

10 June 2001 DJ, JL, JB, ES, JC, +BG

Junk.0001

Junk.0002

Grave up. Clouds. No Snow

Next Afternoon: Check sensitivity
Zn Se on

Wavelength (nm)	Wavelength (cm ⁻¹)	ADU	Notes
3	730	-20k	ADU
4	750	21k	
5	775	24k	order overlap
6	"	24k	shorter slit
7	800	24k	overlap
8	"	24k	shorter slit
9	825	24k	
10	850		new filter bad overlap
11	"		almost off shorter slit
12	"	26k	2540 m filter
13	875	17k	5th order, new filter
14	900	12k	edge of filter
15	925	12k	
16	950	9k	choose short slit
17	975	7.5k	
18	1000	6k	
19	1025	6k	
20	1050	6k	6th order leave on filter
21	1100	5k	edge of filter
22	1125	6k	
23	1150	6k	
24	1175	6k	put card in; no change
25	1260	7k	7th order, new filter
26	1300	8k	
27	1350	8k	
28	730 mCVF	20k	
29	800		
30	850	22k	
31	950	7k	next order
32	1050	3.5k	
33	1150		
34	?		
35	?	7.5k	

^{dijm}
 (add 10-20 to NW)
 tip the dewar. + change the secondary. posn.
 Original U 0.0115 V 0.0057
 current U 0.0149 V 0.0076

tried watching pupil motion w/ HA
moved ~100 / hr

focus -4.2

on-axis TV pretty good focus w/o lens!
lens causes bad vignetting w/ little effect on focus how?

off-axis lens placed 2 holes behind NSF
but that's probably irrelevant
relevant distance is to TV, which can move

found lenses not settling well into magnets
need to go to ~50. coming in, then back to 0°
for camera mode

V_{det} = -4.1

V_{rst} = -3.1 (eff -2.9)

11 Jul 2001 UT 1RTF SL, DS, QZ, ES, IC + BE

TPM WX = clear $Z_{225} = 0.2$
Fastest α , ~~SLIT~~ SLIT NS

Note: many flats seen
was chopper misaligned?

ab00.1000 imaging $Z = -4.0$
seeing is bad $\sim 2''$

ab00.1001 cross dispersion
win 4.50 #3 slit

ab00.1002 med, [SIV]

ab00.1003 same as .1002
some frames may be saturated.

ab00.1004 ZNSE ~~is~~ window is off.
other parameters same

ab00.1005 It time 0.22, was 1.0

junc.1006 move to win 586.5

pallas.1007

(pallas) ~~ab00~~ ab00.1008 25" nodding, S(1) feature $Z_{225} \approx -2$

object name is wrong.

UT	air mass
08:12:19	1.247
08:19:58	1.256
08:27:13	1.265
08:35:17	1.276 \rightarrow 1.277
08:42	1.288
08:51	1.303
08:59	1.318
09:07	1.334
09:19	1.010
10:00	1.01
10:08	1.012

pallas.1019 S(1)
 pallas.1020 No II nodding
 pallas.1021 No II scan
 pallas.1022 10" long slit

bad flats

haven't entered temperature until 07538.1060 (around 274K)

250um slit center at 142, 114

Camera center top 151, 154
center bottom 142, 76

From the center of Cam window ~~to~~ to the center of slit (250um) (-4.5, -1)

switch to long slit

nodding NS 5.0" ZNSE ~~is~~ window is on
we were seeing the dome shutter in ab00.1002

* glass is in after frame # 14
off after frame # 24.25

bad before frame # 10

the shutter is at bad position probably lose 1/2 aperture

atmo is good

the grating bounces at the beginning

object is 2" north ^{from cross.} slit runs NS
manually guiding around frame # 6.7. 0.5 E ^{to} center at asterisk
moving orders to the blue by ~ 60 km/s,
manually guiding after frame # 4 in .1020

no wait too small

pallas.1023	aborted			
pallas.1024	scan 5" EW			
pallas.1025	scan again			
pallas.1026				
pallas.1027	scan 5" W 1" step to 5"E	UT 10:27	Airmass 1.02	
9589.1028	scan from 5"W 0.6" step to 6"E	UT 10:39	Airmass 1.397	
9589.1029	" repeat 4 times	UT 10:40	1.396	
9589.1030	"	UT 10:44	1.393	
9589.1031	scan from 2"W 0.6" step to 10"E	UT 10:49	1.39	
9589.1032	"	UT 10:52	1.389	
9589.1033	from 2"W 0.6" step to 14"E	10:57	1.388	
ceres.1034	from 4"W 0.4" step to 4"E	11:16	1.58	
ceres.1035	4"W 0.4" 24 steps points	11:21	1.567	
ceres.1036	"	11:24	1.559	
9589.1037	from 2"W 0.4" 41 steps points	11:39	1.409	
9589.1038	2"W 0.4" 41 points	11:53	1.429	
93430.1039	0"W -0.4" 20" West	11:05	1.056	
93430.1040	"			
93430.1041	0"W -0.4" 76 points	12:13	1.058	
92996.1042	7"W +0.4"			
92996.1043	10"W 0.4" 41 points	12:46	1.119	
92996.1044	10"W 0.4" 51 points	12:49	1.12	
92996.1045	"	12:54	1.13	
92996.1046	"	12:59	1.138	
94547.1047	4"W 0.4" to 4"E	13:07	1.036	
94547.1048	"			
94545.1049	8"W 0.4" to 8"E	13:17	1.046	
94545.1050	"	13:20	1.049	
94545.1051	8"W 0.4" to 8"E	13:23	1.053	
94545.1052	"	13:35	1.07	
94545.1053	"	13:47	1.09	
93392.1054	5"W 0.4" to 7"E	14:02	1.25	
93392.1055	"	14:05	1.255	
93392.1056	6"W 0.4" to 10"E	14:16	1.293	
93392.1057	"	14:28	1.346	
n7538.1058	4"W 0.4 4"E	14:56	1.387	
n7538.1059	"	15:00	1.38	
n7538.1060	10"W 0.4" 10"E			
n7538.1061	"	<15:23	1.35	
n7538.1062	"	15:26	1.357	
n7538.1063 (IRS1)		15:39	1.348	
n7538.1064 (IRS1)		15:41	1.347	

haven't entered temperature until n7538.1060. (around 274K)

good scan.

change the focus of telescope Z -4.5

cross
 move ~4.5" North (wrong direction) no source
 move back 0" North
 move 2" South some sky frames are contaminated by source
 still 2" S

move to 150 micron slit, 2" South cross

move the cross 3.0"s after 1st scan ^{now} 1" west
 centered at 0"s

move the cross 2.0"s
 center the cross at 0"s
 the cross at 2"s

~~at 2"s~~ ?
 5"s
 8"s
 2"s
 "

not interesting

increas integration time.

