

Aug 30th

directory test

Scat. 0001 small pinhole - CUF near 5um?
see pinhole
see backplate oval + ~~at~~ worm wheel clearance
to hole
off one tips the lowres - see a second
image of pinhole - will image latter.

Scat. 0002 240um wide x 390um long pinhole peak 15000
same effect as 600 for oval peak

Scat. 0003 6.5-7.0um? CUF peak 62000 - Saturated
Same 240 x 390 slit oval ≈ 900 peak

Next day same directory

C2H2. 0004 730.4 Gas cell C2H2 gas
Slit is rotated ~ 1.5° from its
center correct position
This removes the wiggles due to mirror
+ window acting like Fabry-Perot

Pump out the lens

Vac. 0005 empty gas cell

refill with C2H2

C2H2. 0006 suck a bit more

C2H2. 0007

C2H2. 0008

C2H2. 0009

Vac. 0010

Repeat after 8 without sucking anymore
Fill & pump again

Sept 1st

same directory

Vac. 0011 - C2H2 setting see some weak C2H2 lines
Vac. 0012 - " " faint line

C2H2. 0014 - C2H2 in cell focus at 0, 0
0, 0
0, in 2 turns
0, out 2 turns
0, 0

of turns is absolute

Vac. 0018 - C2H2 setting empty gas cell. same lines
19 - after pumping + flushing

Vac. 0020 new position + 2 in

C2H2. 0021 22 0, 2
23 0, in 4

Vac. 0024 pumped after 22 empty gas cell for 22 + 23. 0, in 4

25 another vac for 22 + 23. C2H2 diffuse from teflon

Vac. 0027 pumped out

C2H2. 0028 0, in 6
"

C2H2. 0029 3 pixel slit 0, in 4 - best focus
narrower slit

0030 4 pixel slit

0031 6 " "

0032 9 pixel

Vac. 0034 " "

0035 6 " "

0036 4 " "

0037 3 " "

0038 2 " "

Vac. 0039 C2H2 2 pixel slit at 13/8 cm⁻¹
~~then~~ see 2 water lines

0040 3 pixel slit

0041 4 " "

0042 6 " "

0043 9 pixel

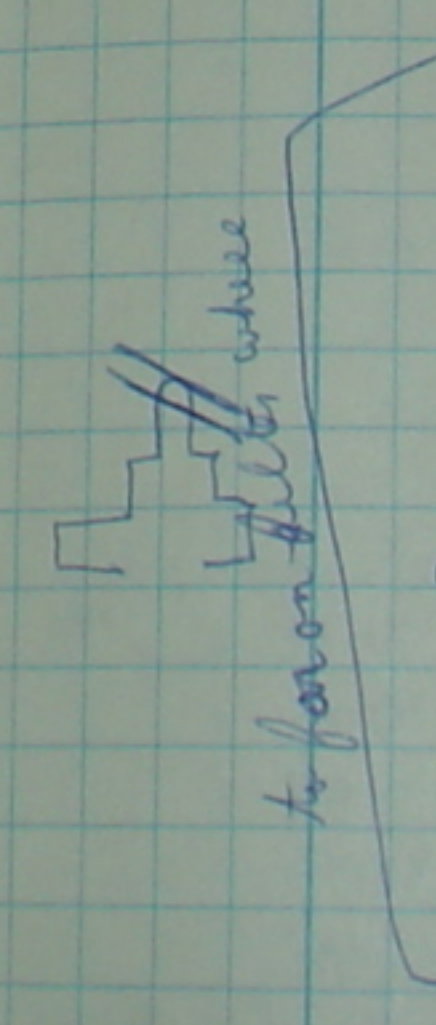
C2H2. 0044 2 pixel slit

0045 3 " "

0046 4 " "

0047 6 " "

0048 9 " "



C_{2H_2} -0049 7 pixel Turn 2
 auto in auto bad, 0050 6" - loss
 C_{2H_2} -0051 6" -
 .0052 4" -
 .0053 3" - col 8 in *by no bracket paper*
 .0054 2" - *the data very well*
 Vac -0055 2" -
 .0056 3" -
 .0057 4" -
 .0058 6" -
 .0059 9" -

C0 test.0060 2124 cm⁻¹ Brano's settings
 C0 test.0061 2099 cm⁻¹ settings test
 C0 test.0062 2084
 H2S7 test.0063 1814 test spacing
 Can we separate the orders

Testing Flatfield uniformity.

black.0064 C_{2H_2} R5 setup Looking at black in nominal place
 black.0065 single step ~~clapper~~ in 1 direction +1 step redefine nominal
 .0066 2 steps
 67 4 steps (total) each step is 1.5 deg
 68 -2 steps
 69 -4 steps
 shiny.0070 shiny in nominal position
 71 +2
 72 +4
 73 -2
 74 -4
 75 slit +1 deg offset, shiny at nominal
 76 slit -1 deg

Testing Linearity

Series of integration times on room

room	time	coadds	Wallace	Math's program prediction
room.0077	0.225 sec	4 coadds	22000 on wallace	22000 e ⁻ black
78	0.505 sec	2 coadds	25000	49000 e ⁻
79	0.73 sec	2	39000 on Wallace	70000 e ⁻
80	1.01	1	26000	49000 e ⁻
81	1.24	1	29000	1.2 x 10 ⁵
82	1.52	1	35000	1.46 x 10 ⁵
83	1.74	1	40000	> 1.5 x 10 ⁵ (maxwell)

More linearity testing

room	time	coadds	Wallace	Maxwell
room.0084	2.02 s	1 coadd	45000 on Wallace	71.5 x 10 ⁵ e ⁻ (max well)
85	2.25	1	48000	"
86	2.47	1	52000	"
87	2.75	1	56000	"
88	2.98	1	60000	"

move to CH4 setting Through CVF

room	time	coadds	Wallace	Maxwell
room.0089	0.505	2	5000	18000 e ⁻
90	1.01	1	5400	37 K
91	1.52	1	8000	56 K
92	2.02	1	10500	74 K
93	2.47	1	13000	91 K
94	2.98	1	15000	1.1 x 10 ⁵
95	3.48	1	17500	1.3 x 10 ⁵
96	3.99	1	20000	1.5 x 10 ⁵
97	4.50	1	22000	71.5 x 10 ⁵
98	5.00	1	24000	71.5 x 10 ⁵
99	6.02	1	28000	71.5 x 10 ⁵
100	7.03	1	32500	"
101	7.98	1	36000	"
102	8.99	1	40000	"
103	10.01	1	44000	"
104	11.02	1	48000	"
105	11.97	1	51000	"
106	12.99	1	55000	"
107	14.00	1	58000	"
108	15.01	1	60000	"

Dark tests narrow hi-lo slit set between filters 6 + 7

dark	time	coadds	Wallace display
dark.0109	1 s		
.0110	2 s		level on Wallace display changed
.0111	4 s		~400 counts
.112	8 s		600
113	16 s		1200
114	32 s		2400
115	64 s		4400
116	132 s		8700

board temp rose during integration. We were filling LN still some LHe, but not much.

