

24 Dec 2003 SH, MR

In /data/dec03/test

Doing focus at C₂H₂ Q branch wave_{no} = 730.5 cm⁻¹
slit = 1.4". Gas cell has residual C₂H₂.

vac.0001

focus.0002 Let C₂H₂ outgas w/ pump on.

change slit width to 1.0". Redo vac.

vac.0003

focus.0004 nominal focus

.0005 +2 turns (2 turns in). flushed gas cell once
6 -2 turns flushed once

Best so far was -2 turns. Try 0, -1, -2, -3, -4

focus.0007 nominal focus

.0008 -1 turn (-1) flushed gas cell, added acetylene, flush.
.0009 -1 turn (-2)
.0010 -1 turn (-3)
.0011 -1 turn (-4) @ -4, need to flush

work way BACKWARDS FROM ABOVE

focus.0012 same (-4)

.0013 +1 turn (-3)
.0014 +1 turn (-2)
.0015 +1 turn (-1) → seems to be best after analysis
.0016 +1 turn (0 → nominal focus)
going to -1

Do line profiles.

c2h2.0017 0.8" slit

.0018 1.0" slit

.0019 1.4" slit

.0020 1.4" slit

21 2.0" slit

22 3.0" slit

vac.0023 3.0" slit

24 2.0" slit

25 2.0" slit

3.6 pixel FWHM
~~3.0~~ 3.7
took only 3 frames
4.0
4.0
5.0
7.2
flushed gas cell 3 times
hint of line. flush 3 times. do again

vac.0026 1.4" slit
27 1.4" slit
28 1.0" slit
29 0.8" slit

faint line. flush. do over.

Go to 1318 cm⁻¹ see 2 H₂O + 2 C₂H₂ overtone.

c2h2over.0030 0.8" slit

.0031 1.0" slit

32 1.4" slit

33 2.0" slit

34 3.0" slit

35 0.8" slit

object called 0.8"
seeing more C₂H₂

vac.0036 0.8" slit

37 1.0" slit

38 1.4" slit

39 2.0" slit

40 3.0" slit

check for pressure broadening
flushing each time. H₂O stays.

Goto

~~1900~~ 1901 cm⁻¹ for Krasno's setup.

Tried order = 10 3.4" long 1.0" wide slit ~20 orders and
order = 11 5.7" (maybe 6.9") long 1.4" wide slit with ~12 orders.
decided coverage more important.
Found 2 H₂O lines 1/3 of detector to lower freq.
Took line profile.

NO.0041 3.4" long 1.0" wide v₂ ~ 1897 cm⁻¹

Found H₂O line ~1260 cm⁻¹. Do full gas cell there.
MOVED FILTER 0.6° → looks cleaner
IT TIME ~ 2s

h2o.0042 0.8" slit

h2o.0043 1.0" slit

.0044 1.4" slit

.0045 2.0" slit

.0046 3.0" slit

Found H₂O lines near 797 cm⁻¹.

h2o.0047 3.0" slit

.0048 2.0" slit

.0049 1.4" slit

.0050 1.0" slit

contrast not very good FT TIME = 1s
h2o.00091 0.8" - faint

→ deliberately at edge of filter

λ	lines	slit	λ	591.5 cm^{-1}
00.0052	0.9"	slit		
.0053	1.0"			almost no gap BTWN orders
.0054	1.4"			
.0055	2.0"			overlapping of orders?
.0056	3.0"			

H_2O lines NAK 526 cm^{-1}

020.0057	3.0"	slit
.0058	2.0"	
.0059	1.4"	
.0060	1.0"	
.0061	0.8"	

ECHOSORB $\text{WVNO} = 920 \text{ cm}^{-1}$ PUPIL IMAGING

pup. 0062
.0063

12/26/03 CHECKING FOCUS / LINE PROFILES AGAIN

C2H2 .0064 gas cell 4? slit 220.
.0065 -1.5 turns (optimal focus?)