6"s
 2"N
 2"S

eight scans

} object name is wrong.

shift echelon paraboloid to ^{opposite side} original position. 2"s
 long multiple scans
 3.0N flat is bad

} headers wrong with w1

8.0N
 13.0N

nod mode

0.0N?
 nodding 15"s

nodding on H α region
 aborted after frame #8

17538.1065 (IRS1) aborted after scan #8 not on disk
 17538.1066 (IRS1) nodding 15" E? centered at .5E 2.1S
 17538.1067 (IRS1) nodding 15" E? centered at 00
 17538.1068 (IRS1) nodding 15" NS centered at 00

17538-9.1069 (IRS9)

move telescope south after frame #5, manually adjust telescope
 Frame #28-29 drafted around EW
 move south (4") to get the source, after #7,
 #13, 14 switch EW #18.19 no signal
 #32 bad

12 Jun 2001 UT IRTF JL, DT, CR, ES, JC + BB

Object	UT	Temp	Airmass	camera mode
z -3.6		276.7K		
aboo. 2000	06 16 39		1.03	
aboo. 2001 (S1)	06 20 50		1.025	
aboo. 2002	06 23		1.023	
aboo. 2003	06 25		1.021	
aboo. 2004 (S2)	06 39		1.01	
n5461. 2005	aborted			
n5461. 2006	isn't exist			
n5461. 2007	06 55		1.214	
n5461. 2008	07		1.2	
n5461. 2009	07 12		1.214	
n5461. 2010	07 21		1.216	
n5461. 2011	07 28		1.219	
n5461. 2012	07 35		1.222	
n5461. 2013	07 43		1.226	
n5461. 2014	07 50		1.231	
n5461. 2015	07 57		1.237	
n5461. 2016	08 04		1.244	
n5461. 2017	08 11		1.25	
n5461. 2018	08 19		1.26	
n5461. 2019	08 26		1.269	
pallas. 2020	08 54		1.02	
z -4		Temp 275.8 k		Ar III
pallas. 2020 (Ar III)	09 09		1.01	
9589. 2022	09:31		1.52	
9589. 2023	09		1.49	
9589. 2024	09:41		1.489	
92996. 2025	09:52		1.228	
92996. 2026	09:58		1.213	
92996. 2027	10:08		1.187	
92996. 2028	10:19		1.164	
94545. 2029	10:39		1.096	
94545. 2030	10:53		1.072	
93392. 2031	10:10		1.074	
93392. 2032	11:24		1.064	
ceres. 2033 (Ar IV)	11:44		1.5	
ceres. 2034 (Na I)	11:57		1.489	
ceres. 2035	12:00	T = 279.3	1.486	
z -4.7				
ceres. 2036	12:15		1.47	

12um, 350um slit, long slit mode

glass window is in at the last mod.
glass window is in ~~from~~ and out
beam switching from 15.0S to 10 N

offset 12.6S 25" N nodding
" " gratting bounces

decrease IT time from 1s to 0.22s
offset 12.6S 25" N nodding
IT time 0.15s

" " pair #5 something went wrong

frame #23 went wrong confirmed biaset after scan
WN 1112.22 Ar III, cross-dispersion. 150 micron slit, 7.7 long
4"W step 0.4" to 4"E, out of focus

4.8"W step 0.4" to 4"E
move the cross 0.5W 1.5S to back on the pallas after scan
8.8"W step 0.4" 48 points

10.8"W step 0.4" 53 points
" " chang IT time from 1S to 2S

" " move 0.5'S
" " move 5"S

8.8"W step 0.4" 43 points
move 5"S
8.8"W step 0.4" 16" scan offset by 2.0S

move to 6.0S
+3.8"W step 0.4" 17 points offset by 2.0S

WN 780.5, shift echelon to blue.
250 micron slit off auto on slit
nodding mode offset by 3.0S

4.8"W step 0.7" 14 points

Object	UT	Airmass	Notes
S106.2037	12:22	1.08	
S106.2038	12:27	1.076	
S106.2039	12:31	1.072	
S106.2040	12:35	1.068	
Z -4.2			
Ceres.2041	12:51	1.475	
Ceres.2042 S(2)	12:54	1.47	
Ceres.2043 S(2)	13:00	1.48	
Ceres.2044	13:02	1.485	
n6946.2045	13:11	1.315	slip 31
n6946.2046			
n6946.2047			
n6946.2048	13:40	1.3	
n6946.2049	13:54	1.316	
n6946.2050	14:08	1.322	
n6946.2051	14:21	1.33	
n6946.2052	14:35	1.34	
n6946.2053	14:54	1.365	
n6946.2054	14:57	1.37	
n7538.2055 (IRS1)	15:54	1.34	
.2056	Junk		
n7538.2057	16:06	1.338	
n7538.2058	16:08	1.338	
n7538.2059	16:10	1.338	

25" W 0.7" step to 25" W offset by 0

25".2W 0.7" step 70 points
WN 814.3 350 micron slit.
bad scan. offset by 7.0N
7.0S

Feature name is wrong
II time changed to 0.16s
offset 11.25
offset 12.5S nodding 25N
nodding 12.5S 12.5N
"

pair 31 scan 62 - bad

Camera mode 7.5S. 7.5N nodding.

longer imaging
scan 4.8W 0.4 step to 4E
~~chopping 5E~~
Cross dispersion mode
Chopping 5E offset 2.0S

250 micron slit is in
wandering EW in first few frames. from pair #5, good

13 Jun 2001 UT IRTF JL, DJ, RB, MR, ES, JC + Paul

aboo.3000	1120 cm ⁻¹	med mode	280 p-p	focus -3.7
1	930		200 p-p	
2	880		400	
3	830		1200	clearing?
4	780		600	
5	930		300	
6	818	x2 mode	100 p-p	before-clouds
7	950			
8	"	continuous spike ~21		

try A20 stars - less sky noise there

aboo.3009	structure	897	found near 20
asco.3010			
11			
asco.3012	Antares	897	moved @chelle pair 6
13			stop short after 25
14	909.5 cm ⁻¹		got it after 16
15	"		decrease mod to 4" gratings bossa
16	918.7		
aher.0017	"		looks good still lots of clouds
18	909.5		
19	897		clouds late
pallas.0020	"	Pallas	on it by ~12
21	909.5		on it by ~8 close again
22	918.7		on it by 8 but cloudy
23	"		still cloudy
24	"		came back
✓ X Sgr. 25	✓ X Sgr		on + off good after ~18
26	909.5		stop at 16
27	897		clouds coming in
ehicgg.3028	"	X Cygn:	sucker hole
.3029	"		cloudy
.3030	909.5		some good in the middle
.3031	"		starts off well. clouds pair 12-13.
.3032	918.7		goes very well stop after 16
33	897		clouds at pair 5. back pair 21. clouds @ 24
34	"		clouds @ 5, star @ ~12, clouds @ ~23

some sky noise, det spiking?
" " smoothly speckled

bad sky noise
overlapping orders

cloudy

} often peak + focus early in
set

14 June 2001 ML, JL, JZ, P

Test fixture:
pin hole imaged in camera ^{mode} shifts \approx 1 pixel
SE for each 3 hr slow SW or E

go low f_{leo} and f_{oo} need to go $\sim 1''$ SW
of + to center in IR

~ 4 pix seeing

move to A Hya (-23 Dec) and move 0.6" W 1.9" S

aboo. 4000 1000 Trying gscan. First pairs had mirror in.

