OSURC Night Log 2021-10-28 UT

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OSA: J. Williams
ISA/Service Observer: B.Rothberg, R.T. Gatto
OSU Observer: P. Vallely
ISp: Mtn Staff
Mtn Manager: P. Hartley

Sunset: 17:38
Twilight Ends: 18:56
Moonrise:22:44
Twilight Starts: 05:11
Sunrise: 06:29

Tentative Plan:
[x] OSU_XMDs_LUCI/HS0122	03:30 - 05:00
[x] OSU_XMDs_LUCI/HIP13917 (telluric)	
[x] OSU_XMDs_LUCI/UM133	06:00 - 07:30
[x] OSU_XMDs_LUCI/HIP13917 (telluric)	
[x] OSU_XMDs_LUCI/HS0134	07:30 - 09:30
[x] OSU_XMDs_LUCI/HIP12559 (telluric)	
[x] Switch to MODS	09:30 - 10:00
[x] MODSPhotCal/gd71	10:00 - 10:30
[x] OSU_ASASSN/2M07570459	10:30 - 11:00
[x] MODSPhotCal/gd191b2b	
[x] OSU_ASASSN/ASASSN14ae	11:00 - 12:15

DX Mirror Offline for remainder of night as of UT 05:34

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Closed Dome Prep:

UT 00:00 - powering up LBCs and LUCI GUIs - test and initial LUCIs
-scp'd the OSURC OBs directory from OBS-2 to OBS-5 under observer account
L1 0001-0002 - 2.51sec dark
L2 0051-0052 - 2.51 sec dark

UT 00:11 - test biases LBCs
-logging into OBS2 as OSURC as backup (and if we go to MODS later)
UT 00:15 - waking up MODS

UT 00:18 - check fieldstops
-lower floods

-LUCI2 amplifier channel #2 is doing its thang again

L1 0003- LUCI-1 OK
LUCI-2 is off again up and to the right
L2 0053-0057
LUCI-2 okish

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LUCI XMDs LS

PHL293B - HIP 106831 (Telluric)

UT 00:42 - left shutter door not reporting as fully open in software
-talking to D.Cox about how to fix
UT 01:00 - still working on latch - shifted building a bit, almost latched but not quite.
UT 01:04 - seems to be resolved
UT 01:05 - pointing preset
UT 01:09 - collimation preset

UT 01:18 - sending preset to Telluric
-seeing on guiders/wfs 1.1"-1.3"
-dim guidestar
L1 -11.023", 0.3086"
L2 -10.7636", -1.8731"
-move +2pixels on L2 ~0.25"

UT 01:22 - starting spectroscopy
L1 0007-0008
L2 0062-0063

UT 01:24 - sending preset to PHL293B
Preset canceled on DX, no idea why
Preset shows active on SX despite IIF log saying abort command complete
-IIF says starting guiding - STOP GUIDING in GCSGUI did nothing

UT 01:30 - cleared sync preset mode worked - resending preset
DX M1 panic - will take a few minutes to recover - going to zenith

Observer's Note: Finder chart is PA=0 6'x'6 FOV, script is PA=180, finder chart should match FOV and orientation

UT 01:38 - putting 1"LS in FPU while we wait and putting in blind filter

DX M1 back up - but getting some error messages in mirror cell units - J.Williams checking

UT 01:44 - sending preset again
DX says canceled - off source too long
SX thinks we are moving - we are not
UT 01:46 - sending again - nothing
Aborted wait for preset on SX guider in LUCI telsvc
UT 01:47 - sending again

UT 01:47 - M1 DX panicked again
-clicked Abort Wait for Preset in LUCI Telsvc, preset cancelled out in LUCI
UT 01:56 - can't raise DX M1
UT 01:57 - putting 1"LS back in FPU and blind filter in….
UT 02:15 - DX M1 coming back up now

UT 02:17 - sending preset again
UT 02:18 - DX preset failed - bad new influencer forces

UT 02:21 - sending again - another failure - DX M1
-putting mask in FPU and blind filter in again…
-stowpins in - heading up to reboot VX crate

UT 02:31 - sending preset again (guess stowpins and reboot postponed)
-got to target on-sky failed with bad new influence forces error (actuator failure)

UT 02:34 - putting mask back in FPU again blinds in

Observer's Note: seeing exploded towards end of telluric (getting upwards of 2-3" on guider/WFS) - its possible we are in a bad seeing bubble while we have this downtime. Winds have also been skirting the limits since we opened.

