
→ QuickLook Tool (opened)
→ reset File Number to 1

⑤ ~~Setup~~ Bias (2x2) : 1~3

⑥ Instrument / Configuration → Load Config 1B

then Hardhat / Side → calibrate

{ Dispenser → HiRes → calibrate
(4x)}

→ load Config 1B again

⑦ Send M2FSMay 2017.txt to Mario

Update

⑧ ~~Copy~~ Plate files to claym2fs

⑨ Restart GUI to check if shoes on → "Shoe not in SH in cradle B"

⑩ ~~Check 2nd guess to 0.0000~~

{ Filter → clear
Focus → in batch

Plan:

524 ① CJ-N6864

(2.5 h)

(17c) ThAr (only) 90s

532 ② IR-N362

(2~3 hr)

(10) ThAr Ne 120s

382 ③ N339-2

(30B)

ThAr Ne 60s

Afternoon preparation

- ① Download "M2FSSep2017.txt" to C:\ANALO\Desktop
- ② Plug IR-N362 and load (10)/Config (10)
- ③ Make SH template. (a) 3:43 pm
- ④ Try to take Fibermap for IR-N362 with Config (10), but notice problem with R2 bundle.
- ⑤ Instrument / Hardhat / Slit to adjust slit position of R2 & R7.
- ⑥ Take Fibermap of Config (10) before dinner.

[Sep 8/9, 2017] (9 UT) M2FS + Clay

Observing

plug IR-N362 change to Config (10)

Frame	Object	E.T.	U.T.	x	Config	Focus	ROT
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all R2 have no/barely signal.

~~Det 4~9~~ 4~9 with MCAL deployed

From 12, Hires R Slit 95 μm → 180 μm

From 14, Hires R2 Slit -1967 ⇒ -2100

From 15, Hires R2 Slit -2100 ⇒ -2050

From 16, Hires R2 Slit -2050 ⇒ -1800

From 17, Hires R7 Slit -1775 ⇒ -1967

From 18, " { R2 Slit fixed @ -1775
" { R7 Slit fixed @ -1967

From 19, back to Config (10)

and start Fibermap for IR-N362

see note
x see note

or P.209
or P.11 " 8/11 "

see note R2
right

where it
should be

So it seems that R2 and R7 are swapped!

1~3 Test Bias

4 Test Fibermap 10s R:13 1.0 (10) 246.6 /
5 " 30 19:22 " " 187.5 /

6 Test ThArNe 60 19:27 " (10) 246.6 /
7 " 30 19:35 " " 186.9 /

8 " 120 19:37 " " " " /

9 " 240 19:47 " " " " /

10 (Test)Fibermap 120 19:53 " " " " /

11 " 900 20:03 " " " " /

12 " 30 20:31 " " " " /

13 (Test)ThArNe 120 20:39 " " " " /

14 (Test)ThArNe 60 20:47 " " " " /

15 " 60 20:50 " " " " /

16 " 60 20:55 " " " " /

17 " 60 21:00 " " " " /

18 " 60 21:05 " " " " /

19 Fibermap 600 21:09 " " 245.9 /
186.9 /

20 ThArNe 120 21:22 " " " " /

→ Change to CJ_N6864 @ 7:34 pm

→ Change to Config (17c) (or 22:34 UT)

→ field CJ-Clusters-2017B NGC 6864

At twilight time, the wind is too strong to open the dome.

Open Back @ 23:53 UT

@ 00:24 UT Shut ~~down~~ again!
just after Frame 24.

Frame 25-44(Bias 1x2) Frame 25-44 with wrong "Object" names
as { "CJ-N6864" on R side
"Test CJ-N6864" on B side

Frame 65-84(Bias 1x1) R side : correct name
Object name { B side : "Bias ~~xx~~" instead.
1x2

Reopen @ 06:45 UT

Frame 265 (ThArNe) has Configuration "unknown"
due to my change of binning before, but I
definitely change back to 1x1 for this frame.

Reload Config(10) after 265.

The guide star on the left is barely seen.
I changed the left guide to two other positions, but
still poor. Guide stars ~~not~~ not bright enough.
maybe

FRAME	OBJECT	E.T.	U.T.	x	CONFIG	FOCUS	ROT
21	Quartz	120	00:13	1.063	(10)	248.7	-7.00
22	ThAr	"	00:17	1.058	"	"	"
23	"	30	00:19	1.055	"	"	"
24	Test CJ N6864	60	00:22	1.051	"	249.3	185.0

25-44 Bias 1x2 // 02:39 1.000 H 249.5
45-64 " " 02:54 " " "

→ plug IR-N362 @ 03:46 UT

→ change to Config(10)

→ change to Field IR-Clusters - 2017B NGC 632

65-84 Bias xx 1x1	0	03:50	1.000	(10)	248.4	/
about 85- " "	"	04:16	1.000	"	248.8	/
86-124 " "	"	04:18	"	"	"	/
125-144 " "	"	05:08	"	"	248.8	/
145-204 Bias 1x2 " "	"	05:34	"	"	"	/
205-264 Bias 2x2 " "	"	06:18	/	/	/	/

265 ThArNe 120 07:07 1.346 (10) 250.0
183.5 -7.40

→ seeing is bad - cannot guide on ~~both~~ both stars
change G1 (left) but not work. → guide anyway

266 Test N362	120	07:26	1.355	"	251.2	
267 IR-N362	2300	07:30	1.357	"	182.3	-7.40

Have to close @ 08:08 UT due to the wind

* Found a misplug fiber B4-2 into B4-3,
so 265 ~ 268 have no counts for B4-3.

Fill Dewar during 277 ~ 281

FRAME	OBJECT	E.T.	U.T.	x Config.	Focus	ROT
268	ThArNe	120	08:12	1.000 1.000 (10)	253.0 180.5	-7.40

do not use → 269-270 Bias 1x1 ✕ 08:47 ✕ ✕ ✕

only use 271-281 Bias 1x1 / 08:52 / / - -
282-291 " " 09:12 - - -

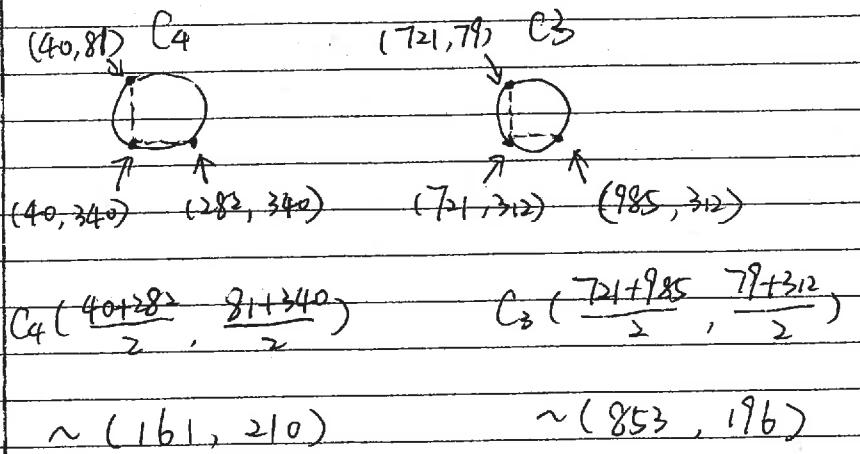
→ No chance to reopen for twilights
until 09:45 UT

292-296 Dark 1x1 3600 09:53

End of the night!

Plan: 30 min for each scientific expo.

- ① No. 523 NCC 6402 - CJ (17C) until 03:30 UT
② No. 532 NCC 362 - IR (10) 03:30 ~ 10:00 UT



Sun: ① set 22:40 UT → tui.enet 23:51 UT

18:40 local

20:51 local

② twin. beg 9:28 UT → rise 10:39 UT

6:28 loca

7:39 local

Sep. 09/10, 2017

M2FS + Clay
Observing

(10 UT)

→ unphg IR-N362

→ measure the centers of the two guide fibers

C4 (161, 210) and C3 (853, 196)

→ fixed C_4 & C_3 on Camera 1

(Camera 1 for G/A stars , Camera 2 for SH)

→ plug CJ-N6402 @ 21:00 UT

→ change to Config (17c)

→ field CJ-Clusters 2017B: NGC 6402: 17c

→ NO fibernap due to the high humidity!

→ NO Twilights (cannot open the mirror)

→ It's DARK NIGHT 😞

Light Snow @ 01:15 UT

During exp @ 01:48 UT, paused expo. on both
sides to cover the instrument.

Resume @ 01:55 UT

Snow gets heavier @ 02:00 UT

FRAME OBJECT E.T. U.T. x Config Focus ROT

297-300 Dark 1x2 3600 23:17 - - -

→ refill Dewar @ 03:27 UT

301-307 Dark 2x2 3600 03:40 - - -

End the night @ 03:45 UT

308-311 Dark 2x2 3600 ~13:00 - - -

September 10/11 2017

M2FS + clay

→ staff spraying snow/ice off the dome in the afternoon

→ cleaned ends of guide fibers with ethanol

→ observers for tonight: Yingyi, Ian

→ TO for tonight: Maunir

FRAME	OBJ	BT	U.T.	X	Config	Fiber	Rot
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312-361	Bins 1x1	-	18:02	-	-	-	-
362-411	Bins 1x2	-	18:04	-	-	-	-
412-461	Bins 2x2	-	19:38	-	-	-	-
462-511	"	-	20:01	-	-	-	-

512	Fibermap 17C	120	20:33	-	(17c)	254.8	-
513	Fibermap 17C	THAr 90	20:44	-	"	180.2	-

frames 339 - 361 : lights on in dome as staff does checkout after
362 - 411 : " ice removal
412 - 461 : "
462 - " "

- mirror cover open →
- lawns open 50% →
- M2L in, THAr ~~on~~ on
- lawns closed

NOTE: The plate has been designed
to avoid BT-01, the ~~dead~~ dead
fiber. No need to replace
using ~~substitutes~~ substitutes.