.4001	995.54	
.4002	990.87	
.4003	986.57	
.4004	"	this one had a flat cloud increasing
.4005	982.62	no flat
.4006	978.65	no flat lost negative beam
.4007	974.72	found negative beam
.4008	"	has flat

ls mode tests:

Feb. 4000	1300 cm ⁻¹	1200 μ m slit	40k (in fringe)
11		150	55k
12		200	75k
13		250	85k
14		350	105k
15		450	130k
16		550	150k
17		250	
18	730	"	
19	750		170k
20	775		190k
21	800		210k
22	825		230k
23	850		220k
24	875		115k
25	900		100k
26	925	ignore diff filter	100k
27	925		100k
28	950		80k
29	"	short slit	80k

camera mode focus -3.7
TV focus (on-axis full field) -3.4
hi-med
x2 mode focus at $\lambda=10\mu$ m -4.0 (1 hr later)

no flats for gscan

Feb. 4030 950 cm⁻¹ short slit, hi-med 9k

wagl. 4031 ω Aql 897 focus improved ~ pair 10
 32 909.5 adjusted NS ~ pair 5
 33
 34 918.7 improved at pair 8
 35

Ceres 36 Ceres 916.7 guiding until 7
 37 909.5 may have read wrong
 38 " "
 39 897 clouds = guiding
 40 " good only
 41 " clouds pair 23

Chi Cyg 42 χ Cyg 897 very nice
 43 909.5 strong after @ 6
 44 " good
 45 916.7 good

NML Cyg 46 NML Cyg 918.7 very bright
 47 909.5 good @ 5
 48 897

R Aqr 49 R Aqr 867 good
 50 " good @ 5
 51 909.5 good @ 5
 52 916.7 good @ 6
 53 780.424 Ne II
 54 ~ pair 7-10 lost it

Darks 55 slit = 120 μ m p. hole frametime = 1.01
 56 filter = blank near filter 7
 frametime = 0.11 first columns

focus - 4.2
 pretty good hole

clouds coming in ~ pair 12
 some signal at pair 25⁺

are high

15 Jun 2001 MR, JL, SZ, P

sky tipping at 17 μ m

flat. 5000 on zenith

Temp: 277 for all header is wrong

- 1
- 2 10° south
- 3
- 4 20° south
- 5
- 6 30° south
- 7
- 8 40° south
- 9
- 10 50° south
- 11 ~~50°~~
- 12 55° south
- 13
- 14 60° south
- 15

Armass 1.153

1.736
T ~ 0.31

aboo 5016

myI 816.06 ethelon paraboloid moved wrong way

17

good at pair 4 order's position fixed

eboo 5018

grating bounces, very weak, (pair 16 had grating bounce)

19

good. set

20

21

Armass 1.016 clouds @ 16-21

22

header is right now !!! clouds (big ones).

23

good one

24

25

pair 31 has glitch stop at pair 16

pallas. 5026

27

28 SIV

29

30

31

92996. 5032

33

} junk.

34

35

36

37

clouds @ 24-32
good @ pair 20

0 offset

0 offset

didn't make the right offset to west, didn't get off the line at the end of the scan

4 scans

15 Jan (cont'd)

92446.5035

39

40

41

42

93392.5043

43

94545.5045

46

47

48

49

50

51

52

53

54

55

56

5'W 0.4" step 31 points see nothing

4 scans cloud during scan 2, 3, 4

8.8W 0.4" step 43 points

clearly had positive, but map suggest go N-W

some emission at edge of slit. go south

definite emission. could go further south - not so far W

emission on ~20. Too far south

emission ~12. Too far south. Scan too long

good NS could be 12

just barely came off. some emission at starting point

emission ~7 grating bounce

emission ~7.

see emission, but not much new information

emission ~6

ceres.5057

58

59

ngc15382.5060

61

62

63

64

65

66

67

68

69

hygiea

70

71

72

n7538:1

73

74

Ne II for 7538 IFS 1

15" S nod moved to south east to pick up the source

shift echelon red to center orders for C₂H₂ + HCN + nod 3.5" in slit good by 12

IFS 9 good by 8

about 1/3 of IFS 1

Hygiea good by 8

268 cm⁻¹ C₂H₂ F(15,16) HCN F(18)

good

"

n7539:1

75

came on source from beginning. bounce.

offset changed. 4 scans. 2" W.

offset changed to 0E-2N telescope seems drifting EW

offset changed 2E -2N 4E -2N offset from the coordinates, pointing is drifting along EW.

2" S

0" S

2" W 4" S

12" W 3" N

12" W 4" S

8" W 7" S

2" W 6" S

1" W 5" S

8" W 5" S

4" W 5" S

4" W 5" S

4" W 1" S

4" W 9" S

not obvious. move to next obj.

grating bounce

offset from 1 to 9 is 117E-51N

n7538i9.58 76
77
78
79

768 cm²
bounce

C₂H₂ R 15-16

bounce

pair 13 weakly strong

16 June 2001 DL, MB + DG

aboo. 6000 2085 cm⁻¹ O₃ + CO + clouds!
 6001 2050 CO + OOS
 6002 "
 6003 150 μm slit
 6004 250 μm slit Fowler mode. Doesn't work yet!
 6005 4 s. framtime not very good
 6006 4 s. framtime not so
 6007 1 s framtime
 bher. 6008 over lapping orders. good @ pair 6 Cchelen parab moved 1/2 order
 some sky noise. clouds @ pair 26
 bounce. positive beam only for first 5 pairs
 sky noise
 6009 bounce
 6010 good set
 6011 good set
 6012 good set
 6013 good set
 palles. 6014 good with a little guiding
 6015 good

70 Oph. 6016 very faint, bounce + sky noise looks out of focus
 6017 bounce. guiding at pair 12-17
 6018 sky noise bounce
 6019 bounce + sky noise
 6020 " "
 6021 better than most
 6022 skynoise tried guiding near end
 6023 "
 6024 little S guiding at start. Looks sharper than 6023
 skynoise mostly in H₂O lines
 6025 skynoise
 6026
 6027
 6028 glitch in pair 21
 6029 good
 6030 skynoise + bounce. Bad bounce.
 6031 good
 6032 good
 6033 bounce

copied to hrc

hygica. 6034 Hygica 818.06 guiding at start. will need shift = True
 35 good. have to guide S + E
 36

~~2200 HST~~ HST = 22:00

Mg F 818 cm⁻¹

HST = 23:10

HST = 23:30

70 Oph has K4V close by
 RV = -7 km/s

go to β Oph and refocus from z = -4.0 to z = -4.1
 HST = 01:15

HST = 03:00

16 June 2001 (cont'd)

Hygier. 6037 750.424 try to match last night hsum = 3
6038

6039 nsum = 4
6040

6041

6042

6043

hygier. 6044 268 cm⁻¹ C₆H₆ R(15,16)

6045

6046

6047

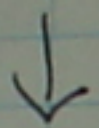
6048

6049

try to match last night hsum = 3



all good



seth is better

17 June 2000 MF Jy GB, DG

655192.7000 2 Cen 950 cm⁻¹ for SIE in 8253
 moved star to center ~ pair 8

7001 1.6 mm long slit
 move slit ~ pair 5
 again ~ 7, nod on slit pair 11

7002 7500 → 2 sky noise

15253.7003 NEC 5253 guiding on SIE
 pretty stable sky noise varying
 7004 more sky noise better after 20
 7005 nodding off slit, sky noise ~ 12

7006
 7007

Eunom. 7008 nodding off slit Eunomia sky noise
 lost it pair 23-25

.7009 sky noise
 .7010 guided S @ pair 20
 .7011 focused S @ pair 22

asoo .7012 Antares S:0 P(+7, etc) 120B.63 1195

w16. 7013 guide S ~ pair 8 2"

hd. 7014 HD 163296 90 S on pair 5 guide late

7015
 7016 1" N
 7017 bounce
 7018 good
 7019 bounce
 7020 bounce
 7021 bounce. possibly out of focus
 7022 bounce. cloud ~ pair 24 see neg below pos

algr. 7023 not on it. look for spurious signal
 7024 wandering all over clouds
 7025 on it now clouds. pair 14 is good. good = 21, 25, 31
 7026 clouds
 7027 clouds