2 Sep 2002 continued

Dark tests using Fowler.

Fowler always a real mode, so $n_{\text{read}}=2$
 gives 4 frames. $n_{\text{coadd}}=32$ is actually 16×16
 gradient across array

dark. 0117	4.5	seconds	3500
.0118	4.5		$31^{\circ} \times 400$
.0119	9		6500 - 9000
.0120	16		11 - 15 K
121	32		21 - 29 K
122	64		42 - 57 K

Responsivity tests: Use Fowler and ~~non~~ optistare for 1800 to 2200 cm^{-1}

optistare ↓	room. 0123	1" slit	cvf = 76.48	2200 cm^{-1}	15 s	3000 counts
	0124	2200 cm^{-1}	Fowler		15.9 s	39000
	125	2100 cm^{-1}	optistare	cvf = 73.740	16 s	4000
	126		Fowler		16 s	-17000
	127	2000 cm^{-1}	optistare	cvf = 68.280	16 s	8200
	128		Fowler		16 s	-80000
	129	1900 cm^{-1}	optistare	cvf = 62.580	10 s	7500
	130		Fowler		9 s	80000
	131	1800 cm^{-1}	optistare	cvf = 55.56	9 s	
	132		Fowler		9 s	95000

Responsivity tests: hi-res from 1300 to 8 all optistare

room. 0133	1300 cm^{-1}	1" slit	filter 1	14000 counts	
0134	1180 cm^{-1}	1" fixed slit	2	14000	1200 is cvf
135	1120	1"	2	12000	1100 is cvf
136	1000	1.4	3	x	
137	900	1.4	4	1 sec	16000
138	800	1.4	5	1 sec	25000
139	700	1.4	7		25000
140	620	2.1	7		32000
141	570	2.1	6		30000
142	530	2.1	6		25000
143	500	2.1	6		22000

Filter cuts at -610
 echelle @ 72.6°

3 Sep 2002 - MR, TG, HD, NS
 directory ~~sep02/4~~

Note: Using new offset guider. Can get optical images in focus.
 Temp inside 39°F (3.7°C), RH = 72% (in dome)
 Focusing IR signal on Xcyy = 857564.
 Zrse window is on

UT

ccyg.1001 image (UT ~ 07:00) seeing is bad

changed grating from 1246 to 1248 (but did something wrong)

ccyg.1002 1248 cm^{-1} might be near edge of a filter 07:46
 quick look died; header fixed

Slit changed to PN-S(4) setup (also ZR4) 550 μm (3" x 8")

gaq1.1003 15" N nod (UT ~ 08:09) flux calibrator
 playing w focus clear overhead,
 cirrus around
 left focus alone, but still want to check it

~~bpeg.1006~~ We were not in focus! software limit
 had prevented from reaching focus. Can
 now get there. focus = z - 4.4

bpeg.1006 15" N (UT = 8:52) This data is good!

bd30.1007 15" N UT = 9:03 X = 1.145 HA = 2.02

bd30.1008 we think we are seeing continuum
 16 pairs; UT = 9:12

bd30.1009 nsum = 4 UT = 9:21 X = 1.19
 nsum = 6
 clear overhead; good transparency

bd30.1010 cirrus, pairs 1-4 bad, then okay
 nsum = 4 again UT = 9:32 X = 1.22

bd30.1011 RH = 50%
 UT = 9:41, X = 1.26

slight bounce

Go back to optical center & reoffset (looked good)

3 Sep. 2002, continued

bd30.1012 nsum=4 UT=9:52 X=1.297

bd30.1013

bd30.1014 UT=10:09 X=1.37
same bounce Xend=1.41

Tried to see Pallas, but it's too faint @ 8um

acyg.1015 guiding thru pair 6

.1016 bounce pair 10, 12, 13 X=1.35
.1017 guiding early. 1016 was drifting off slit
Bounce ~ pair 8, 13

hb12.1018 nsum=4 UT=11:10, X=1.28
bounce in pairs 1

hb12.1019 bounce

hb12.1020 X=1.30

hb12.1021

.1022 X=1.30

.1023

.1024

.1025

.1026

No obvious line or continuum
Xend = 1.35

.1027 - 4 nods, testing software change

change setup to [N; ∇]; nod 4" N along slit

hb12.1028 - Pairs 1 & 2 may show chopper UT=11:48, X=1.367

hb12.1029 - Moved N 0.5" - Pair 14 guiding UT=12:48:49, X=1.382

hb12.1030 - Guiding through pair 5 UT=12:56:29 X=1.398

hb12.1031

UT=13:04:22 X=1.416

hb12.1032 - Pair 5⁹ guiding

UT=13:12:23 X=1.435

hb12.1033

UT=13:20:05 X=1.455

α Aur (Lepella)

aur. 1034

UT=13:36:10 X=1.453

Pair 3⁻ guiding
- 4 is good

aur. 1035 - better than 1034
guiding pair 5 - 8

UT=13:41:01 X=1.432

aur. 1036

about ignore 1036-1041

aur. 1042

2085 cm⁻¹ Fowler mode airmass 1.266

1043

1044

shiny sky
no black

Sat. 1045

2085 offset guiding airmass 1.202

1046

1047

1048

pair 5 may have a glitch or spike

49

4 nsum. Something is wrong. End early

50

1 nsum. not sure where on saturn
(We were definitely off - guider stayed on past not)

51

20 sec int. things working okay

52

dropped the wait after moving chopper to 1 Fowler pattern

ber. 1053

guiding at first. good by pair 5. bad at end

5 Sep 2002 UT HD NS, TG, PS, BG, AR

Test Fowler vs optistare on tub illumination

Zn Se on	tub. 2001	Optistare	at CO P14 setting	16 sec	3000 ADU
	tub. 2002	Fowler		15.87 s	10000 ADU

Focusing on α Her $Z = -4.1$
Dome Temp = 4.5°C

Her. 2003 - at 1248 cm^{-1} , UT = 6:13:52, $X = 1.087$
1257 $Zr\text{-IV}$ in last full order, near center.

swstl. 2004 - $n_{\text{sum}} = 4$, $n_{\text{nod}} = 16$, nodding along slit
UT = 06:25:35, $X = 1.617$

$H\alpha$ may appear in 2nd Order (end)

Bounce:

Clouds pair 5 - end (16)

swstl 2005

UT = 06:40:20, $X = 1.648$

Cloud Layer, Bounce (2nd derivative) pair 6
seemed settled.

swstl. 2006

UT = 06:48:11, $X = 1.668$

pretty good in terms of clouds

Low level fringes seen in acc'um

Swst too low by 2.2" (S) - tracking off.