Cameral

Updated C3 coordinates: (858,196)
C4 : (164,210),

(Yingyi calculated these from a fits file
created yesterday (?) .)

→ could not open for twilights because of humidity.

→ opened dome at UT = 23:05

→ removed remaining plastic cover from ~~M~~ M fib

config: (17c)

plate: CJ-Clusters-2017B

field = N(0402
GC)

DT happened - R2A5 = G1

Sunset = 7:40 PM = 22:40 UT

Sunrise = 7:38 AM = 10:38 UT

seeing $\sim 1.3''$

R2-1 is clearly a star, no it should be! Does not appear that R2 and R7 are swapped.

(Christian: you can ignore this R2/R7 commentary.)

seeing $\sim 1.1''$

FRAME	OBJECT	E.T.	U.T.	X	CONFIG	FOCUS	ROT
514	Quartz	120	23:23	1.12	(17c)	253.7 181.1	-7.00
515	ThAr N6402	90	23:26	1.12	"	254.8 180.4	"
516	N6402	60	23:44	1.13	"	254.7 179.7	-7.22
517	"	1800	23:46	1.13	"	"	"
518	"	1800	00:17	1.18	"	255.6 179.2	"
519	ThAr	90	00:48	1.24	"	"	"
520	N6402	1800	00:50	1.25	"	"	"
521	"	1200	01:21	1.35	"	255.1 179.7	"
522	ThAr	90	01:52	1.50	"	"	"

→ replugged fibers to N6864 on same plate

→ still the same ~~swap~~ config

READ ME!

Concern about brightness of ^{star} B7-1

→ B7-1 and B7-8. Did we swap? No.

They have been checked and are plugged as drawn.

Check the spectra carefully to

ensure they are actually what they should be.

→ THE PLATE WAS DRAWN INCORRECTLY. B7-1 was plugged where B7-8 is, and vice versa. Handle this by hand in reduction.

seeing $\sim 1.0''$

DO NOT USE
read out
early to check.

seeing $\sim 1.2''$

FRAME	OBJ	E.T.	U.T.	X	CONFIG	FOCUS	ROT
523	ThAr	90	02:14	1.03	(17c)	255.1 180.7	-7.20
524	N6864	60	02:25	1.03	"	"	-7.10
525	"	1600	02:27	1.04	"	"	"
526	"	1600	02:54	1.06	"	"	"
527	"	1600	02:58	1.07	"	"	"
528	"	1000	03:26	1.13	"	254.6 180.2	"
529	ThAr	90	03:44	1.17	"	"	"

→ change to plate = IR_Clusters_2017B

config: (10)

field: IR_Clusters_2017B : rvedener
ngc3628d

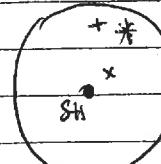
If you need to find the guide stars (in blue this)

use a lower absolute value

(e.g., -7.20 → -7.15)

- hard fields to align. Rotation had very little input, and it was easier to use the alignment stars to estimate rotation.

- had plugged guide stars



- for #533 onward,
plugged + here and here

The seeing has ~~poorly~~ really become long! $\sim 5''$
 ± 0.3

seeing $\sim 1.2''$

twilights @ ~~WINDS~~ $\alpha = 07:00:00$, $\delta = -10:00:00$

dewar fill at UT = 10:30 (7:30 AM)

IGNORE S45

FRAMES	OBJECT	E.T.	U.T.	X	CONFIG	POUNDS	ROT
530	ThArNe	180	04:13	1.13	(10)	252.7 181.8	-7.20
531	NGC362	60	04:37	1.40	"	253.2 181.2	-7.20
532	"	300	04:40	1.40	"	"	"
533	"	3000	04:46	1.39	"	"	"
534	"	3000	05:37	1.35	"	252.5 181.8	"
535	ThArNe	120	06:29	1.34	"	252.0 182.4	"
536	NGC 362	3000	06:32	1.34	"	"	"
537	"	3000	07:23	1.36	"	"	"
538	"	3000	08:15	1.40	"	"	"
539	"	(1) 3000	09:06	1.48	"	252.0 182.8	"
540	ThArNe	120	10:03	1.59	"	"	"
541	Twilight config 10	800	10:07	1.15	"	"	-7.20
542	"	400	10:21	1.12	"	251.3 182.8	"
543	"	200	10:30	1.10	"	"	"
544	"	100	10:34	1.10	"	"	"

→ end of night,

545 - Dark 1x2 3600 10:38 — —

546 - 550

September 11/12 2017

M2FS + Clay

sunset = 7:40 PM = 22:40 UT

sunrise = 7:37 AM = 10:37 UT

→ plugged plate for tonight:

plate = CJ - Clusters - 2017B

config = 17c

field = NGC6402

→ tonight's observers: Ian + Yngji
TO: Maurizio

position for twilight flats: $\alpha = 15^{\circ}30'00''$, $\delta = -40^{\circ}00'00''$

max counts $\approx 10k-15k$ in these →

FRAME	OBJECT	BT.	UT	X	CONFIG	FOCUS	ROT
551	twilight config	17c	30	22:44	1.11	(17c)	2925 183.0
552	"	100	22:46	1.12	"	299.0 184.8	-
553	"	200	22:48	1.12	"	"	-
554	"	400	22:52	1.13	"	299.7 184.8	-
555	" ThAr	90	23:00	1.14	"	"	-
556							

→ peaked up on NGC6402, rot = -7.12, and had to close
for high humidity at UT = 23:20
(80+%)

→ reopened done at 00:15

FRAME	OBJECT	E.T.	U.T.	X	CONFIG	FOCUS	ROT
556	N6402	60	00:34	1.21	(17C)	253.0	-7.12
557	"	1800	00:35	1.22	"	"	"
558	ThAr	90	01:06	1.31	"	"	"
559	N6402	1800	01:08	1.32	"	"	"
560	"	1800	01:39	1.45	"	253.6	"
561	ThAr	90	02:10	1.64	"	284.1	"

~1:30 UT: official weather station is down. Relying
on the one with a monitor in the
Clay control room.

~1:55 UT: weather station is back online.

seeing ~1"

seeing ~1"

→ changed to : plate = IR_Clusters_2017B

field = roederer_M15_f (M15-IR)

config = (10)

FRAME	OBJECT	E.T.	U.T.	X	CONFIG	FOCUS	ROT
562	M15 field 1	60	02:38	1.32	(10)	254.0	-7.10
563	"	300	02:40	1.33	"	180.4	"
564	"	2400	02:47	1.33	"	254.6	"
565	"	2400	03:28	1.35	"	179.7	"
566	ThAr Ne	120	04:00	1.43	"	255.1	"
567	M15 field 1	2400	04:13	1.44	"	178.0	"
568	"	2400	04:54	1.60	"	257.3	"

tried guiding using blue filter (because pointed so far "N", to minimize differential refraction).

Guide (+ alignment) stars too faint, so reverted to the "clear" filter.

seeing ~1"

@ UT = 07:05

During 572 = the PWHTM is creeping up. Manrico tells us that the telescope cannot focus properly. (M2 at limits) We elect to continue observing to 600 sec. At that point, Manrico will move to zenith and fix something. We even had to wake Porras to help diagnose. Mechanical issue, not resolved before calling it a night.

dead fibers:

B1-1, B1-4

seeing ~1.4

these fibers look weak in the setup
(even on the THVNe).

B2-12, B1-15(?)

→ too buried in middle of cluster
to tell.

→ Yingyi checked: plugged fully, but a bit loose
→ maybe not 1 to plane?

→ change to:

plate = SMC Cluster -1

config = 3OB

field = N339_2BR

FRAMES	OBJECT	BT	UT	X	config	FOV	ROT
569	THVNe	30	06:02	1.00	(3OB)	258.6 176.0	-7.24
570	N339_2 test	120	06:17	1.92	"	259.2 170.0	"
571	N339_2	2400	06:20	1.92	"	"	"
572	"	600	07:00	07:00P			

→ closed for mechanical issue. (see opposite)
and did not reopen.

September 12/13 2017

M2FS + Clay

sunset = 7:41 PM = 22²:41 UT

sunrise = 7:36 AM = 10⁵:36 UT

While swapping out the filters, some got pushed beyond their normal medium positions. The red side jammed while loading. Jeb and Mario helped diagnose via skype.

It's a filter inserter sensor failure. With Jeb and Mario, we developed a workaround procedure. This is described on a file on the desktop:

filter-manual-workaround.txt

We practiced this a few times, and it works.

manually put filter Mgb Rev2 in w/ new instructions. Test

574: all RA pull out of the grass, and checked!

575 to check R1-1 and R8-1b

576: check R8 vs R4 brightness

→ changed both Lores gratings to MidRes

→ changed filter position #7 from BSfarD80_87 to CaT RT on both spectrographs

→ plugged first field for the night, Ind 2.

changed to:

plate =

config:

field =

→ high humidity, so cannot take any test exposures

→ observers for tonight: Ian, Meghan, Yngji

→ high humidity + clouds outside prevented us from opening; eventually we found on the dome, and we never opened.

573	test of	FILTER	5	05:50	-	(1B)	755.1	-
574	"	"	1	05:58	"	"	"	+
575	"	"	"	06:03	t"	"	"	-
576	"	"	"	06:13	"	"	"	-

→ fill Dewar @ 06:20 UT

* 577-581 Dark 1x2 3600 UT=06:38

September 13-14 2017

Plugged first field: Ind 2.