UT 03:00 - trying one more troubleshooting on DX in the chamber - discussed with observers - willing to use 15-20 min - last seeing measurement and ALTA predictions were bad (beyond what would be acceptable for program)

UT 03:09 - I (B.Rothberg) exported the LUCI scripts as L2 mono on OBS-2, ran twin.py and converted them to LUCI-1 mono scripts. Should be good to go for SX only operations.
-P.Hartley and J.Williams continuing to troubleshoot DX
-can't bring up airloops for DX, mirror cell gauges showed proper pressure, but on OBS1 not showing proper pressures

HS0122

-will start with HS0122 once back on sky - Telluric (before) HIP 13917, (after) HIP10512 - although at this point both are same airmass on-sky - target first,then telluric

UT 03:22 - update to DX M1 - airloop back on now

UT 03:30 - sending preset HS0122
-error on both sides
-stowpins still in that would explain it!
UT 03:33 - sending preset
-PA =0 and finder chart PA=0
DX Preset just failed
-ironically GS was found on DX not SX

UT 03:37 - authorizing LUCI-1 only while troubleshooting of DX software
-put LUCI-2 into safe config
-waiting for mask to FPU before loading new script and proceeding
UT 03:39 - sending LUCI-1 only script HS0122
-pointing check needed, no GS found again