UNSURE WHERE WE ARE w/ FOCUS → START FROM HERE

C2H2 .0066	-1.5? turns
.0067	0
.0068	-3 → seems best after analysis → keep going
.0069	-4.5
.0070	-6?
.0071	-7.5?
.0072	-6 BEST FOCUS (?)

DOUBLE CHECKED w/ PIPE. SEEMS GOOD

.0073	0.8"	3.3 pixels FWHM
.0074	1.0"	3.3
.0075	1.4"	3.7
.0076	2.0"	4.7
.0077	3.0"	6.8
.0078	0.9"	3.3

vac. 0079	0.8"	Slit
.0080	1.0"	
.0081	1.4"	
.0082	2.0"	
.0083	3.0"	

27 Dec UT SA, BG, MR

pupil mode off set so seeing taped part of spider

pup. 1000

After much playing. Got it ok.

Pup. 1001

MOVED HEXIPAD :

- u = 0.0133
- v = 0.0066 (default position)
- v = 0.009
- Focus z = -4.5
- Temp = 2.1 °C

w₀ = 812.5 cm⁻¹

tipped Echelon Dispersion screwdriver over
moved it 814.041 is at edge of order

6:25 UT atau.1002

atau.1003

(slit → 240)
For CAPS. (slit → 230)
Peaking up spacing pair 4
(in middle @ beginning)

pat. 1004

(went to pallas)
slit = 1.4"

~~Echelon~~ CROSS DISPERSION SHIFT → GOING TO FIX

Lots of alignment problems. parabolooids shifted going to Pallas. Operator added to problem. Went to imaging echelon orders to realign. Think it's right.

Go to Capella.

MOVED ECHELON DISP. SCREWDRIVER
FEATURES MOVING TOWARDS BLUE
Temp = 1.2 °C
z = -4.7

aaar . 1004

.1005

.1006

peaking at start. Good at pair 6
3" slit for flux. Lost an order. High in slit.
Move S 0.5" & do 1006. peaking. Good at pair 7

Go to T Tau. Move slit back to 1.4". Adjusted echelle to get order back.

Hauq. 1007

optical reset mode
CAMERA MODE
IMAGING ~ 11.5 μm
offset guiding. Stopped after 8 rows.

Going to hi-med mode, opti-star 1

10:50

Hau. 1008

Back to NMOD = 16, hi-med. moved grating to I25 on sidebar at start, moved grating to keep order

.1009

.1010

.1011

pair 15 is bad. pair 16 is positive only.
Guider jumping due to FUZZ? Guider off
Guiding at start. OK at pair 4. Good at pair 6.
Guider back on ~ pair 9. pulled north. skip 9-12
Fringing in accum.
peaking ~ pairs 5-6. More peaking pair 11.

11:30 T=0.6

z=0.6

.1012

.1013

.1014

.1015

.1016

pair 4 lost negative
H₂O variation increasing
3" slit. peaking pairs 5-7

Guide star at -244 +200

Go to BN. focus = -4.9 T = 0.6 C

bn. 1017

1.4" slit. stopped after 12 falling off at end. Peak up afterwards

offset 6"E -7.5"N to be on source I

12:10

hot. 1018

nodding 100" S. offset guiding. see continuum & line.
stopped after 13. Goto 2" slit.

hot. 1019

1020

BN done with 4" N nod. Did not center BN in slit NS.
H₂O variation. Line is well off.

Back to BN. Came right in.

bn. 1021

2" slit.

Go to α Tau for boresight.

atau. 1022

1.4" slit. move S during pair 7

27 Dec 2003 (cont'd)

Go to LK Ca 15. offset guiding

lkca 15. 1023 } nada
.1024 }

Go to AB Aur.