aaql. 2007

UT = 07:06:52, $X = 1.021$

$n_{\text{sum}} = 4$, $n_{\text{nod}} = 8$
guiding until pair 5

aaql. 2008

UT = 7:06:29, $X = 1.020$

$n_{\text{nod}} = 16$

wd mag atmospheric extinction?

aaql. 2009

gratings moved 1 order UT = 07:17:48

$n_{\text{sum}} = 3$

$X = 1.019$

aaql. 2010

slight bounce sky change around pair 6

2011

change to 1.4" slit Had to move star $\sim 1.5''$ after
moving to narrower slit. Maybe see fringes from Zn Se.
Some guiding and clouds. Guiding stopped pair 11. Clouds throughout

5 Sep 2002 UT (cont'd)

aaql. 2012

spikes in pair 5 clouds starting pair 5 or 6 pair 12 gets good
maybe at edge of slit at end
2013 bounce. seems reasonably centered. spike pair 7
mostly pretty good

Cygn. 2014

looks good

UT = 8:13 $X = 1.054$

N7027. 2015

Optidrst, 30" N nod, camera mode cvf $\sim 10.5\mu\text{m}$
sky fluctuating

2016

Image through long slit. sky fluctuating
slit center at pixels 168, 174

2017

Image again. center of 7027 at 168, 183

2018

Moved by 3.5 s. Image again. some saturation

Unsaved cont shows went wrong way. move 7N

2019

at 177, 177. move 1.5" E

2020

don't see it. Maybe try moving 3.0" W

Oct. 2021

1.4" slit 1248 cm^{-1} (through cirrus)

2022

do again. clouds not bad

Oct. 2023

896 - middle order 1.4" slit

strange streak across center of all
orders.

guiding - good on pair 6

Oct. 2024

900 cm^{-1}

stare mode E

897.692 in 2nd order

Oct. 2025

"

"

back to nodding

op. error - nod off slit

Oct. 2026

906.2298 in last order

guiding

were at bottom of slit

Oct. 2027

try again. guiding at first

Oct. 2028

908.15 - middle order line

5 Sep 2002 UT (cont'd)

ZNSC lens is off

aaur. 2029

meth setting for Sat. 1231 cm⁻¹
1.4"

meths try to reduce S/N - Pair 13
this was clear - no clouds

aaur. 2030

nmod=8

clouds
this was total crap

titan. 2031

nothing

titan. 2032

Sat. 2033

South position
offset from Titan to Sat center
there offset 3.3" south on
Sat.

clouds
getting lines

last pair terrible - don't use

can't find guide star

Sat. 2034

same south position
pretty good

Sat. 2035

a little more south than I want to
clouds towards e - will adjust on next obs.
end.

Sat. 2036 (don't add in slit) moved 1" North to move back up onto Sat.

Cloudy - climbing + climbing
we aren't sure about position on the slit
really poor tracking - no guide star
we're going to play a bit.

Sat. 2037

- CH₃ maybe? Quick look died
'shooting completely blind'
stopped after 8 nods

2038

608.5 is in 4th clear order

2039

re-centered using TV. Had to move ~10" in both axes

2040

move -3.3 N

2041

7.5" E O N 15

went thank to

2042

looked good

2043

Used TV to go 3.35 - same as CH₄. looked good but maybe clouds

44

Used TV again. definitely clouds

45

Used TV. Moved 15" N clouds

46

1.1 E, 0.4 N clouds

Took off ZNSC window.

7 Sept. 2002 UT → skip 2 pgs ahead

aher. 4001

Wavenumber = 841.2 (Co III Set-Up)

5" nod

Focusing on X Her

Z = -4.4

Dome Temp = 3.5 °C

UT = 05:49:11

X = 1.059

nmod = 8

Last 2 pairs were guided

UXSgr. 4002

Bounce

UT = 05:59:20 X = 1.365

UXSgr. 4003

Bounce

UT = 06:01:56 X = 1.367

Pair 5 - end very good (guiding 1-4)

swstl. 4004

nmod = 16, nsum = 4

UT = 06:13:59 X = 1.60

Co III is in 3rd order, on right 841.2 cm⁻¹

swstl. 4005

UT = 06:18:04, X = 1.617

Note: Integration Time moved from 1 to 0.5 at beginning of UXSgr. 4002

Bounce.

swstl. 4006

nsum = 8

UT = 06:22:19, X = 1.626

swstl. 4007

nsum = 8

moved slit 1" south

bounce

Stopped at pair 6. - May be looking at shutter

swstl. 4008

Bounce

UT = 06:33:09, X = 1.649

Moved ~0.7" E during pair 14

swstl. 4009

Bounce.

UT = 06:39:31, X = 1.666

swstl. 4010

UT = 06:46:16 X = 1.686

Moved ~1.0" E - did not change flux. Final X = 1.702

pal. 4011

nsum = 4

UT = 06:56:45, X = 1.050

pal. 4012

nsum = 8

UT = 07:01:02, X = 1.045

Drifting N a bit.

Moved ~1.5" S.

Moved ~1.5" S

Moved ~2.0" S

at Pair 13 b turn pair 2 and 3.

6 Sep 2002 UT HD, NS, RG, TG, MR (+MW, EA)

dark. 3001 hi-lo slit pointed between filters 6+7. Previous darks with 4 frames didn't give expected results. Try 32 frames.
 optistore 1 1sec 120-125 counts on cloud monitor
 3002 2sec 192 (flat)
 3003 4sec 316 (flat)
 4 8 570-550 with exp rise
 5 16 992-996
 6 32 1770-1784 start high, goes low, linear
 7 2 coadds 0.5 88-90
 amplifier glow in upper right of Wallace not so obvious
 reset dropoff along rows more prominent
 8 3 coadds 0.33 83-84
 9 4 0.22 78-79
 3010 Fowler mode 4.5s 16 "nodes" 32 frames
 mistakenly did a flat, too.
 amplifier glow. Gradient away from reset.
 3011 9.0s 148-150
 12 16.0s

went to WARP before this one. Left array w/ 1 second in frame.

7 Sept, 2002 (cont.)

aagl. 4013 Changed setting to 1.4" slit, H₂ in mid-3rd order
 Zr IV on bottom order 1246.1 cm⁻¹
 nod → 3" nsum=4, nnod=16
 Focusing on α Agl. z = -4.3
 Guiding & Focusing until pair 10.

aagl. 4014 nsum=8 UT=07:26:46, X=1.024
 Pairs 7-8 are bad (off of slit)
 Pair 12 Very good.

aagl. 4015 -1 pair, then quit - glitch with the program UT=07:38:23, X=1.027

aagl. 4016 Good data, bounce UT 7:42, X=1.03

aagl. 4017 back to nsum=6 UT 7:55, X=1.04

Go to camera mode; find location of slit on array (170, 170)
 Point at NGC 7027, prepare for scan maps
 H₂ S(4) is well on the array, [Zr IV] off the edge
 Center slit on image @ 10.5 μm

n7027.4018 moving during this integration - 10 prs.

n7027.4019 use this one - moving on pair 6-7; then looked well - centered

setup = 26 scan points, from 9"E → 9"W in 0.7 steps
 frame time = 2 sec

n7027.4020 Not a scan! Fix setup UT=8:33

.4021 Moved 9"E to start the scan X=1.08
 2 scans Very clear RH=58%
 Wind ~ 20 MPH around
 optical image moving ~~away~~
 seeing continuum!