MWC 349. 7028 clouds MWC 349
 7029 "
 7030 CO R1

gegg. 7031 " δ Cys - wrong in header
 7032 OCS 2054 cm⁻¹ good
 7033 stopped after 13 pairs

MWC 349. 7034 MWC 349
 7035 clouds

9099. 7036, 7037, 7038

3 legs peaks at ends of slit - memory of star? no
 bouncing off decker?
 try short slit instead of decker

tel. drifting N ~ 1" during set
 bores point 1:10. does w/ 1" guide & slit

Asteroid 15 272 km diam

focus - 4.1 filter seems ok here
 need to nod off slit (too short) 6" nod

put in imaging mode on δ Sco, mark spot,
 go to w16, center on spot

w16 was too faint

also fixed X2 alignment

focus HD -- in imaging mode & put at center of
 imaged slit then went to X2 mode

brighter than Vega

1950 RA = 20:30:56.85 Dec = 40:29:20.4

ribbing - amplifier gain ≠ ?

15 June 2001 MR, JL, GB, DG

2nd of plate 8000
 .8001 922 medium α 800 30" N nod clouds
 hi-med 6" N nod overlapping orders (long slit model)
 clouds. do again

.8002 12" N nod - line on top of each other. Stop @ 4
 .8003 15" N nod clouds
 .8004 24" N nod - almost on top of each other
 .8005 30" N nod - almost on top of each other
 .8006 28" N nod clouds
 .8007

noise .8008 hi-lo w/echelon blaze offset + long slit 250 μ m slit
 .8009 150 μ m slit
 .8010 120 μ m slit

aboo .8011 Arcturus 2150 cm^{-1} 8s frametime

asoo .8012 Antares 744.7 cm^{-1} C_2H_2 R(5,6) last few good

gl2136 .8013 AFGL 2136 $\neq \text{OH } 17.6 \pm 0.2$ didn't find
 14 good Simbad coords wrong on it now
 15 lots of sky noise
 16 lots of sky noise
 17 and more

gl2059 .8018 AFGL 2059 Got it ~pair 5. bounce
 .8019 sky noise losing guide star. Good towards end
 .8020 "

noise off

.8021
 .8022
 .8023
 .8024 focus + guiding
 .8025 clouds

gl2591 .8026 AFGL 2591 very nice clear now

ceres .8027 Ceres (Ast 1) almost as bright as GL2591
 .8028 shifted echelon paraboloid - see bluer
 .8029 glitch on pair 12. a little bounce - 18, 24
 bounce

gl2591 .8030 AFGL 2591
 31 shift 1.5" S

Note that slit is tilted 1.5" / 30" W of N
 Focus shift between med & hi-med is -0.2
 ~83 pixels for 30" = .361

16 pixels	6	med	&	hi-med	is	-0.2
32.5 μ m pixels for 12"		-3.7		-3.9		
49 ~50 pixels for 18"		.375"/pix		.369		
~66 pixels for 24"		.360"/pix		.367		
~86 pixels for 30"		.364				
77 ~77 pixels for 28"		.349				
		.364				
						.364

focus - 4.2

See C_2H_2 R(5) and broad (few R(10))

focus - 4.3

18 June cont'd

Alpha
18 Junen753811.8032
33
34

NGC 7538 IRS 1

C₂H₂ R(5) + R(6)
see the lines

n753829.8035

IRS 9

36

37

38

39

40

41

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43

44

guider dial some clouds

good no bounce

a lot of sky noise 25-32

sky noise. Moved S ~14 (1.5").

bounce ~27, 29-32

bounce, Moved S ~5 (1").

sky ~13+

on it by ~10. bounce

S ~10. bounce - pretty bad.

bad bounce

bad bounce ~ 1/2 of frames

bad cloud ~ # 20+

19 June 2001 JL, MR, DG

conoise. 9000 1 sec. looking at shiny at 2054 cm^{-1}
 1 2 sec.
 2 4 sec.
 3 8 sec.
 4 16 sec.
 5 32 sec
 6 32 sec looking at black
 7 16 sec
 8 8 sec
 9 4 sec
 10 2 sec
 11 1 sec

~~AX rx6008~~

Ense on rx600. 9012

AX Boo grating scan 1160 cm^{-1} to 1190 cm^{-1} .
 on it ~~with~~ pair 3. clouds. $v=1160$: off by ~ 4 (1164)

↓
 13 -1172 not great 1168 in header
 14 " clouds (big ones). star near edges of slit
 15 -1179 (1175 in header). clouds. not great
 16 computer has hung up. no flat. -1179 again. good ~ 4
 17 1186 (1182 in header) good
 18 1182.5 in header (1186) good
 19 1190.3 in header drifted so neg off slit
 20 1198.3 in header (1197.5). Filter may be crapping out.
 21 1206.9 in header (1208). Filter dying. Moved S after
 losing negative beam (~ 4).
 22 1248.5 nod off slit. Oops. Forgot nod. halted
 23 12° N nod. Guiding S ~ 2 . good

garbage 1248.307 9.85

16210.9024 1248.5 cm^{-1} NGC 6210 redding off slit guide star
 sky noise. Lots of it.

952.27 9.87 25 sky noise.
 26 951.4 cm^{-1} guiding expanding shell ~ 24 ± 15 bins
 stopped at 20
 27 1248.5 cm^{-1} . Bounce 13 and on.
 28 good. No H2 S(4) or Br IV but maybe at 1247.5
 29 sky noise

1190.66 9.88 30 1189.7 cm^{-1} [Ni IV] sky noise. useless

923.697 9.84 31 bounce. nothing obvious
 32 941.2 cm^{-1} [Co III]. bounce. sky noise. ~~totally weird~~

VX Sgr. 9033 VX Sgr 587.03 H₂S(1) strong signal

2" slit

go to [SIV] to peak on nebula

focus @ -4.5

19 June 2001 (cont'd)

garbage → hd 163.9034 H₂S(1) 587.03 ~~bounce~~ camera in clouds. Positive beam in center of slit
 → 35 " Neg beam still too close to edge.
 → 36 change nod to 4° N. clouds. see continuum
 pipe filling mode → 37 moved 0.6° E. cloud at end ^{skip last 2 pr}
 → 38 back to 0. clouds disappeared ~10
 → 39 good one
 → 40
 → 41 1st der. bounce. airmass climbing

ceres. 9042 Ceres 587.03 cm⁻¹ bright

ccyg. 9043 Chi Cyg 587.03 cm⁻¹ good

bd30. 9044 BD +30 3639 587.03 cm⁻¹ nothing obvious

9045 camera mode with slit in.