UT 03:42 - sending preset
-guider shows 1.3" WFS ~1" still collmating a bit, looks to be improving to ~1"
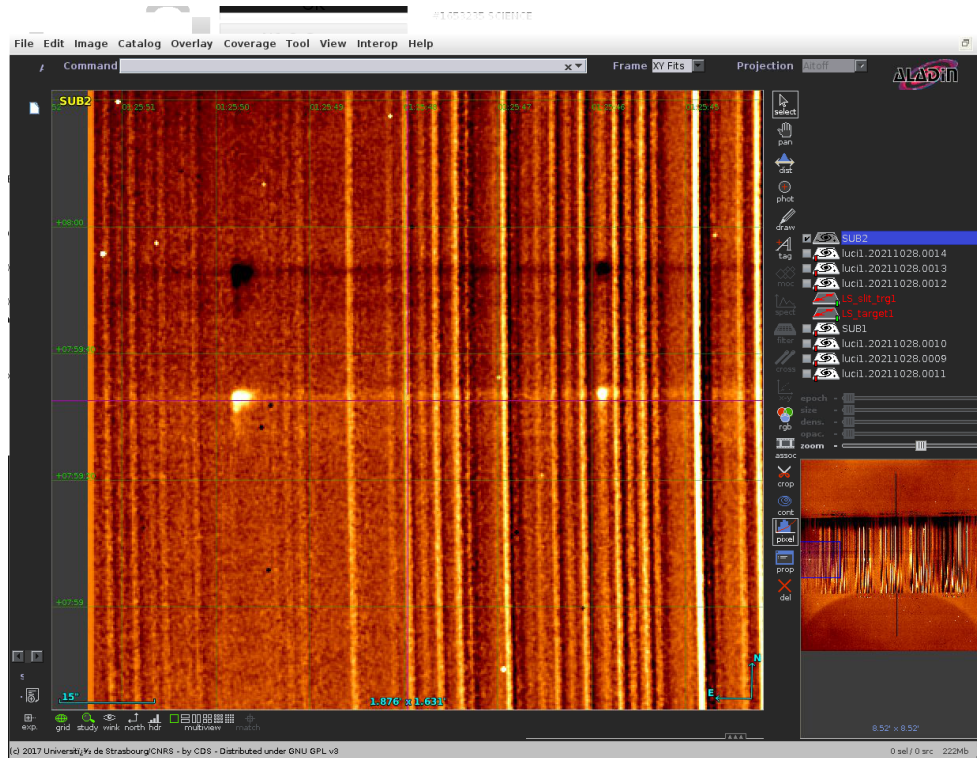L1 -0.503", 0.6185"
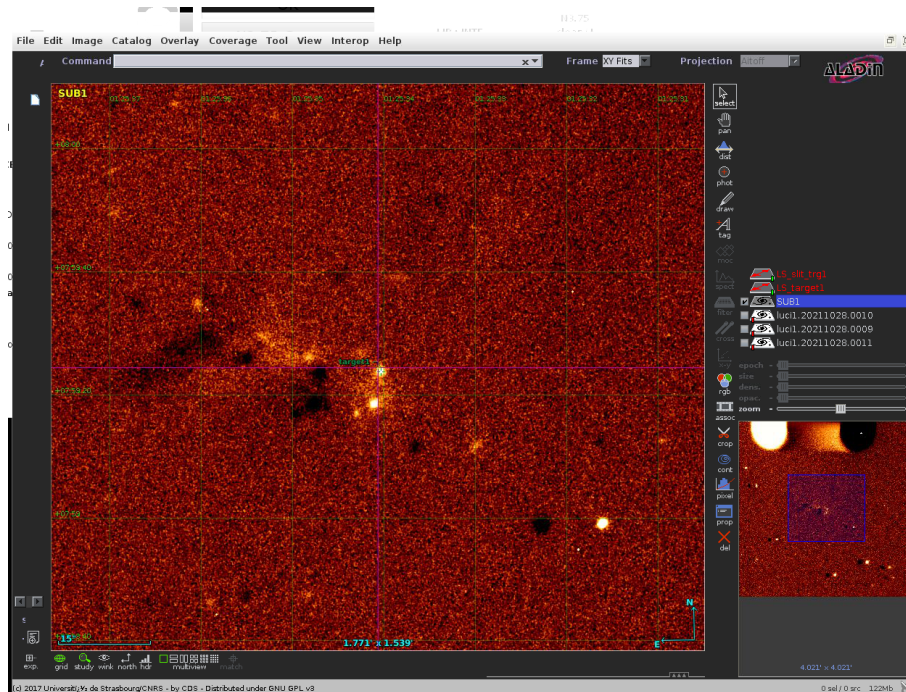
UT 03:55 - starting spectroscopy
UT 03:58 - OBS5 froze on me, OBS2 is just fine (as is my VPN to the weather station)
-load average 1.2-1.3, ds9 is 100% CPU (RB_Science) - otherwise no idea why it froze.
Restarted the X2GO and its ok
UT 04:16 - guider 1" or better seeing
First pair subtraction:

UT 04:34 - guider/wfs shows 0.7"-0.9"
UT 04:54 - guider/wfs shows ~0.75"

L1 0013 -0018

HIP 13917 matches better when science target is done.
UT 04:58 - sending preset to telluric

L1 -10.6939", -0.3346"
UT 05:04 - starting spectroscopy
-lost guiding on offset - star is close but not at edge of field
-absolute offset 0,0 to see if it finds GS - it did
L1 0022 -doing this manually, first offset 0, -20" absolute. Manually taking 5sec exposure
L1 0023 - skipped to 2nd line script 0,-10" absolute offset.