1:10 MST
 $z = -0.06$ abaur. 1025 offset guiding, some bounce.
.1026 $z = -5.0$. low signal through pair 5
.1027
.1028
.1029
.1030
.1031 some guiding
.1032 slight bounce

Go to Procyon

acmi. 1033 $z = -5.0$. moved S during pair 2
Peaking. Guider video flaky ~ 10-13
.1034
.1035Go to ζ CMa ζ cm. 1036 very bright. offset guiding.
.1037
.1038 seeing causing slight variations

Goto KH 15 D. Bright HD star to south.

kh15d. 1039 no continuum. Offset guiding. sky variations.
.1040 no line

Go to Ceres

cer. 1041 peaking at start & all the way through

Go to β Gem $T = -0.4^\circ\text{C}$ $z = -5.0$ bgem. 1042
1043
.1044
.1045

offset guiding. moved S during pair 2. something wrong here

Go to Saturn for line profile

sat. 1046 on ~~equator~~ central meridian below rings. Modeling 60 N
~~stopped~~ Good resolution test

Go to Titan for line profile

tit. 1047 Good resolution test

Go to α Hyaahya. 1048 Move N during pair 3-4
1049
1050Change to 587.032: H_α S(1). Move to IAC + 10216.
Echelon still tipped so seeing to red. $\text{Mad} = 6''\text{N}$

i10216. 1051 maybe see absorption

Go to Ceres

cer. 1052 peaking at start. good at pair 5.
.1053 skip pair 7 (glitch in 13).Go to Jupiter for line profile test. on central meridian near
equator. Jupiter tilted relative to NS. Modeling 75°N

jup. 1054 Line clearly there

Go to Ganymede

JAN. 1, 2004

SH, CH, ROM, RJS, RMJ

In data/decos/32/

C₂H₂ Q-BRANCH LINE PROFILES

C ₂ H ₂	Slit	FWHM
.1055	1.4" slit (240.)	4.1
.1056	2.1" slit (260.)	5.0
.1057	1.0" slit (220.)	3.8
.1058	0.8" slit (200.)	3.8
.1059	3.1" slit (280.)	7.3

(instead of C₂H₂ named junk)

go to 1318 cm⁻¹

C ₂ H ₂	Slit	FWHM
.1060	(200.) 0.8" slit	4.7(?)
.1061	(220.) 1.0" slit	4.7
.1062	(240.) 1.4" slit	5.5
.1063	(260.) 2.1" slit	6.6
.1064	(280.) 3.1" slit	8.3

no → 1921 cm⁻¹ FOR KRAMO

ORDER = 11 ~12 order w/ slit 6.9" x 1.4"

-played w/ filter: best signal @ 62.94° (CVF)

No.	Slit	Notes
1065	6.9" slit	(order = 11) (Broad-should have been pumping)
1066	5.7" slit	"

H ₂ O	Slit	Notes
.1067	0.8" slit	(it time = 4s)
.1068	1.0" slit	
.1069	1.4" slit	
.1070	2.1"	
.1071	3.1"	

BACK TO NO to see if pumping helped line

No.	Slit	Notes
1072	5.7" x 1.4" slit	(better profile) <u>overlap</u>
1073	6.9" x 1.4"	

overlap: used echelle setting from 12/24: 57.158

using default: 67.015 echelle setting

peaked up cvf: 62.34

No.	Slit	FWHM
1073	5.7" x 1.4" slit	5.7 FWHM
1074	6.9" x 1.4"	5.7

go to 797 cm⁻¹

H₂O line

H ₂ O	Slit	FWHM
.1075	.8" slit	3.3 pix
.1076	1.0"	3.4 pix
.1077	1.4"	3.9 pix
.1078	2.1"	5.0 pix
.1079	3.1"	7.1 pix

go to 592.5 - 591.5 cm⁻¹

H₂O line

No.	H ₂ O	Slit	Notes
7A	.1080	3.1" slit	(border) - very intense overlap?! Definite overlap w/ default echelle setting (53.664)
55	.1081	2.1"	
53	.1082	2.1"	
48	.1083	1.4"	
4.7	.1084	1.0"	
4.6	.1085	0.8"	

changed filter ~~to 299~~ to 299. No overlap much better!