46 camera open

47 " "

48 camera w/slit

49 " " & decker saturated

garbage 50 hi-med 1248.5 H₂S(4) echelon off blaze

51 echelon centered detect continuum

52 stop after 20. move echelle

53

54 Nothing

55 Nothing obvious

56

57 scan from 8.5 W 0.85 of zero (star at 0.5 W, 0.85 on TV)

scan 25" E 2" steps see continuum

58 " apparently started 3" W of last set

59 " further W

60 shift back 2.5"

at end had to go 14" 2" N to recenter on TV

61 start centered on star w/ guider off

need to go 6E 1N at end

62 went 3.5E 0N at end

gcyg. 9063 γ Cyg FBI. Got it pair 5 good

64

basta

$\bar{c} = 0.073$

came right in used as bore sight

guide star NS slit 4" E of center

0"E 0"N

0"E 0"N NS slit

~~2"E 0"N~~ 0"E 2"S

2"E 2"S

4"E 2"S

5"E 2"S

20 Jun 2001 (WT)

JL, MR

Lab tests

noise.0504 med w/gas cell and paper covering half slit
1 sec int 150 μ m slit ~~8 μ m~~ 1260 cm^{-1}

0505 2 sec
506 0.5 sec
507 0.5 sec 550 μ m slit
8 0.22 sec
9 0.11 sec
10 0.11 sec 250 μ m slit
11 0.22 sec
12 0.5 sec
13 0.5 sec rd1st mode

reads.0514 0.5 s, 250 μ m slit rd1st mode storing only reads

15 as above but 16 frames

resets.0516 as above but storing reset frames

noise.0517 0.22 s 550 μ m slit (duplicates 0508)

.0518

19 0.11 s

20

21 0.22 s amplifier saturation. speed up.

22 0.11 s

23 good region lasted longer than 22. Better in high region

24 looks better than 23

25 ~~good~~ at low flux good region lasts longer, but is lower SN than large bias. At high signal much better

26 587 cm^{-1} hi-med mode Bias = -3.6 V blackbody
120 μ m slit

27 Bias = -3.8 V a little better

28 Bias = -4.0 V " \rightarrow []

29 Bias = -4.2 V " buffer toggle error on last one

Getting spiky

30 Bias = -4.1 V about same as -4.0 V

not quite in excess noise regime
near saturation.

near saturation, excess noise at boundary between paper + open
excess noise at boundary
excess noise at boundary
excess at high flux
" " "

Bias = -4 $V_{\text{reset}} = -3.2$ (eff -3.0)

Bias = -4.2 ~50,000 ADU/frame

" ~30,000 ADU/frame

Bias = -4.4 ~45,000 ADU/frame

Bias = -4.3 $V_{\text{pp1}} = -4$ (from -3) $V_{\text{pp2}} = -4.5$ (from -4)

Bias = -4.0

Bias = -3.8

Bia

Bias = -3.6

June 01, 25

Wears on μ ino test MR+TG

Peak of blaze moved to

didn't pump
up CVF

noise .0531
 noise .0532
 noise .0533
 noise .0534
 Conoise .0535
 Conoise .0536
 Conoise .0537
 Conoise .0538
 Conoise .0539
 " .0540
 " .0541
 " .0542

gas cell
 room
 room
 gas cell

~~gas cell~~ room 4.5 sec Fowler
 room 9 sec Fowler
 room 18 sec "
 " 36 " "
 minor 45 sec Fowler
 " 9 " "
 " 18 " "
 " 36 " "

peaked up now

Conoise .0543
~~Conoise .0544~~

minor 4.5 sec Fowler

(flat .0544)

fowler .0544
 fowler .0545

2054 cm⁻¹ Fowler mode simulated nod

garbage

dark .0546
 .0547
 .0548

1 sec
 2 sec
 4 sec

dark .0549
 dark .0550
 dark .0551
 dark .0552
 dark .553

1 sec 1 nod room
 1 sec 4 nodes "
 2 sec " "
 4 sec " "
 16 sec "

no real diff in dark current values.

dark .0554

16 sec " shiny

scat. 0555
 .0556
 .0557

150 μ m slit. short slit. shiny 2 sec
 room 1 sec

one side of the detector.

opti stage 1
 " "
 opti 1 rd rest
 " "

all files (4) written to flat. 0544. suspect operator error

Looks like 800 ADU between orders
 ~3400 ADU
 ~1700

June 26, 2001

First night

M.R. & T.G.

Base on tip. ~~1501~~ 1501 867cm² (clean sky) 1" E with hexapod
 odd files are off
 pair 21 may be messed up

tip. 1502 5" E w/ hexapod. small sky near 12
 no obvious signal in accum.

.1503 5" N w/ hexapod

.1504 1" N " "
 sky variation around 3-8

above .1505 no atmospheric lines here. ~~add changed~~
 above .1506 H₂O setting Carr peaked sep at end
 " .1507 good on pair 5

pallas. 1508 guiding till pair 6 - appended another
~~11.1509~~ sky is fluctuating pretty bad
 11.1509
 " .1510 looks good sky has settled

took off
 Zuse lens
 510ph. 1512 1st pair screwy
 510ph. 1513 time out to acquire guide star.
 510ph. 1514 guiding now with auto guider
 found pair 10 sky noise
 pair 22 good
 changed focus on pair 4 by -.1
 sky varies off by 1" on by
 focused by another -.1 before ~~scan~~

OH 816 pair 11 getting good

" " " "

" .1518
 " .1519
 " .1520 play with focus first 5 pairs
 " .1521 Z-O.183

Pallas
 pal. 1522 OH 816 setting air mass 1.017
 pal. 1523
 pal. 1524 bad pair #8
 pal. 1525

pal. 1526 C₂H₂ 744.5 R(5), R(6)
 pal. 1527
 pal. 1528
 .1529

Playing with Hexapod.

U moves N-S with + = to moving telescope S
-0.00015 = 5" N motion seems linear

V moves E-W with + = to moving telescope W
-0.00015 = 5" E assume motion linear

pretty crappy throughout

16 pairs - computer glitch. File will be twice normal length.

pair 19 or so
rod set

not fantastic - but some good frames

neg 45 pos 30

W 33a, 1530
.1531
.1532
.1533
.1534
.1535
.1536
.1537
.1538

C₂H₂ R(5,6), HCN 1.271 airmass
bounce
" good data!
good
good

40, 542

.1539

C₂H₂, HCN, HD 765 cm⁻¹
bit of guiding at beginning
Focus z = -4.5 - change
Z = 0.135

bounce

.1540

good

.1541

.1542

.1543

.1544

very very good!!!
only 16 pairs.

Asteroid #1

Ceres
Ceres, 1545
Ceres, 1546

765 focusing

Moved the Echelon parab. mirror
Ceres, 1547
Cer., 1548
Cer., 1549

761 C₂H₂, HCN, HD & (15, 16?)
seeing is bad

really good pair 7

Z ~ 0.122

AFGL 2591

GL 2591, 1550
GL 2591, 1551
~~1552~~

okay (not the best)