UT 05:10 - attempting to recover DX - put LUCI-1 in safe config
UT 05:21 - DX mirror panicked again, trying one more workaround

UM133

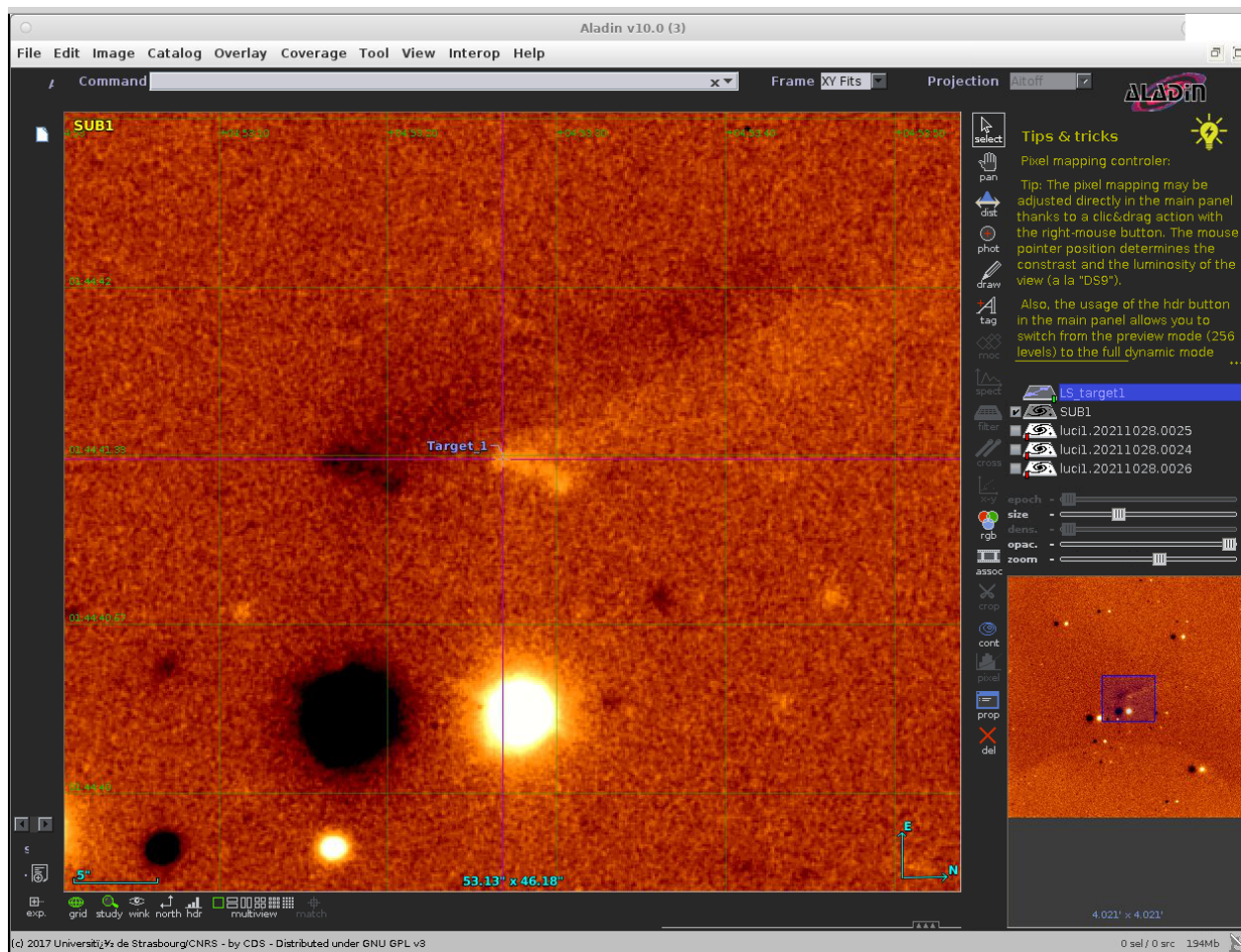Script is PA=90, Finder Chart is PA = 0