.4022 nnod=4
 .4023 "
 .4024 nnod=6
 .4025 "
 .4026 "
 .4027 "
 (drifts ~ 1.6E, 0.6N over 12 mins.)
 (drifted 0.7E, 1.0W)
 UT=8:59 X=1.09 H₂O=8 mm

7 Sept 2002, continued

n7027.4028 nnod=6 UT=9:15, X=1.10
.4029
.4030 UT=9:29, X=1.116
.4031 Sky is very constant!
.4032
.4033 \Rightarrow 3.5 min per step (for all data)
x26 positions = 91 min
UT=10:00 X=1.156

n7027.4034 These scans are taken 4" N of the last set
sky fluctuation on 1st scan (tracking off E)

.4035
.4036 Glitch = grating shift in cross-disperser
"pixel shift" X=1.196

.4037
.4038 UT=10:32 X=1.224

bpeg.4039 Calibrating scan mode UT=10:45
nnod=20 2.8"E X=1.016
not centered \Rightarrow 2.8 W

.4040 try again!
.4041 nnod=4

3" slit x 8" for nod-mode observations - check focus

bpeg.4042 peaked up by 3rd pair change to -4.4
nnod=8 nsum=4 UT=11:04
X=1.027

ics117.4043 nod=15"N UT=11:10 X=1.275
sudden jump in 1st pair nsum=4
more background (higher airmass) (128 sec/file)

.4044 some bands of cirrus;
.4045 might be some above
.4046 bad in the NW
nnod=16
.4047 UT=11:40 X=1.37
.4048 (seeing is terrible!)
.4049 image wander
.4050 X=1.48

move shutter up
.4051
~~.4052~~ UT=12:21 X=1.56

7 Sep. 2002, continued

cer.4052 Ceres ("Asteroid 1") peak up Hz.
UT=12:30 X=1.123 setting
buffer toggle error pair 10

cer.4053 Switched to Co III setting UT=12:40:44
X=1.122
Guiding Pairs (1-4)

cer.4054 Focus: z=-4.6 UT=12:46:20, X=1.123
Excellent Data, all pairs.

hb12.4055 nsum=4 nnod=16 UT=12:54:50, X=1.421
nod=6"

hb12.4056 Moved 2"N UT=12:59:02, X=1.431

hb12.4057 UT=13:02:58, X=1.441

hb12.4058 UT=13:07, X=1.454

hb12.4059 UT=13:11:00, X=1.463

hb12.4060 nsum=6 UT=13:15:00, X=1.474

hb12.4061 nsum=4 UT=13:20:24, X=1.490

atau.4062 nsum=2, nnod=8 UT=13:28:24, X=1.200

atau.4063 nsum=4, nnod=8 UT=13:30:11, X=1.203

cer.4064 - Sat-meth setting 1231 cm⁻¹ 16 nodes
1.4" slit focus=-4.4 3 nsum
~~cer.4065~~ foundation pair 13
Something faint before

Cer.4065 nsum=4 airmass 1.184
wrong slit length little guiding - a slight drift
north

weird black line in pair #2
prob a cosmic ray in neg beam

Sat. 4066 4 nsum - 8 nnod
3.3" south position
ended early -

Sat. 4067 back to original slit length
3.3" S pos

good ✓ Sat. 4068 4" S pos moved 1.4 east
4 nsum 8 nnod after integration

Sat. 4069 nsum=4 nnod=8 moved 1.2 W, 2 N

Sat. 4070 nsum=8 nnod=8 moved .6 W, 9 N

16 n nod
32 Sat. 4071 nsum=8 nnod 16 moved .7 E

48 Sat. 4072 nsum=8 nnod 16 moved 1.4 E

16 Sat. 4073 4 North pos.
ended ^{early} were nodding South

16 Sat. 4074 4 North nodding 40 North
move 3.2 E 1.1 N

32 Sat. 4075 4 north move 1.0 E 0.1 N

48 Sat. 4076 4 north move 0, 0

forgot to
refocus Sat. 4077 C H₃
4 nsum - 8 nnod 4" south
~~nod~~ nod South -30
move 0, 0

Sat. 4078 nsum=8 16 n nod 4 South

Sat. 4079 " " move .6 E .7 S

Sat. 4080 move .4 E .2 S

Qui. 4081 focusing after pair 5. Done at pair 12
new focus z = -4.7

Sept 8 QZ, CK, TG, MR, LT, JL

[SIII] setup. 534.4 cm² Had to move echelon paraboloid 1/2 turn in blue direction as labeled on dewar.

aher. 5001 nod 10N Focus -4.7 pair 6 is bad. Bounce pair 10.
came in strong: ± 70 on sidebar

G29.96 [SIII] *These filenames have changed to g2996
scans North position. 2N sums.

* g29.96.5002 -8 E 3N
.5003 changed offset -10 E 3N
Bad sky noise; big drop during 3rd scan.
Moved 2.4 W to put star on crosshairs
.5004 still north position
Moved 1 W 0.5 S
.5005 South offsets -10 E 3 S. lots of sky var.
Moved 0.6 W
.5006

Pallas

pal. 5007 not very good
.5008 "
.5009 *
.5010
.5011 sky variation
.5012 found it on pair 7.

H₃⁺ 871 cm⁻¹ Moving echelon paraboloid 1/4 turn in red direction.

pal. 5013 Nod 5" ; no good at first. refocusing. z = -4.4
pair 12
.5014

Beta Peg

bpeg. 5015 something weird happened. good at pair 5.
.5016 moved N
.5017 scan 2.5 N to center source.
weird wiggles. Bounce and filter wiggles.
.5018

Uranus

uran. 5019 4 nsums. offset guiding
nodding on slit

.5020 8 nsum big sky var. pair 9
.5021 end of flat weird readout (may have to use previous flat).