We used the work-around procedure to insert the filter on the red side.
See previous page for details.

High humidity and ~freezing temps.
Unable to open mirror covers or telescope obviously.

DSP error. Emilio discovered a burnt fuse and replaced it. Working fine now.

Bad on blue. Two chips ^(2,4) completely saturated. ???

Reset DSP.

getting better...

getting better...

ok, now looking ok

Note: Not all of the red fibers were plugged.

These fiber maps should work for the Ind2 field,
but probably not for any other fields using
config 25.

Frame	Object	E.T	UT	X	Config.	Focus	Pot.
582	fibermap 25	25	120	20:50	-	(25)	²⁵³⁸ KSI.4
583	test	"	30	20'53	-	"	-
584	"	"	5	"	"	"	"
585	"	"	21:00	"	"	"	"
586	"	"	"	"	"	"	"
587	fibermap 25	120	21:03	"	(25)	"	"
588	"	60	21:07	-	"	"	-
589	"	"	21:09	-	"	"	-
590	"	"	21:10	-	"	"	-
591	"	120	21:12	-	"	"	-
592	ThAr	30	21:15	-	"	"	-
593	"	10	21:16	-	"	"	-

Then had to immediately close for humidity.
That was close!

Frame Object E.T. UT X Config Focus Rot.

Closed for high humidity.

Opened at 00:05

Pointing at 00:14

All of these will say Filter = "None" in the header for the red chips, but the filter really is "Mgb-Rev2".

seeing 0.95"

Peaked up on argo stars a bit. Seeing 0.9"
Now seeing terrible. 1.5"

Seeing 1.3"

594	ThAr	10	00:33	1.084	(25)	254.3	180.2	-7.15
595	ThAr	30	00:34	"	"	"	"	"
596	Ind 2 test	2200	00:36	1.081	"	"	"	"
597	Ind 2	2400	00:38	1.080	"	"	"	"
598	Sky 5°N	480	01:21	1.052	"	254.7	179.7	"
599	Ind 2	2400	01:39	1.047	"	"	"	"
600	ThAr	10	02:20	1.053	"	255.2	179.7	"
601	"	30	02:21	"	"	"	"	"
602	Sky 5°E	480	02:23	1.054	"	"	"	"
603	Ind 2	2400	02:35	1.060	"	255.7	179.0	"
604	Quartz	240	03:16	1.097	"	"	"	"

Change Plate to "47Tuc-1"

Field "ICZ-Clusters-2017B-47Tuc-1"

04:42^{UT} finally moving to target.

605	47Tuc-1 ThAr	60	04:58	1.371	(7C)	254.8	180.2	-7.16
606	"	30	05:00	"	"	"	"	"
607	47Tuc-1 Quartz	180	05:02	1.370	"	"	"	"
608	47Tuc-1 Test	60	05:06	1.369	"	254.1	180.2	"
609	47Tuc-1	1800	05:08	1.368	"	"	"	"

→ Filter change problem. Ugh. We needed to move to filter #7 but the elevator got stuck at filter #8 (approximately, not exactly). Called Jeb. He walked us through steps to get back to load using small steps. Seems to be working now. I hope...

→ Plate drawing mistake. P4-13 and P4-14 were drawn wrong. But they have been plugged correctly.
→ Config in header of B chips will read unknown b/c filter name is wrong. (I think we typed "aIRT" ^{entered} lower case L rather than upper case I.)

Seeing 1.6

→ No main menu all we want for <H>

Frame	Object	E.T	UT	X	Config	Foc.	Rot.
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610	47 Tuc-1	1800	05:46	1.366	(7c)	^{251.1} 180.2	-7.16
611	ThAr	30	06:17	1.375	"	"	"
612	47 Tuc-1	1800	06:25	1.378	"	"	"

move off to run ST1, before each science exp. Seeing 1.5"

finished plug/filter insertion at 07:25

→ Change Plate to
N339-2 config (30b)

Field: SMC - Clusters: N339-2

613	N339-2	30	07:41	1.460	(30b)	^{253.7}
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→ Blue side CCD Temp -106.8°C
have to refill Dewar @ 07:43 UT

614	N339-2 test	120	07:53	1.471	(30b)	^{253.2} 181.5	-7.24
615	N339-2	1500	07:56	1.475	"	"	"
616	Sky 5°N	600	08:23	1.505	"	^{252.3} 182.4	"
617	Sky 5°S	600	08:35	1.522	"	^{251.7} 182.4	"
618	ThArNe	30	08:46	1.539	"	"	"
619	N339-2	1500	08:49	1.5	"	"	"
620	"	"	09:14	1.587	"	^{251.7} 182.8	"
621	ThArNe	30	09:40	1.642	"	^{251.2} 183.3	"
622	Quartz	240	09:41	1.644	"	"	"

Seeing 1.2"

1.7"

Frame Object E.T. U.T. X config. Foc. Rot.

623	Twilight	3600	09:53	1.113	(30b)	^{249.7} 183.3	-
624	"	"	09:59	1.103	"	"	"
625	"	"	10:06				
626	"	330	10:13	1.07	"	"	"
627	"	330	10:19	1.073	"	"	"
628	"	240	10:25	1.065	"	"	"
629	"	120	10:30	1.061	"	^{249.4} 184.2	"
630	ThArNe	30	10:33	1.058	"	"	"

Filling the dewar 10:40UT

Not a great night... weather + R filter
= less science time.

631-634 Dark 1x1 3600 just kidding
one of the louvers is stuck open.
dang but we got stuck in a loop
just kidding, we aborted.
end result = no darks.

September 14/15 2017

garbage
garbage

Some fibers are not being illuminated. It's fine.
It's a quartz feature, not a flaw.

Frame	Object	E.T.	UT.	X config.	Foc.	Rot.
633	Fibermap 30b	120	19:34	-	(30B)	241.1
634	"	180	19:37	-	"	" "
635	"	120	19:40	-	"	" "
636	ThArNe	60	19:45	-	"	" "
637	"	30	19:50	-	"	" "
638	Quartz	240	19:51	-	"	" "

→ Change plate to CJ Clusters - 2017B
Target NGC 6402 Config (17c)

Pefilled dewars 20:50 UT.

→ Night begins @ 22:45 UT

639-640 Some R5 fibers were not put into
grass properly
(the comb came loose for R5)

don't use	{ 639	twilight config (17c)	30	22:47	1.142	(17c)	237.7	-
	640	"	120	22:49	1.145	"	" "	
	641	"	360	22:53	1.157	"	" "	
	642	" ThAr	90	23:00	-	"	" "	

→ Find similar problem as the first afternoon,
which is R2 and R7 Tetrapi are fainter than
the other Tetrapi. (Call 1st for help)

Inst. → Hard hat → Slits

changed R 180μm slit set points for Tetriss 2,7.
-1775 now in 7 and -1967 in 2.

slits both 125 μm →

B side 125μm, R side 75μm →

B side 125μm, R side 180μm →

~~75~~

643	Test ThAr	90	23:17	1.00	-	-
644	"	45 10	23:19	"	"	"
645	"	30	23:21	"	"	"

solved.

→ problem ~~fixed~~, move to N6402-CJ

→ change R side slit back to 125 μm

seeing ~1''.2

~1''.3

~1''.25

Frame	Object	ET	UT	X	Config.	Focus	Rot
646	N6402 ThAr	90	23:36	1.137	(174)	240.0 191.9	-7/16
647	N6402 Test	180	23:40	1.141	"	"	"
648	N6402	1800	23:44	1.147	"	240.8 191.9	"
649	"	"	00:15	1.197	"	242.2 170.4	"
650	"	"	00:45	1.277	"	"	"
651	ThAr	90	01:17	1.396	"	4	"
652	Quartz	240	01:19	1.407	"	"	"

Move to zenith 01:24 UT.

→ Change to N362 - IR

IR Clusters - 2017 B (cont'd) (10)

Small problem w/ telescope drives. Lose only 1 or 2 min.

Move to zenith 01:24

Finish plug/filter 01:46

First Exposure: 01:04

We tried rot -7.3 and -7.1 and it
 made no difference. We picked -7.25
 b/c -7.3 seemed a tiny bit better in the
 right direction

→ Seeing might appear worse than it actually
 is because star might not have been good
 for guiding.

→ Went to load config 24d and it wasn't
 in the computer. 24c is the same
 except for the binning so I loaded
 config 24c and changed binning to
 reflect 24d. Header will not list config.

→ Plate drawn incorrectly. BT-10 was
 not drawn. But we plugged it. So OK.

→ B8-9 was loose in hole b/c of
 crowded holes. Plugged angle is
 incorrect

Seeing ~1.5
 ~1.4
 ~1.3

~1.3

Frame	Object	F.T.	U.T.	X	Config.	Foc.	Rot.
653	N362 THArNe	120	02:04	1.678	(10)	241.7	-7.25
654	N362 Test	300	02:08	1.665	"	191.1	241.7
655	N362	1800	02:15	1.646	"	190.5	"
656	"	"	02:46	1.564	"	242.3	"
657	"	"	03:17	1.497	"	242.3	"
658	THArNe	120	03:49	1.444	"	189.9	"
						242.6	"
						189.9	"

→ change to Atlas-2

→ field AB-ATLAS-2017B = ATLAS-2

→ load Config (24d) with changing 2x2 to 2x4,
 so in Config (24d) To Zenith: 03:52
 Finish Plug/filter 04:17
 First Exposure 04:28

659	THArNe	20	04:28	1.064	(24d)	242.9	189.9 -7.20
660	"	10	04:28	1.062	"	"	"
661	Atlas-2 Test	240	04:30	1.059	"	"	"
662	Atlas-2	2400	04:35	1.054	"	"	"
663	"	11	05:15	1.018	"	243.5	189.2 "
664	THArNe	10	05:56	1.010	"	242.5	"
665	Atlas-2	2400	06:03	1.011	"	"	"
666	THArNe	10	06:44	1.034	"	244.2	189.2 "
667	Quartz	45	06:45	1.035	"	"	"

Noticed Arg. stars were faint so →
 We stopped to peak up.