(forgot to change object to correspond to slit sign in header)

No.	H ₂ O	Slit
74	.1086	3.1"
5.6	.1087	2.1"
4.8	.1088	1.4"
4.6	.1089	1.0"
4.4	.1090	0.8"

go to 526 cm⁻¹ H₂O line

No.	H ₂ O	Slit	Notes
6.8	.1091	0.8" slit	Clipping on bottom
7.1	.1092	1.0"	
7.5	.1093	1.4"	
8.5	.1094	2.1"	
12.0	.1095	3.1"	

→ RECREATING 12/24/03 ECHOSORB TEST without ECHOSORB → 920 cm⁻¹ pupic image

pup. 1096 (same settings as pup. 0062, 0063) - USED WRONG OPTIFLARE - looking @ gas cell N₂O + REDO

CHANGES IT TIME = 0.0588 s (instead of 0.1)

→ pup. 1096 Now w/ ECHOSORB + 2 use pup. 1099 .1100 Needle pulled out →

ECH 5.0 RB (cont.)...

pup. 1101 No ZASC (some foggy on KBr)
 1102
 test. 1103 WVNO = 962 cm⁻¹, 15 NH₃
 check to see if PIPSE
 can handle order separation

5 Jan 2004 UT RM, TG, DG, MR

at 1400 cm⁻¹ for testing Mars Fowler routines.
 Mars Fowler flat is 6 blacks + 1 sky
 Fowler mode
 1.4" slit by ~6.9" long

marstest. 2000 - software didn't quite work

1.4" slit 6.9" long
 - water vapor - continuously pumping
 nsum = 2 nmod = 8 / 10 sec Int.
 gascell. 2001
 gascell. 2002 nsum = 1 nmod = 4 "
 gascell. 2003 " " " " 1" slit - 6.3" long
 2004 → may not of waited for first frame
 ditto setup
 2005 nsum = 2 nmod = 8

marstest. 2006 new version of software worked a little better.
 problem was that we weren't connected hadn't
 defined telescope commands.

2007

dark. 2008 & minor at 3V volts
 1/2 sec int
 2009 1 sec
 2010 2 sec will repeat just in case didn't
 wait long enough.
 2011 2 sec
 2012 4 sec 8 nmod
 2013 8 sec
 2014 16 sec
 2015 32 sec

6 Jan 2004 MR, TG

pup. 3000
3001
3002
3003

pup. 3004 clear sky / no ZNSE / after improvement

Beta Peg
~1150 cm⁻¹

bpeg. 3005 pair 7 is good before is bad

~1900 cm⁻¹ peaked up cvf 1.0" slit order 11 z=-4.5
bpeg. 3006 nod mode. didn't want to go to Fowler.
negative beam almost off.
guiding. good at pair 7

Go to Mars. center with TV + move 1" W 0.8 N.

mars. 3007 software error. junk.
3008 Fowler mode. 9s int. Gain = 50
Using Mars fowler flats: 6 blacks + 1 sky
guiding after pair 5

Software Error - We don't think we were on Mars

not using Mars Fowler flat.

mars. 3009 skip pair 4
3010 pair 6 is low. Dome may be occulting slightly.
3011 read in mars fowler flat.

NO lines are supposed to come in at:

1903.03 cm⁻¹
1900.65 cm⁻¹
1896.84 cm⁻¹

3012
3013
3014
3015

cal wheel may not be centered.
didn't return after flat
We now have negative mars
pair 4, 5, 6 are bad.
stopped after 6.
mirror in to watch. junk.
mirror still in to watch.
mirror out.

T=274.7 K

1.9 W 0.4 S from center

~~274.9~~

3016
3017

low signal for 1-4

T=274.9 mars. 3017
3018

Go to the moon. Near North limb. 60" N nod. 8 pairs

Moon non-linear cut from time

moon. 3019 mirror in for part of first black
moon is 3x brighter than black.