.5022
.5023 Moved telescope 3.6 E checking bore sight
Moved 1.3 W 0.4 S

.5024 some clouds moved ^{telescope} 1.1 S 0.9 W after 5024

.5025 moved telescope 0.7 S after 5025

.5026 background increased; sky variations; didn't move

.5027
.5028 sky variations, moved 0.3 E 0.8 S

Pallas H₂(521) 814 cm⁻¹

pal. 5029 nod screwed up by guider. Turned off n pair 10
.5030 8 nods

Uranus

uran. 5031 cloud var. in first couple pairs. 6 nsum
moved 0.3 E 1.6 S

.5032 moved 0.8 E 0.6 S may be guider problem?
.5033 " " 1.6 E 1.3 S " " " "

.5034 not guiding a background increase
~ pair 2-4
big sky noise.

often

.5035 big sky var. moved .3 W 1.1 S
1 E .6 S

Track
rate at
12.30HST
15.0380 W
0.0020 S

.5036 sky var. first few pairs →
.5037 (1.2 E) some sky var. no move
.5038 .1 W .5 S " "
.5039 " "
.5040 " "
.5041 n nod = 8

bpeg. 5042 guiding pair 7 is getting good
5043 some guiding pair 6 on is good
5044 good

pal. 5045
5046 guiding: echelle grating may have shifted
guiding. pair 3 is good. pair 5 on good

uran. 5047 ended early nod imminent

uran. 5048 nsum=6, n nod=16
cloud pair 5
749.8 cm⁻¹

Ceres. CH₃ and C₂H₂ R(7) & R(8)
cer. 5049 guiding and focusing
cer. 5050

NGC 4538 IRS 1

ngc 4538 1 .5051 guiding; sky is "craptacular"
.5052 bounce; still guiding. sky going up.
.5053 bad bounce. off until pair 5.

.5054
.5055
.5056
.5057
.5058

Ceres

cer. 5059 glitch in flatfield. E; guiding until pair 6.
.5060 good

780.7 cm⁻¹ moved echelon 1/8 turn red C₂H₂ R(21) R(22)

cer. 5061 guiding
5062 background is rising

ngc 4538 1 .5063 nod 4"; guided through first 3 pairs. bounce
5064
5065
5066 cloud pair 5

cer. 5067

745 cm⁻¹ C₂H₂ R(5) & R(6)
 moved echelon another 1/8 red
 cer. 5068 guiding nsum=1; ~~nsam=1~~
 5069 ended early; ~~nsam=1~~ 1 nod pair
 5070

Saturn 4" S position

sat. 5071 moved tel. 1.9 W
 5072 0.3 W 0.8 N moved.
 5073 Nsum=8 didn't move ~~was~~ (remained at center)
 * TR Rates 15.0350 W
 0.0005 S
 5074 4" N pos.
 5075 " over two files 0.7 W 1.8 N
 5076 4" S 8 nod pair; didn't have to move

819.8 cm⁻¹ C₂H₆ moved echelon to a little red of center.

sat. 5077 5.5" S (0.8 E moved telescope)
 5078 12 nodes center. DC spike - pair 4
 cloud?
 5079 5.5" N (0.8 E moved telescope)

To get redshifted lines on planets => move West

cer. 5080 4 Nsum 3 N nod; guiding first couple pairs.

749 cm⁻¹ C₃H₈

cer. 5081 guiding
 5082

sat. 5083 Limb.
 5084 7.5 W offset. Nsum=4 Nnod=8
 Nsum=8 Nnod=16; we lost sat. around
 pair 6; got it back on pair 12.
 5085 moved 1.5 E 0.8 S
 5086 moved 0.6 E 0.2 S
 5087 didn't move.
 5088 moved 0.7 E

sat. 5089 center bottom half of planet.
 5090 4" S getting hot spot (S. aurora)
 0.3 E 0.6 N
 5091 4" N.
 5092

offset to Titan
 tit. 5093 4" S guiding during pair 2; 4" S
 guiding E-W thru pair 6.

CLOSED

Took off 2nd window

Sept 9 2002

Q2, TG, CK, MR, JL, LT

534cm² (S III) setting moved echelon ^{paraboloid} 1/2 turn to blue as marked on dewar. focus at z = -4.6

aher. 6001
6002
G53.92
g. 6003
6004
6005
scans.
Northern part
Nnod = 4 moved 0.9W
moved @ 1.9 W
6006 South position
6007 moved 1.9W
6008
moved telescope 0.1 E 1.0S
6009 North again

pal. 6010 nod, guiding moving S on pair 7 -
6011 guiding S on pair 10
6012 scan

1246cm² ~~1246cm²~~ moved echelon paraboloid back to center. ~~1246cm²~~
H₂S(4) (1/2 turn red)

pal. 6013 change focus and guiding end early

2 Lyr.
alyr. 6014 T = 3.6°C z = -4.2
pair 4 something went weird. move S on pair 7
bounce.

uran. 6015 nnod = 8 moved 0.3W 0.2S
6016 nnod = 16
6017 nnod = 10 .6W .2S
6018 "
6019 "

uran. 6020 Went to a 1.3 E 0.9 N centered from
is a pointing star EP Agr - old boresight

Sep 9 (cont)

uran. 6022
6023
6024
6025
6026
6027
6028
6029
6030
6031
6032
6033
6034
6035
6036
6037

.1W .7S moved tele
cosmic ray
checked & we were close
cloud variation - pretty bad
bounce
cosmic ray pair 11
clouds
clouds
.9W .2S
bounce
dead on
1.7E .5S

alpha cyg

acyg. 6038 changed temp 2.6°C - overdue for
ended early - change nod change

acyg. 6039 nsum = 2 nod = 3N
went to mu ceph focused to -4.4

mu ceph. 6040 2 nsum 4 n nod had to guide
B cet. 6041 good signal 1.6E to find it

(1.5")

uran. 6042 .7E .5S move
uran. 6043 .6E .3S move - changed diff rates
6044 .7E .2S move

North slit - planet receding at 4 km/sec
South slit - planet approaching at 4 km/sec

uran. 6045

Sep 9 (cont)
930 cm⁻¹ NH3

cer. 6046 guiding; not correct setting. Trash
 6047 5th order 931 CO₂ telluric guiding.
 6048 guiding
 6049 bounce moved 5 pair 11

Am = 1.5
 n753811. 6050 guiding, moving N, good at pair 12
 6051 pairs 10, 11 guider took 'em away?
 6052 guiding not great
 6053
 6054 turn off autoguider, + beam lock better now
 6055 Am = 1.6
 6056
 6057 um ~ 1.67
 6058 am = 1.678 really good pair 5

aaur. 6059 not peaked up
 aaur. 6060 - ended early

aaur. 6061 nodding 3" N
 10 sec int, Fowler mode

We will center on Saturn then offset 7.5" N for each observation

Sat. 6062 - ended early - int time too long
 6 pairs
 moved 1.1W 1.0N

Sat. 6063 working or think? moved 1N 0E
 Sat. 6064 14 nod, 10 sec int, 1 saum
 good rates no more needed
 sat. 6065 moved 0.8 E
 6066 [1.4 E, .3 S]
 6067 moved ↑ after 6066

Sat. 6068

6069 - didn't see sat cont in orders
 perfect no more (possible broadline shift)
 at ~ 1 airmass

Bori. 6070 nodding off slit
 6071 nodding along slit - crap - nothing
 6072 trash; barely got on obj at end.
 6073 got pair 4

6074 Using mostly negative beam
 6075 > trash
 aaur. 6076 good

Sept 10 2002

TG, Q2, JL, CK, LT

772.5 cm⁻¹ C₂H₂ R(17) R(18) (macro is correct for setting).

moved echelon to red (as marked on dewar) (not on blaze)

Focus Z = -4.3

after 7001 temp may have ~~at~~ temp - ~~at~~ echelle at 55.350

g12591. 7002 guiding; pair 11 good north-south, guiding first few pair

7003
7004
7005

780.7 cm⁻¹

g12591. 7006
7007
7008
7009

54.607 echelle
move S pair 5.