~1.0
 ~0.8

Seeing ~0.9"

Refill dewar 07:06

Frame Object E.T. UT X config. Foc. Rot.

- We plugged all the fibers so that we can easily do twi lights later.
- B2-1 was loose in hole b/c many holes were drilled next to each other.
- Do not run when telescope is moving, seeing $\sim 1.^{\circ}20$

$\sim 1.^{\circ}20$

Took some time to peak up on acq stars again. $\sim 1.^{\circ}4$

point 2 hour E, -40 declination

~~pattern~~

681 had the lights turned on, bad.
A good night (1)

Someone set another exp. b/c 687 was ruined.

- Moving to Plate AB-ATLAS-2017B Field Atlas-4

668	(Atlas_4) ThAr-Ne	10	07:19	1.051	(24D)	244.2	189.2	7.20
669	Atlas-4 Test	240	07:21	1.054	"	"	"	4
670	Atlas-4	2400	07:26	1.060	"	"	"	"
671	"	"	08:06	1.133	"	244.2	188.6	"
672	ThAr-Ne	10	08:47	1.253	"	244.7	187.9	"
673	Atlas-4	2400	08:55	1.283	"	"	"	"
674	ThAr-Ne	10	09:36	1.486	"	"	"	"
675	Quartz	45	09:37	1.491	"	"	"	"

- moving to twilight position

676	Twilight Config	(24D)	360	09:44	1.119	"	245.4	187.9	/
677	"	"	11	09:50	1.111	"	"	"	/
678	"	"	11	09:57	1.100	"	"	"	/
679	"	"	300	10:03	1.090	"	"	"	/
680	"	"	11	10:08	1.082	"	"	"	/
681	"	"	240	10:14	1.075	"	"	"	/
682	"	"	120	10:18	1.070	"	"	"	/
683	"	"	45	10:20	1.066	"	"	"	/
684	"	"	30	10:24	1.068	"	"	"	/
685	ThAr-Ne	10	10:23	-	"	"	"	"	/

- refill Dewar @ 10:35 UT

End!

686-690 Dark 2x4 3600 10:35

691 Dark 2x4 3600

September 15-16 2017

Dewar refilled 12:45 local, 15:45 UT.

Mirror was cleaned during afternoon.

open bottom louvers 50%.

Some bright lines will always saturate

open bottom louvers 50%.

weird diffraction pattern.

... yep, still there, adjust filter..?

still there Tape up filter rod box better.

Oh,

omg, forgot to turn on the lamp der.

don't
use {

blc

adjust

filter.

	Frame	Object	E.T.	DT.	X	Config.	Foc.	Rot.
Domestic Test	692	fibermap24D	no	19:10	-	(24D)	237.9	-
	693	"	80	19:13	-	"	194.5	-
	694	"	60	19:18	-	"	"	-
	695	"	"	19:19	-	"	"	-
	696	"	"	19:20	-	"	"	-
	697	"	"	19:22	-	"	"	-
	698	"	"	19:23	-	"	"	-
	699	ThAr Ne	10	19:25	-	"	"	-

Switching to config 7C

700	ThAr	30	19:45	-	(7C)	237.2	-
701	"	10	19:47	-	"	195.1	-
702	"	60	19:48	-	"	"	-
703	fibermap 7C	120	19:50	-	"	"	-
704	"	180	19:53	-	"	"	-
705	"	"	19:58	-	"	"	-
706	"	"	20:05	-	"	"	-
707	"	"	20:11	-	"	"	-
708	"	"	20:15	-	"	"	-
709	ThAr	60	20:19	-	"	238.6	-
710	"	60	20:21	-	"	193.5	-

Dewar refill 21:00

Frame Object E.T. U.T. X Config. Foc. Rot.

→ I Saved config 24D.
BUT BEWARE : Because we are
manually installing R filter, the
config file does not have the
appropriate filter listed. In future
you will want to save new file.

BAD →

change to config 24D

711 Bias 2x4 test 0
712-811 Bias 2x4 0 21:19 - 24D 235.3
196.5 -

→ Plate AB-N7492-2017B
Field N7492-0

point 2hr W, -40° decl.

"
high airmass makes focusing hard

high airmass + faint guide star = poor seeing.
checked aqg. and they looked fine.

Seeing 1.3"
1.2"

changed rot. and aqg stars got brighter.

Seeing 0.9"

812 twilight 24D 5 22:45 1.129 24D 234.4
813 " 10 22:46 " " 197.2 -
814 " 15 22:47 " " " -
815 " 20 22:48 " " " -
816 " 25 22:49 " " " -
817 " 30 22:50 " " " -
818 " 35 22:51 " " " -
819 " 45 22:52 " " " -
820 " 50 22:53 " " " -
821 " 60 22:54 " " " -
822 ThArNe 10 22:56 " " " -
823 " " 22:57 " " " -

824 ThArNe 10 23:40 2.219 24D 236.2
199.8-7.21
825 N7492-0 test 240 23:43 2.163 " " "
826 N7492-0 2700 23:47 2.100 " " "
827 " " 00:32 1.613 " 236.7
199.8 " "
828 ThArNe 10 01:18 1.339 " - "
829 N7492-0 2700 01:21 1.327 " 235.6
196.3-7.2

peaked up on Agg. fibers again.

seeing 0.8"

the initial rot/alignment is really good for Atlas fields!
so I like A. Bonaca. I pugged Bl-4 just because.

0.75"
0.75"

checked Agg. fibers. looked good.

Seeing 0.7"

Only 2 Agg. filters

0.7"

seeing 0.7"

checked Agg. filters. look good

0.8"

doing good on time so I extended exp. time for
last two exposures from 74m → 77m.

Frame Object E.T. UT. X config. Foc. Rot.

830 N7492-O 2700 02:09 1.166 (24D) ^{234.5} 196.7 -7.2
831 ThAr Ne 10 02:55 1.078 " " "
832 Quartz 60

Grazedorange

Change Plate AB ATLAS-2017B
Field ATLAS-O (24D)

833 ThAr Ne 10 03:22 1.130 (24D) ^{234.5} 196.7 -7.2
834 Atlas-O test 240 03:23 1.136 " " "
835 Atlas-O 2700 03:28 1.125 " " "
836 " " 04:08 1.063 " " "
837 ThAr Ne 10 04:49 1.033 " " "
838 Atlas-O 2400 04:51 1.032 " " "
839 " " 05:32 1.033 " ^{234.0} 197.3 "
840 ThAr Ne 10 06:12 1.063 " " "
841 Quartz 60 06:13 1.064 " " "

Grazedorange Plate AB ATLAS-2017B
Field ATLAS-5 (24D)

842 ThAr Ne 10 06:36 1.069 (24D) ^{234.0} 196.7 -7.2
843 Atlas-5 test 240 06:38 1.011 " " "
844 Atlas-5 2400 06:43 1.01 " " "
845 " " 07:23 1.049 " ^{234.6} 196.7 "
846 ThAr Ne 10 08:04 1.120 " - "
847 Atlas-5 2700 08:06 1.122 " ^{235.0} 196.4 "
848 " " 08:51 1.252 " " "

Frame Object ET UT X config. Foc. Rot.

849 Atlas-5 ThArNe 10 09:38 1.465 (24D) ^{235.4} _{196.4} -7.20
850 Quartz 60 09:39 1.473 " " "

change config to 7C

Fill dewars 09:50

pointing 2h E and decl = -40°

oh look, the moire pattern is back.

well, I should have done the Arc when it was dark.

that was dumb. I hope this still works.

Closed dome. Not sure if it is useful after the
telescope has moved, and inst. rot. different.

851 twilight (7C) 300 09:56 1.128 (7C) ^{235.4} _{196.0} -
852 " " 10:02 1.118 " " "
853 " " 10:08 1.108 " " "-
854 " " 10:14 1.091 " " "-
855 " " 10:19 1.088 " " "-
856 " 150 10:25 1.082 " " "-
857 " 45 10:28 " " " "
858 ThAr 30 10:30 " " " "
859 ThAr 30 10:36 " " ^{234.9} _{196.0} "
860 - 864
~~859 863~~ Dark 2x4 3600 10:39

September 16-17 2017

Once again, P4-B, 14 were drawn wrong.
I erased and drew them correctly.
They are plugged correctly.

OOPS, dark. Bad
Saturated

Changed R
LoElev. to 9.34 (was 9.21)

R LoElev. = 9.17

R LoElev. = 9.29, B LoElev. = 8.85.

R LoElev. = 9.39 "

Ne5HgAr5Xe5

not good

Change lenses gratings to B600.