3020 create moon fowler flat with 32 blacks
stopped after 1.

Tried 9-sec int time. It's okay

moon. 3021

H2 S(1) 58 @ 6.3

atau. 3022 moved orders to the blue z=-5.0 Temp=274.5
gain at 100 - oops! ended early
gain=25

3023 peaking. skip=1-5
change to 3" slit for flux calibration
3024 1/2 sec Int peaking

dg tau

changed slit back

dg tau. 3025

Int time = 1 sec. no offset guiding
very faint.
water variation.
ended early - gave up after 11

T Tau. 3026

have a guide star!

3027
3028
3029
3030
3031

peaking up through pair 5
very good
some bounce pair 10
3" slit 0.5 s frametime
peaking pair 4, 5, + 6

6 Jan (cont'd) (Dec 37)

Go to Ceres. slit back to 2". frametime back to 1s

cer. 3032 guided south on 2nd pair falling a bit at end

ab - Aur

abaur. 3033 wide slit
 .5 sec Int
 bounce pair 3
 peaking pair 6
 done peaking at pair 9

Saturn

still H₂ S(1) line

Sat. 3034

Go to Titan

t.it. 3035 got it pair 7

Ceres 962.5 cm⁻¹ NH₃ setting - moved orders red
 gain = 50 Temp = 274.4 light leak - going to CVF Z = -4.6
 Cer. 3036 ~~chose~~ chose slightly off peak of CVF due to
 a spec on the filter at the peak
 moved N during pair 11, 13, 16

cer. 3037 nod reduced to 3.5" N

Go to Saturn. eyeballed for ~2" S of sub-Earth point

30" S nod
 sat. 3038 2 minute integration per IE .5 N moved to recenter
 .3039 OE ON
 .3040 0.8 E 0.7 S
 .3041 1.7 E 0.6 S

Go to Moon north limb. 60" N nod

moon. 3042 some light from moon in off
 .3043 120" N nod. still a bit. declare good enough.

Back to Saturn. nod 40" S

sat. 3044

sat. 3045

sat. 3046

.3047

.3048

.3049

.3050

.3051

.3052

.3053

.3054

.3055

.3056

.3057

.3058

.3059

OE ON
 didn't check
 3.3 E .6 S
 1.2 E 0.4 S
 0.7 E 0 S
 0.4 W 1 S
 2.8 W 0 S
 0.6 W 0.3 S
 OE OS
 0.6 E 0.2 S
 1.4 E 0 S
 1 E 0 S
 0.4 W 0 S
 2.2 W 0 S
 0 W 0 S
 0.6 E 0.3 S

Callisto

19 um 530 cm⁻¹ Z = -5.1 T = 274 530.409 in 3rd order

cal. 3060

cal. 3061

gain = 50 ended early
 gain = 25 moved S 1" before data

Io

io. 3062

.3063

.3064

.3065

.3066

.3067

.68

peaking early, but basically on it. Low on the slit
 move N 2" before 3063
 glitch pair 2
 moved it a little north
 good set

Callisto

cal. 3069

6 Jan (37 Dec) cont'd

Back to IO

Io. 3070 moved S ~0.5" during pair 2 pipe gets 3 orders nudged focus to ≈ -5.2 Temp = .2 C

- Io. 3071
- 72
- 73
- 74
- 75
- 76

eclipse with Cam. ended early after 2

Callisto

cal. 3077

Arcturus

moved orders to the blue 884.5 cm^{-1}

aboo. 3078 good by pair 4 stopped at pair 14

7 Jan (38 Dec) 2004 MR, TG

Go to α Tau. toward red. 816 cm^{-1} . Tip echelon screwdriver to look $z = -4.8$ 2.2°C windy

atau. 4000 half orders top + bottom operator error. junk.