1246.1 cm⁻¹

63.067 echelle

g12591. 7010

7011
7012
7013
7014

need to focus Z = 4.2
we have changed tilt by 5/8 blue } not 2sec integ.
guided 1" N
end early

Bpeg

7015
7016

S(1) H₂ ammass 1.305

586 cm⁻¹

H₂ S(1)

uran.

7017
7018
7019
7020
7021
7022
7023
7024
7025

5" N rod air 1.312 .3 W .4 N
moved 0.3E .15
moved 0.5N

~~was~~ moved 2.2N after last 3 files
moved 0.1E 0.1N

changed rod to 5.5N"
also moved pos beam to South .2"

Sept 10 (cont)

this was done for file 7025 moved 0.6N 0.1W

uran. 7026
7027
7028
7029
7030

0.8N 0.1W
a little sky variation
sky varies on pair 9 moved 0.3E .7S
pair 8 clouds - bad clouds at end
moved 4W .25

~~7031~~

pal. 7031

all clouds - no data
pair 1 is bad; pair 2 OK (not great); ~~pair 3~~
clouds for rest of scan

cer. 7032
7033

CLOUDY!! a few good pairs nsum=2
nmod=8

772.5 cm
cer. 7034
7035
7036
7037

good!

780.7 cm⁻¹
cer. 7038
7039
7040
7041

background is climbing - still good

1246.1 cm⁻¹ H₂S(4)

n7538.1. 7042
7043
7044
7045
7046
7047
7048

guiding bad
where is it?

guiding; great signal.
1" on pair 7

cer. 7049
7050
7051

cer. 7052 setting to take care of 4CN19
772.5
focused in 2nd pair

2039 cm⁻¹ refocused z = -4

aur. 7053 nod off slit.
first pair really good
middle set not great
end great
ended early pair 5 (very good)

Sat. 7054 20 sec int moved 0.7W 1.2N
1.5" N of subearth pt

Sat. 7055 " " .6E 1.3N

Sat. 7056 moved 2.5E 0.75

Sat. 7057 moved 1.3E 0.5N

Sat. 7058 moved 1W 0.45

Sat. 7059 moved 0.6W 0.25

Sat. 7060 moved 0.1E 0.15

time 5:53

Beta Ori

Bori. 7061 8 nodes

Sat. 7062 8 nodes
Sat. 7063 "

2 ker 1/2 5(1) line
a ker. 8001

Sept 11 2002
3rd order H α line 587 cm⁻¹
sky variation z = -4.3
6 nod pairs

g 589.8002
g 589.8003
g 589.8004

Scan - clouds
clouds
think we're getting cont.

frame
got set to 2
g 2996.8005
8006
8007
8008
8009
8010

Nod = 4; ripples
scan 3 is good
scan - big sky at end
1st is good.
frame 39 or 50 has glitch
really good

Pallas
pal. 8011
8012
8013
8014

(we've had trouble peaking on Pallas
guiding; changing focus. no change
" " ± 20 peak @ 17 μ m.
cloud pair 6.

B β Peg

bpeg. 8015
8016
8017
8018

pair 11 glitch; guiding. had it last 2 pairs
OK
some bounce

uran. 8019
uran. 8020
uran. 8021
uran. 8022
uran. 8023
8024
8025

All these files have beta Peg as object name.
ended early; need to change nod to off slit.
moved 1.6E 1.2N
0.9E 1.1N

TRACE
RATES
15.0340 W
0.0015 N

8026
8027
8028
8029
8030

0.3E 0.8N
0.9E 0.5N
0.6E 0.5N
flat is bad 0.1E 0.3N
0.1E, 0.25
flat is bad(?) or mag^{pk} just not on right scale
0.1E 0.25
glitch. possibly due to fast frame rate
2.7W 0.15

11 Sep 2002 (cont)

changed rates
15.05600
0.0005N

Uran. 8031
8032

moved

0.1W

1.1S

Pallas

Pal. 8033

off the slit - couldn't find it due to poor focus!
can't find Pallas

Ceres

Cer. 8034

we weren't saving during data taking - cl copied new data - cer 8034
focused $Z = -4.7$ some clouds
changed etalon back to blaze

Uran. 8035

$Z = -4.5$ nod 25"N
1.2W 0.8S

Uran. 8036

moved 0.9W 0.6S

8037

8038

2.2E 1.2S

8039

moved 0E 0.3S

8040

changed int time to 1-sec
sky is climbing

8041

moved 2.6W

8042

sky is still climbing
" " during

8043

move 0.6W 0.1S

8044

8 num huge sky spike in beginning moved 1E, 1S
sky is terrible

8045

got better pair 9
pair 7 clouds picking up
crushed by clouds had still end

Cer. 8046

Cer. 8047

noded along the slit

530.5 cm⁻¹ SO₂

cer. 8048

refocusing; $Z = 5.1$ - got in focus about half way.
cloud in pair 1; some guiding

8049

8050

Sep 11 2002 (cont)

n7538il.

8051

guiding

8052

8053

8054

pair 11 big cloud clouds

8055

clouds

8056

8057

8058

pair 12 this is okay, bounce good one

8059

8060

8061

clouds again - get better towards end
clouds pair 6

867 cm⁻¹

NH₃ and CH₄

n7538il.

8062

8063

8064

8065

8066

8067

8068

8069

refocused $Z = -4.7$

clouds at end. clouds

cer. 8070

1238 cm⁻¹ CH₄ (Meth)

cer. 8071

8072

8073

guiding and focusing; cloud. ended on pair 10
clouds beginning and end good.
clouds at beginning - clouds

sat. 8074

southern pos 5.5"S; cloudy
moved 0.6E 1.1N; changing offset to 6.5"S
8 N nod better than previous
change offset to 8"S; moved to 3E, 0.1S
moved 0.8E 0.0N
N nod = 16 cloud it got better quickly
moved 2.1E 0.0N
moved 2.4E 0.0N

8075

8076

8077

8078

Sept 11 (cont)

Track sat .8079
 Rates 8080
 15.0310W 8081
 0.0005N 8082
 8083
 8084

6" S offset. ^{moved} 2.2W 0.1N
 4" S offset 0.4E 0.1N
 1" S " cloud pair 2; cloudy mid.
 0.3W 0.1N
 2" N big cloud pair 12
 5" N
 3" N cloud pair 1 one big cloud