Change config to 11C

Change Plate to ICZ - Clusters 2017B
Plug 47-TUC1

865	sky spectrum	600	20:12	-	11C	226.9	-
866	"	60	20:14	-	"	203.3	-
867	"	10	20:16	-	"	"	-
868	"	10	20:25	-	"	"	-
869	"	10	20:26	-	"	"	-
870	"	"	20:27	-	"	"	-
871	"	"	20:30	-	"	"	-
872-874	fibermap 11E	10	20:33	-	11E	226.3	-
875	Ne Mg Ar Xe	60	20:36	-	"	203.7	-
876	Ne2 Hg Ar5 Xe5	60	20:39	-	"	"	-
877	"	10	20:41	-	"	"	-
878	Th Ar	10	20:42	-	"	"	-

Change config to 7C

dewar refill 21:10

Frame Object E.T. U.T. X config. Foc. Rot

Main drive went down. Telescope got lost.
Unable to do twilights

mirror covered

do not use

test, no good

879	twilight	(7c)	360	23:00	1.124	(7c)	227.1 202.6	—
880	"	"	23:11	1.141	"	23.2 204.7	—	
881	ThAr	60	23:18	1.159	"	"	—	
882	ThNo	"	23:19	1.163	"	"	—	

→ moving to 47 Tuc-1 (IC7) @ 23:22 UT

Filter to red, move off target for SH

During 885, we changed the ROT to ~ 0.8
-7.11 @ 00:10 UT

~ 0.7

883	ThAr	60	23:41	2.061	"	229.6 200.2	7.10	
884	47 Tuc-1 test	100	23:48	2.0029	"	230.3 200.3	7.11	
885	47 Tuc-1	1800	23:50	2.017	"	229.6 200.2	7.10	

→ re-SH

886	47 Tuc-1	1800	00:26	1.865	"	230.9 198.9	7.11	
887	ThAr	60	00:57	1.752	"	231.5 198.9	"	

→ re-SH

888	47 Tuc-1	2400	01:02	1.734	"	"	"	
-----	----------	------	-------	-------	---	---	---	--

→ re-SH

889	"	"	01:46	1.610	"	"	"	
890	ThAr	60	02:27	1.522	"	"	"	
891	Quartz	120	02:29	1.518	"	"	"	

only 1 guide star. We tried -7.24, -7.22,
 ~7.16. and decided -7.20 could make
 3 of the 5 Agg stars brightest so we ~0.6"
 Went w/ that. (At each rot, we tried peaking up.)
 Test indicates that Rot. not good.
 maybe 1 faint star? nope. It didn't move. staying w/ or original location.
 Maybe hole drilled wrong? If not then must be Dyson Sphere.

~0.65

~0.65

I'm so dumb. I did the R filter
 change process but the filter ~~order~~ was the same. XX

Frame Object F.T U.T. X config. Foc. Rot.

→ Change Plate to AK-Clusters-2017B
 Field Krem17B05 (11E)

892	Nel HgAr5Xe5	10	03:21	1.123	(11E)	^{231.0} 199.5	-7.20
893	ThAr7	10	03:22	1.122	"	4	"
894	AK-B05 test	240	03:24	1.118	"	4	"
895	AK-B05	1800	03:29	1.111	"	4	"
896	"	"	04:05	1.074	"	^{230.4} 199.8	"
897	Nel HgAr5Xe5	10	04:36	1.064	"	^{230.4} 200.3	"
898	ThAr7	10	04:37	"	"	"	"
899	AK-B05	1800	04:39	"	"	"	"
900	Bias (not use)						
901	AK-B05	1800	05:11	1.074	"	^{239.8} 200.3	"
902	Nel HgAr5Xe5	10	05:42	1.102	"	"	"
903	ThAr7	10	05:43	1.103	"	4	"
904	Quartz	30	05:43	1.104	"	"	"

→ Change Lokes gratings to R600,

Change Plate to GOODSS - 2017B,

Config (22B), Field "GB-GOODSS_2017B"

"test" exposure was useless b/c there aren't magnitudes in the fibemap file, so we can't check like usual. I will assume the targets are all really faint. I think I can tell the difference between sky + target. Sure, I think its GOOD. ~0.55
~0.52

Pointing near to the zenith, so

it's hard for the telescope to keep up with
the targets ~0.51
~0.49
~0.45

~0.62
~0.70

Frame	Object	E.T.	U.T.	X	Config	Foc.	Rot
905	ThAr1	1	06:26	1.125	22B	229.8 200.3	-7.28
906	ThAr7	"	06:26	1.124	"	"	"
907	"	10	06:27	1.123	"	"	"
908	HgAr5	30	06:28	1.121	"	"	"
909	Quartz	20	06:29	1.119	"	"	"
910	GOODSS test	180	06:31	1.113	"	"	"
911	GOODSS	1800	06:35	1.106	"	"	"
912	"	1800	07:05	1.055	"	230.3 200.3	"
913	ThAr1	1	07:37	1.022	"	"	"
914	ThAr7	"	07:37	1.021	"	"	"
915	"	10	07:38	"	"	"	"
916	HgAr5	30	07:38	1.020	"	"	"
917	Quartz	30	07:39	1.019	"	"	"
918	GOODSS	1800	07:41	1.018	"	"	"
919	"	"	08:12	1.003	"	"	"
920	ThAr1	1	08:43	1.001	"	230.9 199.6	"
921	ThAr7	"	08:44	1.002	"	"	"
922	"	30	08:44	"	"	"	"
923	HgAr5	30	08:45	"	"	"	"
924	Quartz	20	08:46	"	"	"	"
925	GOODSS	1800	08:53	1.004	"	"	-7.24
926	"	900	09:23	1.022	"	"	"
927	ThAr1	1	09:39	1.037	"	231.5 199.6	"
928	ThAr7	"	09:40	1.038	"	"	"
929	"	10	09:40	"	"	"	"
930	HgAr5	30	09:41	1.039	"	"	"
931	Quartz	20	09:42	1.040	"	"	"

→ moving to twilight @ 09:43 UT

Me likes these twilights. All I do is click
 "start" over and over and he has to
 write it in the log! Mwahaha!

Frame Object E.T. U.T x Config. Foc. ROT

932	ThAr1	1	09:49	1.136	(22B)	231.5	199.0	-
933	ThAr7	"	09:50	1.134	"	"	"	
934	"	10	09:50	1.133	"	"	"	
935	HgAr5	30	09:51	1.131	"	"	"	
936	Quartz	20	09:52	1.128	"	"	"	
937	twilight	(22B)	360	09:54	1.125	"	"	"
938	"	"	10:00	1.114	"	"	"	
939	"	"	10:07	1.103	"	"	"	
940	"	180	10:13	1.092	"	"	"	
941	"	45	10:17	1.087	"	"	"	
942	"	10	10:18	1.085	"	"	"	
943	"	8	10:19	1.084	"	"	"	
944	"	8	10:20	1.084	"	"	"	
945	"	8	10:20	"	"	"	"	
946	"	8	10:21	"	"	"	"	
947	"	"	10:22	"	"	"	"	
948	"	"	10:23	"	"	"	"	

dewars filled @ 10:33

949-953 Dark 1x1 10:36 -

Good Night. ☺

Sept 17/18, 2017 (INPUT) - M2FS +
Clay Observatory

M.M & Anthony Kremin now on duty.

Darks done

Fibermap summary

19-20	(10)	one eyepiece + Arc
512-573	(2C)	" + Arc
587-593	(25)	sequence + Arc
633-638	(30B)	"
694-699	(24D)	"
704-710	(2C)	"
872-878	(11F)	" Failed

Twilights summary (weather made it impossible for last few nights)

551-555	(2C)	+ Arcs
540-544	(10)	"
623-630	(30B)	Arc at bright end (621 may be better)
676-685	(24D)	+ Arcs
812-823	(24D)	"
851-859	(2C)	Arc at bright end; one after slow but closed dome (807); After consider
932-948	(22B)	+ Arcs

Fibermap for 22B

Frame What ~UT ET Config

955	Test FibMap	17:12	30	(22B)	Saturated
956	"	17:15	8	"	
957-961	FiberMap	17:16	8	(22B)	sequence
962	ThAr@7	17:20	1	"	→ DSP DR fail
963	"	17:21	1	"	Tryagan
964	ThAr@1	17:22	10	"	
965	(1)	17:23	1	"	
966	NeHgAr	17:24	30	"	→ was R600

CHANGE to MedRes gratyon B side

Changing to (25) R side: MgB Rev 2
Filter #2
Stalby = 10

Config (25) Gally loaded

New Config (25) fiber Map

Fixed lowres @ 2 ; highlights off
(af1 2) (h1)

966 FibMap Test 18:12 60 (25) DCU
967 " Deployed

→ wrong filter; stupid zero indexing!

Try again → install Mgb_Rev 2
SGAIN # [1] ←
2 M2FS # 2

from #967



Problem fibers: B1-1 > known
B1-4

OK

→ cleaned (dry air)
between 967/968 { B1-9 abit weak OK
B1-15 abit weak
B2-12 " "
B5-12 very weak

All R's look good.

worst B1-1 prop mat
B5-12 acceptably
B1-4 ↑
V B2-12 ↓ oh for
best B1-15 now

All other B's look good

Fiber Map 25
967 FM Test 18:24 60 (25) good-ish
~~968-972 FM 25 18:24~~ see bad filter
968-972 FM 25 18:31 60 (25) loop sequence
973 ThBrNe 18:39 60 " " "
974 " 18:42 15 " "

Change to 25B (uses 1B on R side)
→ no filter more

Problem: (25) uses old Mgb Rev 2
protium & not "ghostless"
protium

→ Also, may invalidate earlier
data so, keep (25).

→ Plugged Indus 2 Field on
Plate

Marco Walker Tn1-2-Pho2 Plate 3

B1-01 → not used

R1-01 → plugged instead into B1-01 hole

Some mares --

984 22:26
975-~~1034~~ Bias 2x2 21:05 0 25 2x2

↳ Forgot to say "go" to the "filter-not-in" message... so, only 10 biases.

↳ Annotated sequence during 985 readout
To be safe, skipping #985.