NGC 7538 IRS 1

N 7538 I 1, 1552
.1553
.1554
.1555

airmass 1.418 can see the lines

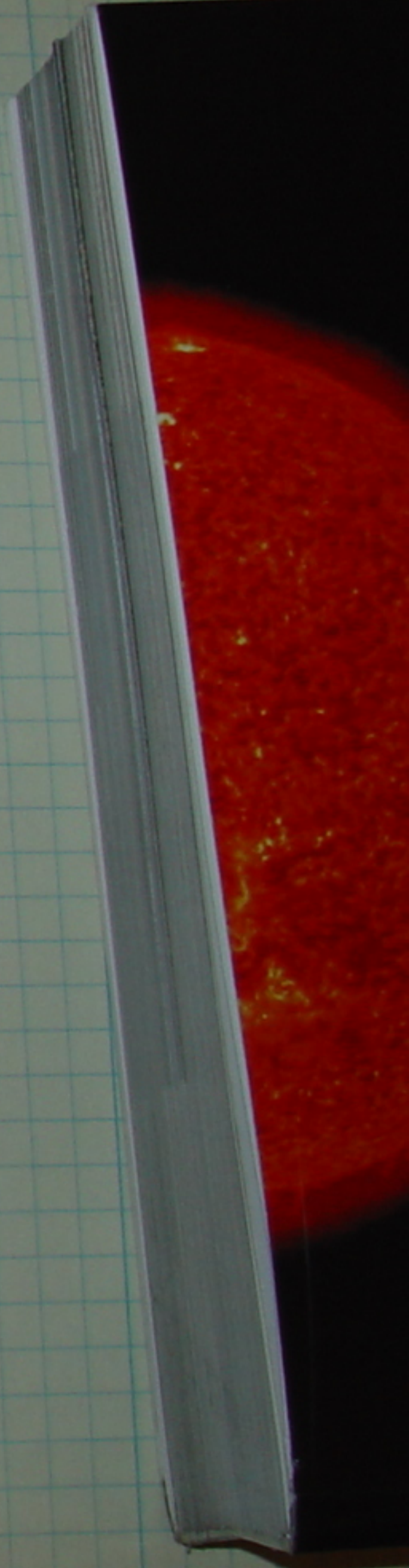
IRS 9

N 7538 I 9, 1556
.1557
.1558
.1559
.1560

Some guiding
bounce
bounce

Par 9 That weird screwiness?

Z ~ 0.148



N7938DA59 cont

N7938I9. 1561
.1562

atmos is crossing up on us. ~ pair 8

com. 1563

comet 929.5 cm⁻¹
clouds, big ones ~ 15?

faint bounc
crappy clouds

.1564

Beta Andromeda
band. 1565

nod mode 4.5 sec CO 5 um

band. 1566

Fowler ~~note~~ these are memory effects on
~~negative stars~~ on edge

band. 1567

a cloud clouds ended on pair 20 clouds are bad.

not off frame
of imaging

27 Jun 01, Matt R., Tom G., John C.

aboo.2501 ~~9~~ 9 sec Int in opti stare / Junk - Forget the one

aboo.2502 9 sec Int. opti stare
aboo.2503 9 sec Int Fowler

.2504 9 sec Int Fowler memory

tip.2505 30" N tip ~~32~~ 16 nodes
buffer toggle error on 151

tip.2506 10 nodes - last file the ratio was almost

tip.2507 10 nodes 30' W - didn't change header

tip.2508 10 nodes 30° E buffer toggle ~108

aboo.2509 860 cm⁻¹ 4th order. positive falling off slit a bit
good at pair 8. no flat, use 2510

hd142.2510
hd142.2511 num=6
.2512

51 oph 860 cm⁻¹
51 oph.2513 some guiding pair 8 begins to get really good
some bounce maybe bright enough for shift + weight
bounce

51 oph.2514
.2515
.2516 nod pair 31 hot spike
.2517
.2518 little bouncy
.2519

HD 163296
HD 163.2520
.2521
.2522
.2523
.2524 All have minor bounces at times

~~Ceres~~
Ceres.
Cer.2525 H₂O so thing
Cer.2526 Ni IV
Cer.2527
||

5:23:33 UT start - End

5:30:54 - 5:38:06

we guided some 7 min 10 sec

5:38:52 -

5:42:02 - 5:45:26

nod wait is screwing things up
3 min 16 sec

perfectly const. so we shortened ~~to~~ to 10 nodes.
from last time.

Focused + biresight

27 Jun 01

TG, JC, MA, DG

object name = Ceres (unconnected)

n 7027. 2525

.2529

.2530

.2531

32

33

34

35

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2552

2553

2554

2555

56

imaging 3" slit through 8µm filter. Saturated

not saturated

camera mode saturating

reduced int. time

now centered on nominal slit

try imaging through filter in rdst - no problem

doubled int. time to 0.1s - no problem

rdstsd @ 0.2s - no problem. 7027 fainter than

rotated to decker position. Slit open. saturated in

places.

drop int. time to 0.1s, OK.

rotate slit back in. looks pretty good

Go to high med mode image new position through

image through low slit. short slit.

hi-med mode. 1189.7 cm⁻¹, H₂O variation

" " " "

" " " "

again!

" "

Camera mode slit+decker in pos.

decker moved to show whole slit

decker moved back to hi-med pos slit changed

open decker

remove offsets

full image

7.5-8.5 filter 0.1s saturated (sat @ 0.05s, too)

peaked up by pair 9 last pair

same

nothing

reacquired alpha aql.

pair 10 good pair 15+16 great

pair 7,9-16 good

Alpha

Aquila aql. 2552

.2553

2554

2555

56

Beta Andromeda

Band, 2557

.2558

com. 2559

60

61

62

930 cm⁻¹ looking for it. got it at end

source pair 15

source

Imaging mode Telescope S = object up
E = 0 right

top 77

y = (58, 77)

x = [149, 159]

middle = (x₀, y₀) = [154, 167.5]

offset guiding on 1 beam

current offsets = 4.8E, 0.2N

edges: x = 138, 163

y = 52, 79

150, 15.5

11 µm

sat. on black

offset 2" W + 2" S

to open

sat on all other broad filters

wierd

- 63 bounce throughout
 64
 65
 66
 67
 68
 69
 70
 71
 72 crappier
 73 half way got back on it
 74
 75 nsum = 8
 76 bounce jump in background. Probably garbage
 77 2003 cm⁻¹ Fowler mode (maybe on it) ned off
 moved 2" N ~ pair 6
 78 9.4 E 1.8 S

June 28, 2001 M.R., T.G., C.K., NE, JC

pupil made to test where we were looking last night

pup. 3501	nominal		(do not DC values here)
pup. 3502	North position		sky varies fast
pup. 3503	South	" 30"	
3504	East	" 30"	
3505	West	" 30"	
3506	centered		

Testing dewar alignment

Dec +50 66, 36
~10% minor 79, 192 pupil 78, 204

looks good at zenith
Dec off -10° 81, 200 ~5% off in diam.

pup. 3507 min 68, 40 66, 32
pup. 3508 ~~30° east~~ Cont mode

pup. 3509 30° east
pup. 3510 30° west
diff of minor 150, 111 + 164, 110 = 14
~11%

pup. 3511
45° west 149, 113 - 164, 110

aboo. 3512 2029.5 (0 P27) clouds guiding fowler
noddly off slit

Test SIO - dispersed with Echelon but not with any X-dis

tub. 3514 700 ended

~~tub. 3515~~

flat. 3515 700 cm⁻¹

~~flat. 3516~~

tub. 3516 looking at lock of minor 725 cm⁻¹

" 3517	750 cm ⁻¹
3518	775 cm ⁻¹
3519	800
20	825
21	850
22	875
23	900
24	925
25	950

looking for position

tub. 3526	975 cm ⁻¹	
tub. 3527	"	three int.
3528	1000	" "
29	1025	
30	1050	
31	1075	
32	1100	int time/2
33	1125	
34	1150	
35	1175	int time/2
36	1200	
37	1225	no rd leak here won't have tested others

resets. 3538 15. storing resets after saturation in med mode
not very dramatic memory effect

3539 0.1s

3540 camera mode - saturated - pinhole (149, 67) -
4 1 sec willow display

Chi Cyg
CCyg, 3542

focus -4.4 1.5°C
ended at ~~25~~ pair 6

Hd 179, 3543

860cm⁻¹ ~~got~~ little bit of guiding

Hd 179, 3544

32 nodes ~~consum~~ good

.3545

guiding good

.3546

page

gl 2591, 3547

AFGL 2591 guiding - wrong coord.