atau. 4001 moved echelle wide slit flux standard

Go to AB Aur with wide slit

abaur. 4003 peaked up through pair 6. bounce: pair 11 1 mm H₂O

Go to V892 Tau

- 5:50 UT V892. 4004 no guide stars. peaking pairs 1-6 4.25 min per
- 4005
- 4006 guiding at start
- 4007
- 8 guiding at start
- 9
- 10 guiding at start
- 11

change to wide slit 0.5 sec int.

v892. 4012 peaking throughout

Go to RY Tau with big slit + 0.5 s frametime

rytau. 4013 autoguiding. peaking through out

Change to 1.4" slit + 1 s frametime

- 6:55 UT rytau. 4014 skip 1-6 slight bounce. 1st deriv 4.25 min per
- 4015
- 4016
- 17
- 18
- 19
- 20
- 21

7 Jan (38 Dec) cont'd

Go to Capella.

aur. 4022 guiding. moved S during pair 2.
good by pair 7
playing with focus pair 9-13 $Z = -4.8$ $T = 1.6^\circ C$

.4023
24 checked boresight at end
25 3" slit 0.5s frametime. peaking by ~0.5" throughout

Go to IRAS 04278 using nearby pointing standard.
visible object. Looks like a binary: EW.

8:25 UT 104278.4026 wide slit. 0.5" sec frametime. offset guiding
peaking throughout. skip pair 5
.4027 1.4" slit. 1 sec frametime. peaking at start.
skip = 1, 2, 4, 11-16
peaking pair 11-16, skip 3
only 1 mid IR source worth staying on [no other seen]

.4028

.4029

30

31

32

33

34

35

peaking during pairs 8-9
 H_2O lines vary somewhat

25 mph winds, accum looks digitized
Looks like bright one was MIA.

Go to GG Tau. Found guide star. visually checked boresight.
Then take data.

4" Mg at 10 μm 1.2" at 12 μm ggtau.4036 see continuum after 12 pairs. maybe 2 pixels ^{lower} higher than last source

4037

38

39

40

41

don't see continuum in accum
stopped after 12 pairs
visually checked. seeing is bad
see continuum.

42

43

44

came back to 0.6" E at end.

$T = 0.8^\circ C$

Go to Ceres

cer.4045 peaking + focusing $Z = -5.0$ $T = 0.7^\circ C$

Go to HST 10. offset from SAO star. Go to theta O'c
offset to HST 10(?) 26" E 540" N
nothing on TV

hst 10.4046

auto guiding. possible continuum. low on slit.
move 1" N after 4046

.4047

moving E + W 1" during integration

.4048

saw nothing obvious. Go back to nominal on pair 14
nothing obvious

Go to GM Aur

gmaur.4049 didn't see on TV. Need better coord.

Go to fuori

11:30 UT fuori.4049

auto guiding. see continuum ~~24~~
peaking through pair 7
Things look a little digitized in accum.

~~4050~~

4050

4051

glitch pair 7

52

53

54

55

56

seeing? try peaking

Go to Ceres. Tilt grating for Mg I ← not yet. do another
 H_2 atmospheric calibrator

cer.4057 stopped after 8. high on slit.

Tip echelon for Mg I. Moved so see to blue.

cer.4058 feature still H_2 . Too much guiding. Do again
4059

7 Jan (38 Dec) cont'd

Go to Procyon $M_{\gamma} I$ 918.06

12:39 UT

acmi. 4060 peaking early. moved 5" during pair 5
 4061
 62
 63

Go to β Gem

bgem. 4064 peaking early
 65

Go to Callisto first for another $M_{\gamma} I$ divider

cal. 4066 peaking through pair 6. glitch in pair 12

19 μm 530 cm^{-1} SO_2
 $T = 0.3 \text{ C}$ $Z = -5.3$

Cal. 4067

Go to Io

io. 4068 good
 69 moved 0.6" N on pair 4
 70
 71 lower signal at end.
 72 low signal at start
 73
 74 pair 15 was low signal
 75 pair 11 low