985 ← No legitimate images

moving 2° W, -40 deg
from Obj IUT ET X Conf frz R₀
986 Twilight 22:46 40 1.10 25 225.2 204.9 -7.20

brightest ok
987 " 22:47 30 1.11 " " "
988 " 22:48 30 1.11 " " "
989 " 22:50 40 1.11 " " "
990 " 22:51 50 1.11 " " "

J

Targets: Indus 2: #540
GoodS: #525
sxds1: #401

order config

① 25

③ 22B

② 22

Saturated

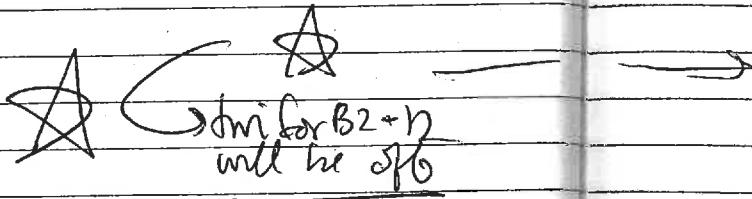
Ind 2: ThAr 10,30 sky offset required

↳ sky W, N

Ind 2 (25)

5xds 1 (22)

GOODSS (22) ↓
Twilight (22) + (22B)



guide hot @
168.5, 191.9
N 5° →
Seen her been
0.8 - 0.65
part of
Indus 2.

Frame Objct ~UT ET. X Cofy foc^R Rot

991	Twilight	22:53	75	1.12	(25)	225.2 204.2	-7.20
992	"	22:54	120	1.12	"	"	"
993	"	22:57	240	1.12	"	"	"
994	"	23:02	600	1.13	"	226.0 202.5	"
995	ThAr Ne	23:13	10	1.16	"	227.1 202.8	"
996	"	23:14	30	1.16	"	"	"

→ Checking fibers B1-15 → nothing
B2-12 → Junk in the
Cleaned
B4-3 → not checked
B5-12 → not checked

Telescope
Position -

→ Moving to Indus-2 (MW_Ind1_2_Photo-Plate)
Rot (@) -7.16

997	Ind 2 ThArNe	23:38	10	1.14	(25)	228.7 201.7	-7.16
998	"	23:39	30	1.14	"	"	"
999	Indus 2 (test)	23:41	120	1.13	"	"	"
1000	Indus 2	23:44	2200	1.13	"	"	"
1001	Sky 5° N	00:22	500	1.08	"	229.7 200.3	"
1002	Indus 2	00:31	2200	1.07	"	"	"
1003	ThAr Ne	01:09	10	1.05	"	230.1 200.3	"
1004	"	01:10	30	1.05	"	"	"
1005	Indus 2	01:11	2200	1.05	"	230.1 199.7	-7.17
1006	Sky 5° W	01:49	500	1.05	"	230.6 199.7	"
1007	Indus 2	01:59	2200	1.05	"	"	-7.15

reversed in earlier cols for night

- Load (22B) (no filters) ^{BR}
- Load B600 on B side / Load B-side only
- Load procedures - including remove manual, install

Change to R600 on B side

on g#
 ↓
 No R 1012 →
 ↓
 (site. no R ThAr@1)
 ↓
 R,B out of sync

Frame Object ET M1T X Config Focus RD

1008	ThArNe	10	02:38	1.07	(25)	^{231.2} 199.7	-7.15
1009	"	30	02:39	1.07	"	"	"
1010	Quartz	150	02:40	1.08	"	"	"

- ✓ - Load Config (22B) - no filters
- ✓ " - B side only
- ✓ - manual load procedure R filter
- ✓ - R600 to B side/calibrate
- ✓ - Load N151-sxds1 Plate Field
 ↳ Linhua Tong
- ✓ - Reload Config (22B) - B side only
 ↳ - R side ready ✓

Ready to go. Tricky to align / Red filter on guder

1011	ThAr@1	1	03:29	1.89	(22B)	^{231.2} 199.0	-7.18
------	--------	---	-------	------	-------	---------------------------	-------

↳ Need (22)!

Change to (22)

R#	1012	ThAr@ 1	1	03:35	1.84	(22)	^{231.2} 199.0	-7.18
1012	1013	" @ 7	1	03:34	1.83	"	"	"
1013	1014	" "	10	03:34	1.83	"	"	"
1014	1015	HgAr@ 5	30	03:35	1.82	"	"	"
1015	1016	Quartz	20	03:36	1.81	"	"	"

Frame Objct E.T. ~UT X Crfg Foc^R Rot

R#

1016	1017	sxds1 Test	120	03:38	1.79	(22)	^{231.2} 199.0	-7.18
1017	1018	sxds1	1800	03:41	1.76	" "	"	"
1018	1019	"	1800	04:12	1.52	"	"	-7.16
1019	1020	ThAr@1	1	04:43	1.36	"	^{231.8} 199.0	-7.16
1020	1021	" @7	1	04:48	1.36	"	"	-7.16
1021	1022	" "	10	04:44	1.36	"	"	"
1022	1023	HgAr@5	30	04:45	1.35	"	"	"

~~1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033~~

no lamps on

1023	1024	HgAr@5	30	04:46	1.35	"	"	"
1024	1025	Quartz	20	04:48	1.34	"	"	"
1025	1026	sxds1	1800	04:49	1.34	"	"	"
1026	1027	"	2000	05:20	1.24	"	^{231.8} 199.0	-7.16
1027	1028	ThAr@1	1	05:54	1.16	"	"	"
1028	1029	" @7	1	05:55	1.16	"	"	"
1029	1030	" @7	10	05:55	1.16	"	"	"
1030	1031	HgAr@5	30	05:56	1.16	"	"	"
1031	1032	Quartz	20	05:58	1.15	"	"	"
1032	1033	HgAr@5	30	05:59	1.15	"	"	"

Change to GOODSS (Blanc)
Plate

Rod# was
off by 1

Not sure the
problem
yet.

Plug field GOODSS_2017B

Load config (22B)



#'s sync'd; There
NO R(033)

Sensy
~0.6 0.8

ET=2100

Frame Objec~~S~~ E-T ~WT X Cfg Pcs $\frac{R}{B}$ Rot

1034	ThAr@1	1	06:39	1.09	22B	$\frac{231.8}{199.0}$	-7.17
1035	" @7	1	06:39	1.09	"	"	"
1036	" "	10	06:40	1.09	"	"	"
1037	HgAr@5	30	06:41	1.09	"	"	"
1038	Quartz	20	06:42	1.09	"	"	"
1039	GOODSS test	120	06:43	1.08	"	"	"
1040	GOODS5	1800	06:46	1.08	"	"	-7.17
1041	"	1800	07:17	1.04	"	"	"
1042	"	1800	07:47	1.01	"	"	"
1043	ThAr@1	1	08:18	1.00	"	"	"
1044	" @7	1	08:18	1.00	"	"	"
1045	" "	10	08:19	1.00	"	"	"
1046	HgAr@5	30	08:20	1.00	"	"	"
1047	Quartz	20	08:21	1.00	"	"	"
1048	GOODS5	1800	08:23	1.00	"	"	"
1049	"	²¹⁰⁰ 2000	08:53	1.01	"	$\frac{232.5}{198.5}$	-7.15
1050	ThAr@1	1	09:29	1.03	"	"	"
1051	" @7	1	09:30	1.03	"	"	"
1052	" "	10	09:31	1.03	"	"	"
1053	HgAr@5	30	09:31	1.03	"	"	"
1054	Quartz	20	09:33	1.03	"	"	"

→ Wait for Twilight

Change to ~~22~~ (no R move)
move 2^h E
-40 deg

Frame Object E.T. ~UT X Config G₂ R₂ R₁

1055	ThAr@1	1	10:05	1.10	(22)	^{233.0} 197.7	-7.20
1056	" @7	1	10:06	1.10	" " "		
1057	" "	10	10:06	1.10	" "	"	"
1058	HgAr@5	30	10:08	1.10	" "	"	"
1059	HgAr@5	30	10:08	1.10	" "	"	"
1060	Quartz	20	10:10	1.09	" "	"	"
1061	Twilight	120	10:11	1.09	" "	"	"
1062	"	50	10:15	1.09	" "	"	"
1063	"	30	10:16	1.08	" "	"	"
1064	"	20	10:17	1.08	" "	"	"
1065	"	18	10:18	1.08	" "	"	"

San! →

Sequence no good

Done; Pretty good night.

→ X 1066-1070 X Darks ¹⁸₃₆₀₀ 10:29 (22) 2x2

→ No good ↑

Sept 18/19, 2017 (19UT) - M2PS + Clay
Observing

Bias sequence

1071-1120 Bias 0sec 17:40UT 2x2
1121-1170 " " 18:02 " 2x2

↑ last night's directions

Test exposure 22x

1171 - Test 5sec 18:54UT

Note 24D 2x4 binning
↳ Dark? Bias?

R filter: 12.0 962.71

#512	Plan: N2492-2	twi → 02:54	24D	Grating Rfil
#520	Kremm B11	02:54-06:12	11E	ModRes Mg
#384	N419-1	06:12 - twi	30B	B600 BK7
				Hires STarg

✓ — Install ModRes gratings / B & R sides
✓ — Calibrate

✓ — Ex Load 24D - B side ✓
— R side manual filter
(Mgb-ModRes [3]) ✓

✓ — Remove GOODSS plate
✓ — Load, Plug N7492-2 field/Plate (ABonaca)

High wind @ sunset - no twilights.

1172-1211 Bias 0sec 00:06UT 2x4
1212-1271 " " 01:23UT "

Filter: 9.0 65.48

Header says
names says
2x4 bias
bias is 2x2

→ go for sxds4 (22)

~~R1-01~~ → B3-01 } for sxds4
B1-04 → B3-04 }

(a) 01:20 : still high wind.