Sept 12

QZ, CK, TG

after .9001 $\approx 1229 \text{ cm}^{-1}$ $Z = -4$
 1231 cm^{-1} echelle = 64.8 (on blaze)
 g12591.9002 clouds - but signal good
 claudia moved the echelle - we moved back for
 one more file
 g12591.9003 echelle = 64.792
~~9004~~ .9004 → echelle = 65.242 center wno ≈ 1225
 .9005 clouds even worse
 pretty crappy file
 .9006 better again
 .9007 echelle ≈ 64.297 center wno ≈ 1235
 clouds at beginning
 better by pair 5
 .9008 very good
 .9009 echelle ≈ 63.847 center wno ≈ 1239
 .9010 - a bit of cloud - better at end
 .9011 echelle = 63.390 center wno = 1245
 .9012 echelle = 62.955 center wno = 1250
 .9013
 .9014
 .9015 echelle 62.498 center wno =
 found red leak
 .9016 wno = 787 were focusing
 $Z = -4.6$
 changed focus to $Z = -4.7$
 .9017 echelle 53.873
 .9018
 .9019
 .9020
 .9021 807.5 cm^{-1}
 .9022
 .9023
 .9024

Ceres.
 Cer. 9025 computer stop reading data at pair 4
 9026 guide N-S on pair 7
 ends at pair 10, accident end
 9027 software jumped from 9026 to 9028
 9028
 9029 hit the end button by accident
 only 3 pairs
 9030 wn = 787.5, guide on the object
 9031

change wn to 1231,

9032 ~~mod=4~~ from guide on pair 4
 9033 guide on the source, N-S on pair 4.5
 cloudy on pair 10
 9034 computer hang up for no reason
 lost control of software
 9035 big cloud, bad file

again

~~band~~ 819.8 cm⁻¹ C₂H₂ z=4.3

cer. 9036 clouds, some guiding
 9037 pretty crappy

Saturn Through the Clouds

sat. 9038 -7 South pos. Ethane 819.8 cm⁻¹
 really cloudy
 echelle 50.910

Sat. 9039 echelle - 51.338 ≈ 814 cm⁻¹

Sat. 9040 echelle - 51.810 ≈ 809 cm⁻¹
 moved 1W, 1S
 big cloud

Sat. 9041 echelle 52.245
 .9042 again better
 Sat. 9043 Q branch C₂H₂ 730.5 cm⁻¹
 Sat. 9044 offset 0-2 - good file
 Sat. 9045 disk center 0,0
 not good - nothing but
 moved a ton - off planet - cloudy
 try again

Sat. 9046

To much water { Sat. 9047 CH₃ 548.2 cm⁻¹
 center bad sky
 Sat. 9048 3 South moved west 3.1'
 Sat. 9049 CH₃ 568 - moved south 3' on pair 6
 Sat. 9050 C₂H₂ -744 3" south pos
 ended early

Sat. 9051 967 cm⁻¹ bad sky
 ended early nothing

Sat. 9052 CH₄ setting - look for SiO int to short

Sat. 9053 3 sec int

tit. 9054 C₂H₂ ended early

This is way to much.

I Give up. The sky has won.

Sept 15 2002

CK, QZ, JL, TG

807 cm⁻¹ Hum alpha z = -4.1
aher. 1501

flat mode
(only flats)

- Moon. 1502
- 1503
- 1509
- 1505
- 1506
- 1504
- 1508
- 1509

- sky. 1510
- 1511
- 1512
- 1513
- 1514
- 1515
- 1516
- 1517

object still called moon & only flats.

sky. 1518 state mode

moon - 1519 "

gl 2591. 1520 nod mode
1521

930 cm⁻¹ NH₃

gl 2591. 1522 guided N-S pair 15
1523 guiding NS pair 2-3;
1524
1525
1526
1527
1528

pal. 1529
1530

2055 cm⁻¹
vega. 1531
1532

Fowler mode

gl 2591. 1533
1534
1535

glitch in redd out pair 15

n 7538. 1. 1536
1537
1538
1539
1540

changed integ. time bk of saturation
to 105

glitch

change in wavelength
n 7538a. 1541
1542
1543

Ne II n 7538a 780 cm⁻¹
Southern pos.

1544 - forgot to focus - refocused on FRS1
1545 - same pos as above but focused

1546 middle position

1547 north position
1548 - a little more north 1"
1549

Beta And.

band 1550
1551
1552
1553
1554

2 scans
guide camera got in the way
" " " " "

n nod = 4

z - 4.4 951 cm⁻¹ S IV line scan
1555 2 nod
1556 4 nod

n 7538a. 1557
1558
1559

S IV map
-15E 9N

South pos.

n7538a.1560 -15E 7N Ar III 1112
 .1561 -15E 11N broader weak
 .1562 " " 4 nod
 .1563 " " "
 .1564 -15E 16N 4 nod
 .1565

Beta And
 Band.1566 4 nod
 moved W between scan 1+2
 SIII setting 534 cm⁻¹

Band.1567

n7538a.1568 -15E 13N
 n7538a.1569 -15E 2N
 " .1570 -15E ~~8~~ 9N
 " .1571 -15E 17N
 .1572

~~Ceres~~ 930 MHz setting

Cer.1573 Z = -4.3
~~Cer.~~ CH4 setting
 Cer.1574

Saturn methane

South position

Sat.1575 4 nsum 8 nod moved 2.5W, 5S
 5" S 40" S nod
 Sat.1576 4 nsum 8 nod good position
 6" S moved
 glitch pair 1.0W, 5.8N
 Sat.1577 6" S
 32 Sat.1578 8 nsum 8 nod 1.7W, 4N
 8 nsum 16 nod moved 1.4E 0.6N
 6" S
 43 Sat.1579 8 nsum 16 nod moved 0.6W 0.2N
 6" S

16 Sat.1580 8 nsum 16 nod moved 1E 0.8N
 32 Sat.1581 3" N 8 nsum 16 nod 1.8E 0.7N
 48 Sat.1582 5.5" N 8 nsum 16 nod 3.2E 0.9N
 16 Sat.1583 3.5" N 8 nsum 16 nod 4.0E ~~0.8N~~
 32 Sat.1584 ~~8~~ -1N (17 pairs) 8 nsum 16 nod 0.6E 0N
 Sat.1585 8 nsum 16 nod perfect
 Sat.1586 0 N
 Sat.1587 6" South 1.3E 0N
 Sat.1588 3" South 1.1W, 2S
 Sat.1589 0 South 0.4N 0W
 3 North

Sept 14 2002 CK, QZ, TG, JL

Hux aher. 2501
 2502
 g2996. 2503
 2504
 2505
 2506
 2507
 2508
 2509
 2510
 2511
 2512
 2513
 2514
 2515
 2516
 2517
 2518
 pal. 2519
 2520
 2521
~~2522~~