.3548

good @ 11 (signal all along, though)

Hyg, 3549

Hygia

guiding. good @ 7 bounce

.3550

good

N6C 7538

guide star

n 7538, 3551

860

pair 12 got really good

.3552

some clouds

~~3553~~

Hyg, 3553

734

.3554

.3555

n 7538, 3556

.3557

.3558

bounces

clouds

pair 4 was bizarre

n 7538 i 9, 3559

.3560

bouncing

''

Really bouncy

June 29, 2001 M.R., T.G., C.K., J.C., N.E.

temp is wrong
Arcturus
aboo. 4501
aboo. 4502

951.4 cm⁻¹
3" slit pair 5 is good

δ Virg
dvir. 4503

951.4 cm⁻¹ boresight star
3" slit

H 41

h41. 4504
h41. 4505
.4506
.4507

shooting blind!
drifted off by 3.3 W 5.25
offset guiding. some bounce and
sky fluctuation. nothing is piped data.
no continuum at all! Nada!

γ Hercules

gher. 4508

same setting. boresight star
spectrum shifted spixels cross dispersion direction.
guiding

DDM 1

dddml. 4509

We think we have a line!! Doppler
shift of -300 km s⁻¹. little bounce

temp 276

.4510
.4511
.4512
.4513

808.3 cm⁻¹, HI 7-6.

Pallas

pal. 4514
pal. 4515

guiding a lot. 860 cm⁻¹

HD 144432

hd144. 4516

cloud passing through
stopping after 18. No clear source!
bounce. offset guiding

hd144. 4517

hd144. 4518

hd144. 4519

.4520

.4521

Bounce not as bad!

KK Oph

kkoph. 4522

Bad bounce. offset guiding

clouds + bounce + too far North before pair 5

June 29 (cont'd)

KKOPh (cont.)

KKOPh-4523

KKOPh-4524

W33A-4525

780 cm⁻¹ offset guiding, some bounce
found source at 6" W

.4526

.4527

.4528

.4529

pair 24: Buffer toggle error

AFGL 2136

gl 2134-4530

4531

4532

never found it
good ~ pair 14 different position (Mott
found source 6.0W 2.2N of there from)
glitch in pair 28

Pallas

pal, 4533

4534

4535

M=1.5 ±130 counts

MWC 349 mwc 349-4536

[Ne II]

double on TV (E-W). Brighter has strong Ne II
line over 2 orders. Need to move echelon,
moved echelon ~ pair 5-8
Matted out pair 10
cloud at end (small one)

4537

4538

Hygiea

hyg. 4539

4540

4541

42

43

44

45

46

[Ne II]

bounce

glitch at pair 10

offset guiding

nsum too low

C₂H₂ R(1)

734 cm⁻¹

good

bounce

"

"

NGC 7538 IRS 1

n7538i1-4542

48

49

50

(C₂H₂ R(1)

offset guiding

moved up slit since too close to edge

way South on slit
bounce

NGC 7538 IRS 9

n7538i9-4551

4552

4553

54

55

56

57

faint. offset guiding
~ pair 15. guided NS bounce. Lost guiding
bounce. guiding
bounce.
bounce
pretty good one
sky fluctuation. More fringes on pair 21
16 pairs. no bounce

June 30, 2001 M.R., T.G., J.C., C.K., H.D.
RH=80% Arcturus - Echelon tipped - ~6mm H₂O
In Se on abou. 5501 780.424 cm⁻¹ "feature"
Temp is wrong 3" slit was wrong

r_v = -140 H4-1 blind offset
H/s h41.5502 (still bright)

h41.5503 " guiding a little
(didn't see anything)

h41.5504 " (0,0) no guiding
h41.5505 no signal
no guiding, drifted 1.6 W
visual ID, adjusted rates
a little bounce; sky fluxes
no guiding drift

h41.5506 offset guiding started at pair 9
h41.5507

r_v = -304 DDDM 1 visual ID
H/s dddm1.5508 bounce & sky noise; offset guiding pair 9
maybe detection; maybe drifting out
go south 1" S
position adjusted

dddm1.5509
dddm1.5510
dddm1.5511
dddm1.5512
dddm1.5513

still centered in slit

RH=72% Pallas (asteroid) - Echelon tipped other way - ~6.5mm H₂O
pal. 5514 744 cm⁻¹ C₂H₂ R(5) [80"E, 20"N]
[= Guide star]

T=275 Elias 29 background jump; pupil mode; some shift
Dec = -25°, RA = 45°
α Sco (B56134) needed to reacquire boresight & refocused
Elias 29

~~eli 29~~ eli29.5515 no guide stars - junk! adjusted
echelon cross-dispersion screwdriver

~~eli 29~~ eli29.5516 end-grating setting not okay

• 5517 grating set right. bad bounce (due south) no signal.
• 5518 bad bounce. some signal. no guidestar. bounce overwhelmed signal

Pallas
Pal. 5519 autoguiding
Pal. 5520 a little move south to center nod in slit
Seeing seems to be poor

int time too short

Pallas cont
pal. 5521

g12136.5522 got it pair 20 - really good pair 27
g12136.5523

g12059.5524 junk couldn't find it
g12059.5525 can see shift in order placement (curious sig)
pair 8 good - before was a little low on slit

H₂O - OH 884' Pallas - refocused; nodding along slit! (6"
pal. 5526 2" nod north in 5" slit x=1.12 @ 18:20 ST
may be losing some of neg. beam
pair #31 pos/neg very close - overlap; No Bounce
.5527 stopped after 16 pairs - No BOUNCE

V1057 Cyg

v1057.5528 check boresight on V_{Cyg}
offset guiding x=1.24 @ 18:48 ST
some bounce; nodding in short slit

.5529
.5530
.5531
.5532
.5533
.5534

x=1.14 @ 19:15

T=1°C Go to zenith to rotate the slit
BS 7949 (EγCyg) to check/find boresight
1248.5 cm⁻¹ 20"N nod

ecyg.5535
.5536
.5537
H₂O: .5538
5mm .5539

junk-focusing
taking data - minor was in - do not use
this data is good } looks pretty clean
" " } (summed about SiO lines
in star)

N6C7027 59 - 83 → 71 } center of box
152 - 172 → 162 }

make a box for nebula top=91, bottom=67
x=148, 181 → 164 178 - 146
to fit in - put it there; good to ~ 1/3"
n7027.5540 camera mode, no slit center
n7027.5541 offsets 5.1E, 2.5N
4.4 → 4.6, 2.1N → 4.6
another image

RH 3ms
 Temp 90%
 RH= .5543 start spectra
 60% .5544 seeing the line
 .5545 more data
 cloud on pair 12;
 going away at 17 -
 coming back - high background
 .5546 clouds not too bad
 clouds on pair 18 & on 16 (kept getting worse
 until pair 25, started dropping)

images had wrong
 object name
 offset guiding
 LST = 21^h 49^m
 UT = 13:26
 HA = 00^w 34 X = 1.09
 HA = 1^w 12 X = 1.12
 δ Cyg = BS 7796 (F8I)
 guiding LST = 22^h 59^m UT = 14:46
 during this; HA = 2^w 37 X = 1.29
 sky fluctuations
 drifted out of slit
 .5548