Back to Callisto

Cal. 4076

Back to Io

io. 4077

$T_{\text{platform}} = -1.1 \text{ C}$ not sure if other T's
 are dome or mirror.

io. 4078

.4079

80

81

82

83

84

85

86

flat seems odd. use previous

glitch in pair 5
 moved 0.8" S before 4082. pair 4 is low
 glitch in pair 5. shift south helped.

low at start

Back to Callisto

cal. 4087

Change to 884.5 cm^{-1} . Recenter echelon screwdriver
 $Z = -5.1$

cal. 4088

Go to α Boo. Gain should have been 50

aboo. 4089 peaking. good at pair 7

8 Jun 2004 (Dir 39) MR, TG

Ocat (Mira) 897.5 cm⁻¹ z = -4.8 T = 0.8 C

ocet. 5000 orders nearly touching z ~ 1.25 mm

windy

change to 1246 gain = 50 z = -4.8 T = 0.4 C

ocet. 5001 peaked CVF

CRL

crl. 5002 Something ~~crashed~~ crapped out (software glitch) having prob talking to TCS.5003 ~~crashed~~ TCS died

7:10 HST

.5004 peaking at start
.5005

Go to BN. high airmass T = 0.5 °C

7:45 HST

bn. 5006 offset guiding. z = -4.9 nsum = 4 do w/o for BN
focusing + peaking pair 6-12
5007 Buffer toggle error in pair 1change to 1239.6 cm⁻¹ gscan 2 z = -5.0 1236.1-1242.7forgot to peak CVF bn. 5008 peaking. good after not guiding out seeing.
combine { .5009 stopped after 1 pair. peak CVF
.5010 seeing?
.5011

Back to CRL 618

8:45 HST

crl. 5012
.5013
.5014
.5015change to scan position 3 1226.0-1236.7 cm⁻¹
v₀ = 1231.2 cm⁻¹ filter 1, not CVF. short slit.
2.7" nod - nearly at edges

HST 9:30

crl. 5016
5017
5018
5019

reduce nod to 2.4"

Back to BN

bn. 5020
.5021change to scan position 4 v₀ = 1221 cm⁻¹ 1216-1226.2 cm⁻¹
still really short slit.

bn. 5022 6 nsum, 1 file, lower priority spectral region.

Back to CRL 618

crl. 5023 may have liked more BN. Moved 5 0.5" during 2 or 3
.5024 some peaking at end

.5025 source seemed to drift off slit a fair bit.

change to scan position 5. light leak in filter in ord 6.
Go to ord 7 + CVF. peaked CVF. + in CVF
1.4" slit still. v₀ = 1213.5 cm⁻¹ 1210.7 cm⁻¹ - 1216.2 cm⁻¹HST-M:55 crl. 5026 nod 3.5" N feature = gscan 5
27 "
28 "

BN

bn. 5029
.5030

8 Jan (39 Dec) cont'd

Change to gscan 6. $\lambda = 1208.5 \text{ cm}^{-1}$ 1206.1 - 1210.9 cm^{-1}
still in order 7, 1.4" slit, peaked CRF

bn. 5031 just do one so get a 7" setting.
objects are getting a little brighter....

Go to CAL 618

cal. 5032
5033

Quit CAL 618. Go to IAC 10216 in gscan 6

i10216 .5034

Go to gscan 5 1213.5 cm^{-1}
 $1210.7 - 1216.2 \text{ cm}^{-1}$

i10216.5035

Gscan 1-4 was covered in Dec 02 for IAC 10216

Jup P4+5 1" slit 1280

Jup. 5036 center of the disk moved $\approx 1''$

Jup. 5037 center of disk drifted 2" S move
2N to count

C2H2 Q branch 1.4" slit

Jup. 5038

Jup. 5039

Jup. 5040

.5041

~~scan 2 scans aborted~~

scan 2
move N 10" + E 2" 2 scans
drifted west between 2 scans

Jup. 5042

N 17" + E 2 move 3 scans

Callisto 530 cm^{-1} moved to see blue

$Z = -5.5$
 $T = -2.1$

cal. 5043

Go to Io

i0.5044

5045

46

47

48

49

50

51

52

got 4 orders

"

glitch pair

glitch pair II

drifting off

still 4 orders

"