(a) 02:00 UT → full wind

→ Change to Remmert Bill Field / Plate

✓ → Change to B600 on LoRes B & R

✓ Load Config (IE) ✓ R side manual - BK7 [o]
✓ Calibrate Filter
✓ B side

Note: in prev grating load, I left the R side
Med Res cover on! Would not have
seen much!

1272-1321 Bias 0sec 03:34 UT 2x2
1322-1371 Bias 0sec 04:48 UT 2x4
1372-1421 " " 05:02 UT " "
1422-1446 Bias 0sec 05:16 UT 2x2

→ 5:30 UT → wind still high.

→ CHANGE to Plate Jiang-NISL Field sxds4

✓ → Change to R600 gratings on B & R side
↳ Calibrate ✓

✓ → Load config (22) → no filter changes

1447-1486 Bias 0sec 06:58UT ^{2x1} (2x2)

@07:30UT - wind still too high & not changing

→ Call it quits.

1487-1493 Dark 3600 sec 07:30UT ^{2x4} _{sec of seven.} (2x4)

— Never opened —

Plan: Basically, try last night's again

			R fil
#512	N7492-2	fw1 → 03:00UT	(24D) Medres Mg
#520	Krem BII	0300 → 06:24	(11E) B600 BK7
#384	N419-1	06:24 → fw1	(30B) H.Res 5 Tang

Sept 19/20, 2017 (20UT) - M2PS + Clay
Observing

- datapaths updated

Some biases

1494-1593: Bias Osce 17:22UT (2x4)

B600

✓ - Change to ~~24D~~ / Both B, R sides
✓ Calibrate

(A) ✓ - Change to ~~22~~ = ✓ R fil: ~~Mgb~~ BK7 [0]
(for Fibermap) 22 ✓ B side

- Loud field N7492-2 - all fibers

- ~~Fiber Map~~ (22)

(B) - Change to (24D) : R fil = Mgb - Medres
[3] B side

- Change to MedRes / Both B, R sides
Calibrate
→ (after gratuity)

→ completed (A) : Config (22) / B600
AB N7492 Plate
All fibers plugged

!!
 ⋆ → Fisher Map (22) (BUT WITH B600) ⋆
 multicon 7

1594	Fib Map Test	20	19:53	zenith	fixed	lowing 50%
1595-1599	FM (22)	60	19:56	(22)	DCU Deployed	
satur	Fib Map (22)	60	20:05	(22)	DCU out	"
1601-1605	"	30	20:07	(22)	"	"
1606	ThAr@ 1	1	20:13	"	DCU In	235.4
1607	" @ 7	1	20:13	"	"	"
1608	" "	10	20:14	"	"	"
1609	HgAr@ 5	30	20:15	"	"	"
1610	Quartz	20	20:16	"	"	"

New Plan = Change to (11E) B600 | BK7
 Twi in (11E) "
 Change to (24D) Med Res | Mgb-Medres

- Change to B600 Birth B,R
 Calibrate

- Load config (11E) R fit = BK7 No CHANGE
 B fit = " "

→ not required; Just load (11E), no ✓
 filter changes!

1611 FibMap (11E) Test 10 20:30 (11E) 236.2
 1612-1616 Fib Map (11E) 10 20:31 " 195.3 DCU out

J

Continue for (11E) Fib Map

Not good → Country open

	(11E)	236.2
1617	NeffgArte	60 20:35
1618	"	60 20:36
1619	"	10 20:38
1620	ThAr	10 20:39
		195.3
		—
		—
		—

— wind is better but it has cooled down a bit since yesterday so seeing?

Checklist: Twi in 22 (NE)
NeffgArte 10sec
ThAr 10sec
Country 30m

Load Med Res Gravsys with B, R
Calibrate

Insert Mag MedRes on R side [3]

Load cam bag (24D)

Fist baget N7492-2

BII plate → Load B600 in both B, R / Calibrat

Insert BK7 on R side [0]

Load config (11E)

Second baget BII

N419-1 plate → Insert 5 Targ on R side [4]

Load config (30B)

Twi (30B)

1621-1670 Bias 0 21:07 (2x2)

Wind is right at the limit; Jorge will let us take twilights when we'll see.

~~2222~~

Frame Object E-T ~UT X Config Soc B Rot

	(11E)	236.8
1671	Twi Test	30 22:50 1.13
1672	"	10 22:51 1.13
1673	Twi Config (11E)	10 22:51 1.13
1674	"	16 22:52 1.13
1675	"	20 22:53 1.13
1676	"	20 22:54 1.13
1677	"	20 22:55 1.13
		194.3 - 7.2
		—
		—
		—
		—

J

Frame Object E.T. ~UT X Config for $\frac{R}{B}$ Rot

1678	Twilight	24	22:56	1.14	(IE)	^{237.4} 194.3	-7.2
1679	"	30	22:57	1.14	"	"	"
1680	"	42	22:58	1.14	"	"	"
1681	"	60	22:59	1.14	"	"	"
1682	"	90	23:01	1.15	"	"	"
1683	"	160	23:04	1.15	"	⁴ 237.9	"
1684	Thor	10	23:08	1.16	"	⁴ 193.6	"
1685	NetgArXe	10	23:09	1.16	"	"	"
1686	"	60	23:11	1.17	"	"	"

→ High wind, closing

✓ Change to Medres
Calibrate

✓ Change to (24D) : $\sqrt{R_A}$: Mgb-Medres [3]
 $\sqrt{B_A}$: "

Ready for (24D) ... wind still high

@ 00:53 → [opening] (but wind still highish)

rotation on N749L2 is ~ -7.15
But wind is bad again. CLOSED

→ Able to sit & set on field
but no data.

Inventory

	1x1	1x2	2xL	2x4
Bias	65-84	25-64	205-264	712-811
	86-144	145-204	412-511	1172-1271
	271-276	362-411	975-984	1322-1421
	312-361	1687-1726	1071-1120	1494-1593
	1734-1803	1804-1828	1272-1321	1854-1878
			1422-1446	
		1447-1486		
		1621-1670		
		1829-1853		
Dark	292-296	297-300	301-307	686-690
	949-953	546-550	308-311	860-864
	1727-1733		1487-1493	
	577-581			

R61

To do : FM (10) HIRs IanR
 FM (12) HIRs BulgeGC
 FM (12) R600 BK7

Plan Out line
for tomorrow

- ① Change to R600
- ② FM (2)
- ③ FM (10) (change filters) IanR [5]
- ④ FM (12) (" ") BulgeGC [2]
- ⑤ Change to Medres(B)/B600(R) ~~Medres~~
- ⑥ Config ~~30~~ (25)

- Change to Nrem in B11 field/plate

✓ - Change to B600 on B & R sides
 ✓ Calibrate

✓ Load config (11E) = R61 [BK7 [0]] ✓
 B61 ["] ✓

Ready

→ Wind still high & now overcast.

@ 3:10 UT - still clouds. Wind hovering
~~about~~ around me limit.

1x2

1687-1726 Bias Osc 07:33 UT (1x2)

Filled dewars (~8:00 UT)

1x2

1727-1733 Dark 3600 see 08:14 UT (1x2)

- Another shutout Night. -

Sept 20/21, 2017 (21UT) - M2FS+C (aug
Observing

→ at ~1PM

Looks a lot better; warmer, clear, no wind.

Some final biases:

Final biases (after 17P3)

✓ 20 1x1

✓ 25 30 1x2

✓ 25 2x2

25 2x4

Plan:

→ have R LoRes/BmedRes

#540

Ind 2 - twi - 02:27

(25)

R - MgB Rev2 / HiRes
B - MgB MedRes / MedRes

#520

KremB11 - 02:27 - 05:48

(11E)

R, B - BK7 / B600

#384

N419-1 - 05:48 - twi

(30B)

R - STarg
B - MgB Rev2 / HiRes

Fibers - B1-1 ^{known dead?} R5-3 weak
B1-4 ^{bad} v.weak

B1-15 v.weak

B2-12 weak

B5-12 dead?

B6-2 v.weak

1734-1783 Bias ^{1x1} 0sec 16:06UT 1x1

1784-1803 " " 17:09UT "

1804-1828 Bias ^{1x2} " 17:34UT 1x2

1829-1853 Bias ^{2x2} " 17:52UT 2x2

1854-1878 Bias ^{2x4} " 18:07UT 2x4

✓ Load R600 on both sides
✓ Calibrate

✓ Load config 22 R & B already in BK7

✗ Config Fac $\frac{B}{B}$ Rot

1879 FibMap Test 20 18:47 1.00 22 $\frac{240.7}{191.8}$ —

1880-1884 Fibemap 22 18:49 " " " —

1885 ThAr@1 1 18:55 " " " —

1886 " @7 1 18:56 " " " —

1887 " " 10 18:57 " " " —

1888 HgAr@5 30 18:58 " " " —

(17C) 1,8,16

Scattered light
from Highlights

3.0 678,51

(17C) : ThAr 90 sec

→ 1889 FibMap Test 60 19:33 1.00 (10) 232.8 —
1890 " " 60 19:35 " " " —
1891-1893 Fibermap 240 19:38 " " " —
1894 ThArNe 120 19:54 " " " —

✓ Load Config (17C) R Fil: GEbulge [2] ✓
B Fil: GCBulge ✓

✓ uplug & plug for (17C) = 1,8,16

1895 FibMap Test 60 20:20 1.00 (17C) 238.8 —
1896-1900 Fibermap 180 20:22 " " " —
1901 ThAr 90 20:41 " " " —

— Load Plate Mateo Walker Ind 1.2 Pho2-Plates
Plug Indus 2 Field

✓ Load Config (25) ✓ R Fil: Mgb_lev2 [1]
✓ B Fil: Medres = Mgb_Medres

✓ Load: B600 on R side ✓
Medres on B side ✓
Calibrate

Conditions still look good @ 6:15 Local time

$2^{\circ}W$, -40 for two.