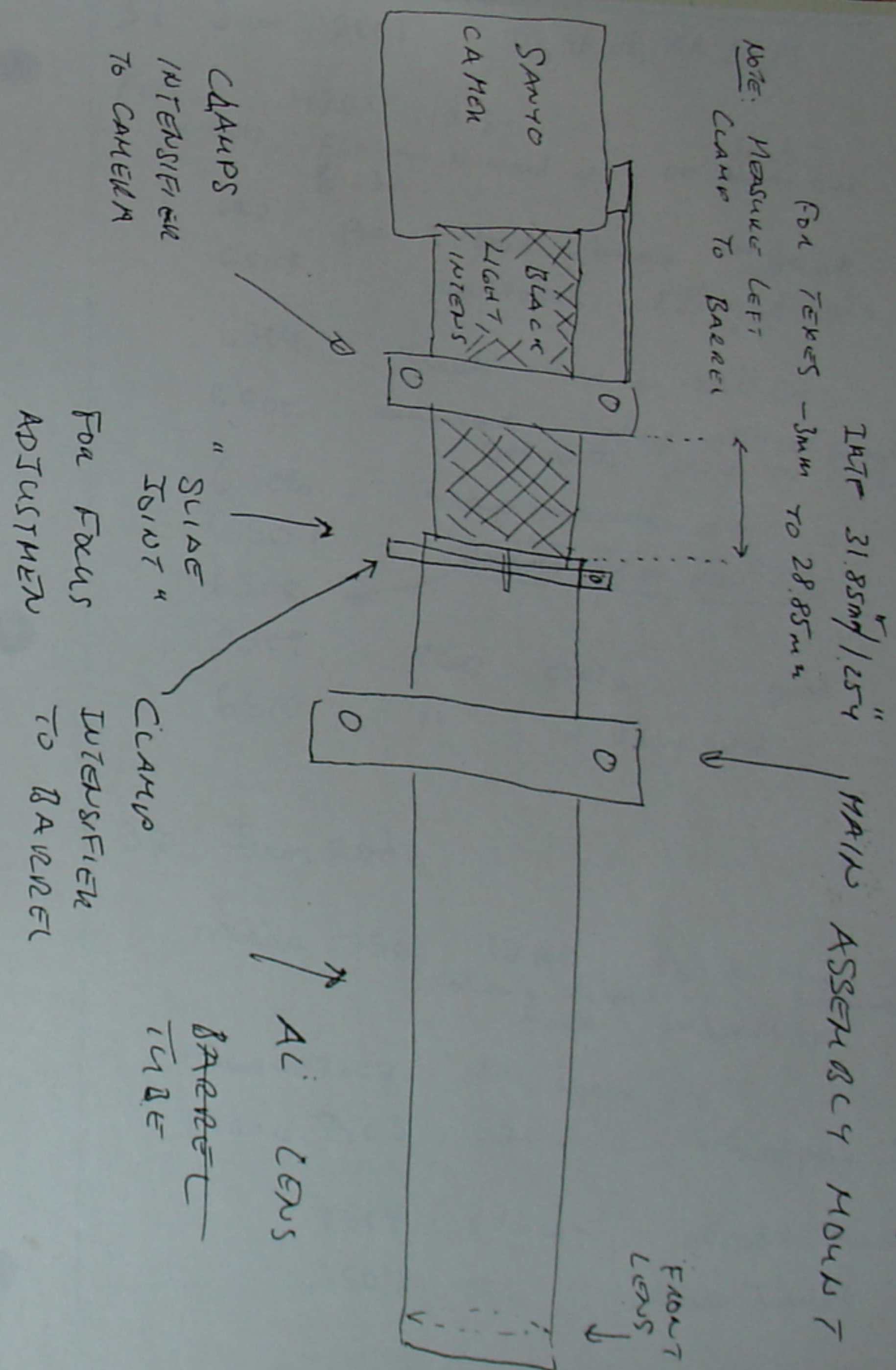
Go to zenith, rotate slit to N-S; new setup

86mm
 RH H₂O Mira & Ceti = BS 681 @ 910 cm⁻¹ LST = 23^h 40^m
 ocet. 5549 focus may not UT: 15^h 25
 guiding; be the best HA = 2^E 38 X = 1.42
 250 μm slit
 T=: ocet. 5550 @ 916 cm⁻¹ HA = 2^E 32 X = 1.38

Try to image the comet in camera mode

Comet linear HA = 0^E 46
 can. 5551 after frame 16, X = 1.13
 moved 5'' S

(clear here, but clouds in the sky)
 can. 5552 back to zero - Clouds!
 Quit!



OX - Davis CAMERA

6.25-01

image with slit in
 spectroscopic mode
 J images lead every
 object name
 effect guiding
 LST = 21^h 49^m
 UT = 13:26
 HA = 00^m 34 X = 1.09
 HA = 1^m 12 X = 1.12
 spectra
 using fine line
 data
 pair 12
 pair at 17 -
 back - high background
 not too bad
 pair 15 d on (kept getting worse
 pair 25, started dropping)

F8I)
 guiding
 by this
 fluctuations
 drifted out of slit
 LST = 22^h 59 UT = 14:46
 HA = 2^m 37 X = 1.29

rotate slit to N-S; new setup
 @ 910 cm⁻¹ LST = 23^h 40^m
 UT = 15^h 25
 HA = 2^m 38 X = 1.42
 250 μm slit
 @ 916 cm⁻¹ HA = 2^m 32 X = 1.38
 the camera in camera mode
 HA = 0^m 46
 X = 1.13
 frame 16,
 (5' S
 ls in the sky)
 to zero - Clouds!

31 Jun 2001 TG, HD, NE, MR, BG, PS

Mars H2O2 1233
 Mars, 6001 Flat may be messed up. on ~~the~~ South limb. Guiding
 a bit
 6002 pair 9 bad clouds = junk
 6503 bad rates still got data drifted
 off
 6504 trash - mirror still in
 6505 mirror out - tracking still not great
 got better half way guiding
 all over the
 place
 6506 crap - mirror in
 6507 drifted off on pair 12
 6508 ←
 6509 960 CO₂ good
 6510 " Very good

32 Jun 2001

Mars, 7501 1228 H₂O₂ very cloudy
 nothing I don't think ended early bounce
 Mars, 7502 try again
 Mars, 7503 820 wn cloud pair 5 bounce
 .7504 826 wn - ended overlapping orders
 .7507 826 clouds terrible bounce

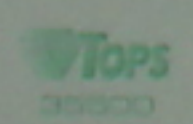


image with slit in
telescope mode
) image load wrong
object name
effect guiding

get spectra
using fine line
data
on pair 12
way at 17
back - high background

LST = 21^h 49^m
UT = 13:26
HA = 00^w 34 X = 1.09
HA = 1^w 12 X = 1.12

not too bad
a pair 18 d on (kept getting worse
pair 25, started dropping)

(F8I)
guiding
in this
fluctuations
mitted out of slit

LST = 22^h 59 UT = 14:46
HA = 2^w 37 X = 1.29

state slit to N-S; new setup

@ 910 cm⁻¹ LST = 23^h 40^m
UT = 15^h 25
HA = 2^E 38 X = 1.42
250 μm slit
@ 916 cm⁻¹ HA = 2^E 32 X = 1.38

the comet in camera mode

frame 16,
d 5" S
HA = 0^E 46
X = 1.13

(as in the sky)
to zero - Clouds!

32 Jun 2001
mars, 7508 826 again
shutdown