"

"

"

$T = -2.3C$

Go to Callisto

cal. 5053

5054

peaking. good at pair 8
do again to make sure good

Back to Io

i0.5055

56

57

58

adjusted echelle slightly

i0.5059

5060

5061

5062

some peaking.

off at beginning

guiding issues. very thin clouds?

losing some of 4" order. shift echelle after 5058.

Go to Callisto

cal. 5063

alpha Boo 884.5 cm^{-1}

$Z = -5.2$ guess
 $T = -2.5$

aboo. 5064

Centered Echelon

5 Jan (40 test directory) TG, MR

Response tests. 16 frames at various ν in high resolution mode looking at room.

hisen. 6000	1.4" slit, 2s int	gain = 50	$\nu = 1350$
.6001	may be at edge of filter.	order = 7	$\nu = 1250$
6002	$\nu = 1250 \text{ cm}^{-1}$	peak CVF.	1.4" slit
6003	$\nu = 1150 \text{ cm}^{-1}$	filter	
6004	$\nu = 1030 \text{ cm}^{-1}$	(not CVF), 1sec.	Gain = 50
6005	$\nu = 1030 \text{ cm}^{-1}$	2 sec.	
6006	$\nu = 950$	1 sec	Gain = 50
6007	$\nu = 850$	Gain = 25	
6008	$\nu = 750$		
9	$\nu = 550$	^{2" slit} Gain of 50 comes close to AD range	
10	$\nu = 510$	(500 would be 72°)	
11	420	(49° echelle) 3" slit	

change to medium mode. Bias - 3.6 V. Detector cooled.

hisen. 6012	$\nu = 420$.11 sec intex.	8 nframe
13	$\nu = 510$.22	2" slit
14	$\nu = 550$.17	
15	$\nu = 750$.17	1.4" slit streak near center
16	$\nu = 850$.11 sec (fastest in opti store 1)	$\approx 40,000$ ADU per echelle = 48°
17	950	0.28 s	
18	1030	near edge of filter	
medsen. 6019	1150	0.4 s	
20	1260	filter	
21	1250	filter	
22	1350	filter	

put detector bias back to 4 V

04 Oct. 2004 UT

Set-up @ IATF MSR, DS, SH

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In hi-res w/ gas cell only. Filter w/ C_2H_2
/data/oct04/best

focus.0001 C_2H_2 Q branch 729.15 ~~0.8"~~ slit, nominal focus
.0002 same after tipping dewar 1"
.0003 2 turns in on all 3 screws on echelon
.0004 2 turns out from zero on all 3.
looks like best focus is at nominal setting
move back to nominal.
.0005 check focus @ nominal (0)

C_2H_2 .0006 0.8" slit
.0007 1.0" slit
.0008 1.4" slit
.0009 2.1" slit
.0010 3.1" slit
go to 1318 C_2H_2 overex
 C_2H_2 .0011 0.8" slit
.0012 1.0" slit
.0013 1.4" slit
.0014 2.1" slit
.0015 3.1" slit

go to 1844 H_2O (No)

no.0016 1" 3px (140) slit 4.6" (CVF)
.0017 1.4" 4px (80) slit 5.2" 59.46"

go to 797 cm^{-1} H_2O not seeing any lines
order overlap until filter at 299

go to 592.5

H_2O .0018 2.8" slit
.0019 1.0" slit
.0020 1.4" slit
.0021 2.1" slit
.0022 3.1" slit