806 cm⁻¹
 2 scans -12E -4.0N offset
 4 scans
 -12E 0N
 -7E 0N
 " "
 -7E 4N
 " "
 " "
 Temp = 277.9
 nod made -10E 0N rnod = 8
 (End at 7th pair) rnod = 16
 guiding

scan offset -7E 0N
 scan -5E 0N
 move 0.7" N after 2nd scan
 nod 10" W

EP Agr
 all data taken with 1 sec int
 epagr. 2523
 epagr. 2524
 epagr. 2525

nod
 focusing
 z = 4.1 - pair 3 on a good
 focused more
 z = 4.3

Uranus
 2 sec int 44 num
 Uran. 2526
 Uran. 2527
 Uran. 2528
 Uran. 2529
 Uran. 2530

nodding off the slit moved 1.7E, 2S
 moved .9E 0.2S
 moved 0E 0.2S
 16 nod 0.1W
 a little sky variation good

530.5 cm⁻¹
 gl2591. 2531
 2532
 2533
 2534
 focusing and guiding z = 4.7

cer. 2535
 .2536
 echelle shift when moved to new obj. shifted echelle to match gl2591

730 cm⁻¹ C₂H₂ Q-Branch change focus z =
 cer. 2537
 2538

gl2591. 2539
 2540 moved N on pair 3
 2541
 2542 some bounce.
 2543

cer. 2544 ended early.
 2545 "
 2546 " good starting pair 7
 2547
 2548

1280 cm⁻¹ CH₄ P(4) and P(5)
 cer. 2549 focus z = -4.3
 2550 some bounce

n753811. 2551
 .2552 guide N/S - pair 5 on a good bounce
 .2553 guide N/S - first 3 pairs with guide vates
 .2554 bounce

Ceres 2555
 2556
 2557

Ceres. 2558 807.5 cm⁻¹ z = -4.5
 2559
 2560

n753811. 2561 guiding
 2562

n75381.2563
2564

820 cm⁻¹ C₂H₆

n75381.2565
2566
2567

sat. 2568 South pos OE - 6^N 23 pix keep 3-21 spice = 40
 moved 0.4W 0.5N
 2569 offset OE - 4^N moved 1.0W 0N
 2570 offset OE - 1^N pos. moved & moved 0.6W 0.3N
 2571 offset OE 2N moved 0.3W 0.3N
 2572 offset OE 5N moved OE ON
 2573 offset OE 7N moved

TR
15.0314W
0.0001N

cer. 2574 end early
2575 " (4 pairs)

548.3 cm⁻¹ CH₃ overlapping order
53 pix keep 10-45
spice = 20

cer. 2576

sat. 2577 offset OE 0N
moved 0.0E 0.5N

sat. 2578 offset OE - 3N

sat. 2579 offset OE - 5N
2580 moved 1.0W 0.6N
offset OE - 5N

2591 moved 1.4E 1.0N

749 cm⁻¹

cel. 2582

34 pix keep 5-30

Sat. 2583 offset OE - 5N moved OE 0.5N

Sat. 2584 " " " "
2585 " " " "

0.6E 1.8N

negative
star offset?

Sat. 2586 OE - 5N

Sat. 2587 OE 2N

Sat. 2588 OE 2N

Sat. 2589 OE 2N

Sat. 2590 OE 2N

moved 0.6E 0.6N

moved 1E 0.4S

Q branch L₂ Hz setting 731.2 cm⁻¹

Sat. 2591 OE 2N

Sat. 2592 " "

Sat. 2593 " "

Sat. 2594 OE - 5N

Sat. 2595 " "

moved OE ON

moved 0.7E 0.5N

Change focus from Z-4.7 → Z-4.6

Sat. 2596 " "

Sat. 2597 OE - 1N

Sat. 2598

moved 1.9W 0.6S

moved 0.8W 0.6S

spice = 20
39 pix keep
6-35
focus
not so
hot

15 Sept

0321
Matt, 0321

1960 cm⁻¹

Resolution test at ~5um.
20s. integ. 8 nod.

1001
1002
1003

Decreased pressure
1st frame high pressure.

1004

completely pumped
filter = 66.120

1005

dark

1006

10s. int

Fowler mode

1007

10s. int. dark. Didn't like Fowler
shut down program. mode

2169 cm⁻¹

1008

empty

1009

C2H2

1010

less pressure 1st frame at high P

1011

2018 cm⁻¹

H2O

1012

20 s. we weren't pumped.

1013

1st frame was from not being
pumped.

1014

1015

- Pressure should be building

1016

- pumping as we go (1st frame not good)

1017

lots of H2O

1018

pumping again.

1019

pumped more.

1918 cm⁻¹
1020

Matt, 1021
2355 cm⁻¹

blackbody at 1918 cm⁻¹

1022

blackbody not good b/c

1023

ended nearly

header is wrong
peaking up CVF on
object
and
feature

1024

blackbody

1025

"

1026

CO2

1027

pumped CO2

1028

pumped more

1029

1030

CO isotope is gone.

C2H2 @ Branch long slit mode

1031

1032

0.2 sec. int.

S

N

1033

0.1 sec. int.

5000

N=2 except water

1034

9000

2.5

*In long slit mode always use 0.1 sec. integration
time b/c. of non-linearity.

1034

~~1034~~

Vdet = -4.0

Vdet = -4.5V see noise in
oscilloscope but not in Wallace display

Cross dispersed mode (headers say wrong)
object

1035

we see noise in Wallace disp. grainy.
still at Vdet = -4.5

1036

Vdet = -4.2

500-1400

10-20

1037

Vdet = -4.0

~1000

.5-3

Long slit mode.

1038

junk.

1039

Vdet = -4.0

10000

3-8 (on fringes)

1040

-4.2

13,000

4-20

met. 1040 Vdet = -4.2 Object name is wrong!
 1041 Vdet = -4.2 N bias is not 4.0

Dec. run start - day of testing & focus
 /data/dec0215
 Vac.0002 1.4" slit, 731.5 cm⁻¹, Qbran, no gas, 8 nodes storemode
 Vac.0003
 C₂H₂.0004 C₂H₂ change schelle angle so
 at nominal focus 8 nodes Vac.0002 + 0003 won't serve
 C₂H₂ gas Wno = 731.5 as background for this
 C₂H₂.0005 Same as above
 C₂H₂.0006 2 TURNS IN ON PARABOLOID stretch less than
 C₂H₂.0007 ~~XXXXXX~~
 C₂H₂.0008 4 TURNS OUT (2 FROM IN IT. POSITION)
 C₂H₂.0009 4 pixels
 C₂H₂.0010 NOMINAL POSITION (2 BACK IN)
 C₂H₂.0011 VAC
 C₂H₂.0012 VAC
 C₂H₂.0013 1.4" SLIT ~~WNO = 729.15~~ WNO = 729.15 cm⁻¹
 C₂H₂.0014 1" SLIT
 C₂H₂.0015 0.8" SLIT
 C₂H₂.0016 2" SLIT
 C₂H₂.0017 3.1" SLIT
 Vac.0018 empty gas cell 3.1" slit