Frame Orient ET ~UT X Config for $\frac{R}{B}$ Rot

1902	Twi Test	10	22:45	1.12	25	^{259.9} 191.8	-
1903	Twilight	15	22:46	1.13	"	"	-
1904	"	20	22:47	1.13	"	"	-
1905	"	20	22:48	1.13	"	"	-
1906	"	24	22:49	1.13	"	"	-
1907	"	30	22:50	1.13	"	"	-
1908	"	45	22:51	1.14	"	"	-
1909	"	60	22:53	1.14	"	^{240.4} 191.8	-
1910	"	100	22:54	1.14	"	"	-
1911	"	180	22:57	1.15	"	"	-
1912	"	400	23:00	1.15	"	^{241.0} 191.1	-
1913	ThAr Ne	10	23:09	1.17	"	^{241.6} 190.4	-
1914	"	30	23:10	1.18	"	"	-

Guide stars want →

Guide box @ ~~862.9~~
~~+84.2~~

~ -7.25 but they aligns one v. bad at
that angle; going with the better align angle.

Guide fiber on
left was not
in correct orientation;
fixed now & rotation
looks much better.

ET = 2100	1915	ThAr Ne	10	23:34	1.13	25	^{242.1} 189.9	-7.17
"	1916	"	30	23:34	1.13	"	"	"
"	1917	Indus 2 Test	120	23:36	1.12	"	"	"
"	1918	Indus 2	2100	23:39	1.12	"	^{242.5} 189.9	"
"	1919	Sky 5" N	500	00:16	1.08	"	^{243.2} 189.3	"
"	1920	Indus 2	2100	00:26	1.07	"	^{243.8} 189.3	-7.15
"	1921	ThAr Ne	10	01:02	1.05	"	"	"
"	1922	"	30	01:03	1.05	"	"	"
"	1923	Indus 2	2100	01:04	1.05	"	"	-7.16

J

✓ Change to Akremm BII Field & Plug

✓ Load Config (IIE) RFI: BK7 [o] ✓
BFI: BK7 ✓

✓ Install B600 on Bride ✓
Calibrate ✓

BII: NeHgArXe (0sec
ThAr@7 10sec
+ Quartz 30sec

Some
detector
noise...

seen much
noise
≈ 1.250.2

seen
improving
a bit →

5"E



Frame	Oyat	E.T.	~UT	X	Config	For R	Rot
1924	Shy	5"E	500	01:40	1.05	(25)	243.8 189.3 -7.16
1925	Inclust	2	100	01:49	1.05	"	" " "
1926	ThArNe	10	02:26	1.07	"	243.2	189.3 "
1927	"	30	02:26	1.07	"	" "	" "

Loaded (IIE)

Load AK-Clusters-2017B Plate

→ Field BII

[B600 gratings installed B & R sides]

1928	ThAr@7	10	03:05	1.57	(IIE)	242.4 189.8	-7.18
1929	NeHgArXe	10	03:06	1.56	"	" "	"
1930	"	30	03:08	1.55	"	" "	"
1931	KremBII Test	120	03:09	1.55	"	" "	"
1932	KreminBII	2300	03:12	1.53	"	" "	"
1933	"	2300	03:51	1.39	"	242.4 189.8	"
1934	ThAr@7	10	04:30	1.31	"	" "	"
1935	NeHgArXe	30	04:31	1.31	"	" "	"
1936	"	10	04:32	1.31	"	" "	"
1937	KreminBII	2300	04:34	1.30	"	" "	"
1938	"	2100	05:13	1.28	"	" "	"
1939	ThAr@7	10	05:49	1.29	"	" "	"
1940	NeHgArXe	10	05:50	1.29	"	" "	"
1941	"	30	05:57	1.29	"	" "	"



✓ - Load Plate / Feed N419-1

✓ - Load Config (30B) RF1: 5 Tang [4] ✓
BF1: Mgb-Der 2 ✓

Frame Objct E.T. ~NT X Config Factor Rot

1942	ThArNe	30	06:33	1.40	(30B)	^{242.4} _{189.8}	-7.17
1943	N419-1	Test 60	06:35	1.40	"	"	"
1944	N419-1	2100	06:38	1.40	"	"	"
1945	Shy 5°N	480	07:14	1.42	"	"	"
1946	N419-1	2100	07:23	1.43	"	^{242.9} _{189.8}	"
1947	ThArNe	30	08:00	1.47	"	"	"
1948	N419-1	2100	08:01	1.47	"	"	-7.42
1949	Shy 5°W	480	08:37	1.52	"	"	"
1950	N419-1	2100	08:46	1.54	"	"	"
1951	ThArNe	30	09:22	1.61	"	"	"
1952	Quartz	60	09:23	1.62	"	"	"

moving to 2°E, -40

1953	ThArNe	30	09:46	1.11	(30B)	^{242.9} _{189.8}	-
1954	Twilight	300	09:50	1.11	"	"	-
1955	"	300	09:59	1.09	"	"	-
1956	"	300	10:05	1.08	"	"	-
1957	"	300	10:11	1.08	"	"	-
1958	"	240	10:16	1.07	"	"	-
1959	"	120	10:21	1.06	"	"	-

J

Could not plug BI-90 →
due to interference
at plate edge.

guide star
④
832.2 208.8

After twilight

- ↳ stow shoes
- M2PS to stow
- Power off M2PS
- Unplug plate/stow fibers
- Take off plate/place cover
- Bring down & photo plate

Final B-side Fiber Summary

B1-1 dead
 B1-4 v.weak
 B1-5 v.weak
 B2-12 v.weak
 B4-3 weak
 B5-12 dead
 B7-1 weak
 B7-2 weak

[At last check, all R ok]

Frame Objct E.T. M/T X Cfg for R Pt

1960	Twilight	60	10:24	1.06	(30B)	^{241.7} _{190.5}	-
1961	"	36	10:26	1.06	"	"	-
1962	"	30	10:27	1.06	"	"	-
1963	"	25	10:28	1.06	"	"	-

↳ That's it. Oh night.
80-80 Run.

Manual Stow:

- ✓ - move R filter to Load ✓
- ✓ - move B Attm to Load ✓
- ✓ - Suts to 180 μ m ✓✓
- ✓ - Grating exchanger to SWAP ✓
- ✓ - LoRis grating face down. (calibrate position)

→ M2FS Removal

— Run Index —

1x1

1x2

2x2

2x4

BIAS

65-84

25-64

205-264

712-811

86-144

145-204

412-511

1172-1271

271-276

362-411

975-984

1322-1421

312-361

1687-1726

1071-1170

1494-1593

1734-1803

1804-1828

1272-1321

1854-1878

(205)

(225)

(425)

(460)

DARK

577-581

292-296

297-300

301-307

686-691

949-953

546-550

308-311

860-864

1727-1733

1487-1493

(10)

(16)

(11)

(18)

(21)

TWILIGHTS (By Config)

540-544

(10)

551-555

(17C)

623-630

(30B)

Twi arc at end; 621 better?

676-685

(24D)

812-823

(24D)

851-859

(7C)

932-948

(22B)

987-996

(25)

1055-1065

(22)

1673-1686

(11E)

1902-1914

(25)

Twi at end; one with dome closed
but after slew

FIBER MAPS (by Config)

19-20

(10)

Only one exposure
" " " "

512-513

(17C)

587-593

(25)

633-638

(30B)

694-699

(24D)

704-710

(7C)

872-878

(11E)

957-966

(22B)

968-974

(25)

1601-1610

(22)

Used B600 grating

1612-1620

(11E)

1880-1888

(22)

1891-1894

(10)

1896-1901

(17C)

Correct grating (R606)

SCIENCE DATA (By UT Night)

9UT Sep 8/9, 2017 - \rightarrow N362: 265-267 (10)
~~No DATA / Weather~~

10 UT Sep 9/10, 2017 - No DATA / Weather

11 UT Sep 10/11, 2017 - NGC6402: 514-522 (17C)
 NGC6864: 523-529 (17C)
 NGC362: 530-540 (10)

12 UT Sep 11/12, 2017 - NGC6402: 556-561 (17C)
 M15-1: 562-568 (10)
 NGC339-2: 569-572 (30B)

13 UT Sep 12/13, 2017 - No DATA / Weather

14 UT Sep 13/14, 2017 - Indus_2: 594-604 (25)
 47Tuc_1: 605-612 (7C)
 NGC339-2: 614-622 (30B)

15 UT Sep 14/15, 2017 - NGC6402: 646-652 (17C)
 NGC362: 653-658 (10)
 Atlas-2: 659-667 (24D)
 Atlas-4: 668-675 (24D)

16 UT Sep 15/16, 2017 - NGC7492-0: 824-832 (24D)
 Atlas-0: 833-841 (24D)
 Atlas-5: 842-850 (24D)

SCIENCE DATA (Cont.)

17UT Sep 16/17, 2017 - 47Tuc_1: 883-891 (7C)
 KremB05: 892-904 (11E)
 GOODSS: 905-931 (22B)

18UT Sep 17/18, 2017 - Indus_2: 997-1010 (25)
 * SXDS1: 1012-1033 (22)
 GOODSS: 1034-1054 (22B)

19UT Sep 18/19, 2017 - No DATA / Weather

20 UT Sep 19/20, 2017 - No DATA / Weather

21 UT Sep 20/21, 2017 - Indus_2: 1915-1927 (25)
 KremB11: 1928-1941 (11E)
 NGC419-1: 1942-1952 (30B)

* Be careful / see log about numbering issue.