UT 05:31 - DX recovery may have worked, no errors yet. Will point and collimate first.
Pointing (Acquire preset) failed - same error as before
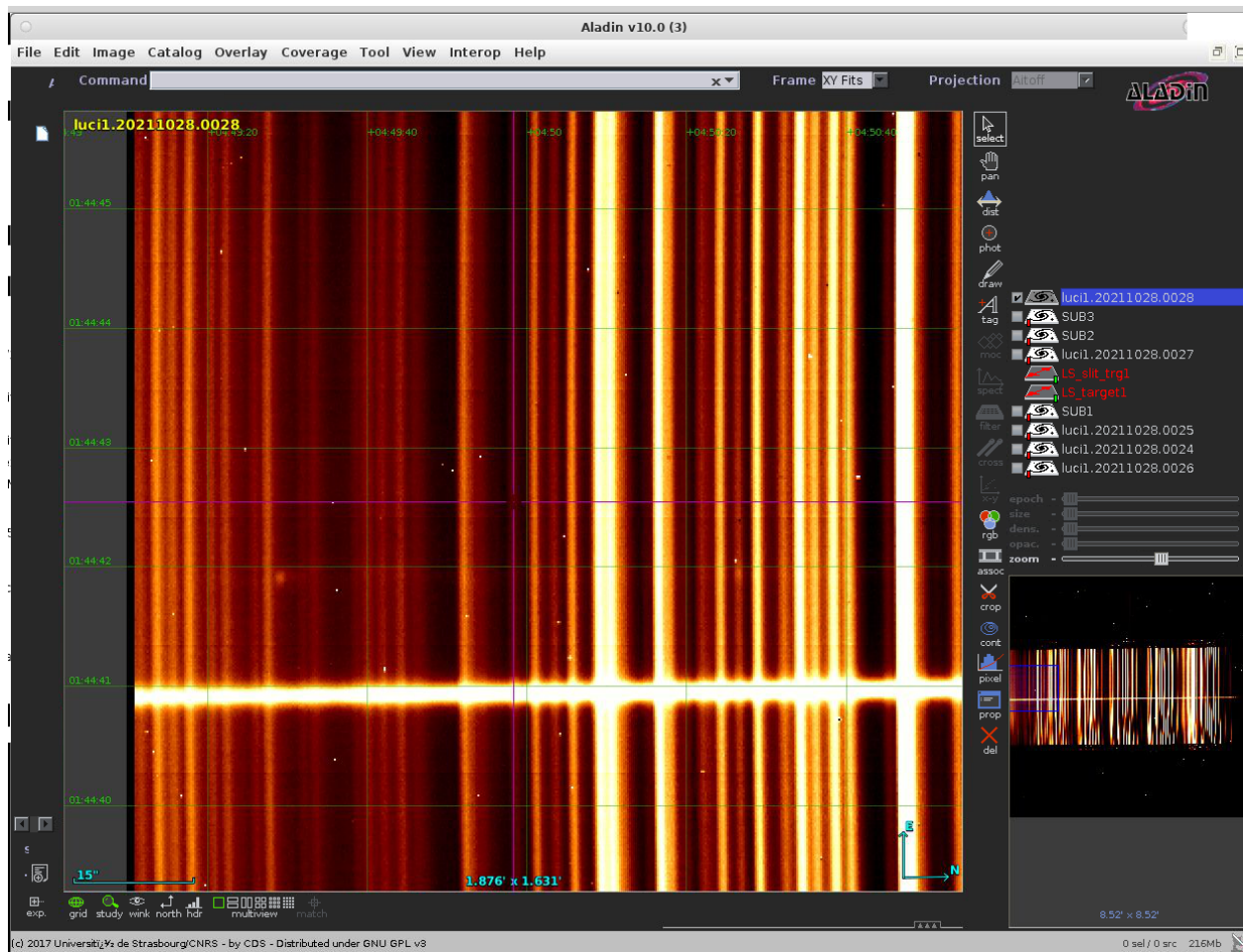-going back to "pirate"-mode

UT 05:36 - sending preset
Guider/wfs shows 0.8"-0.9"

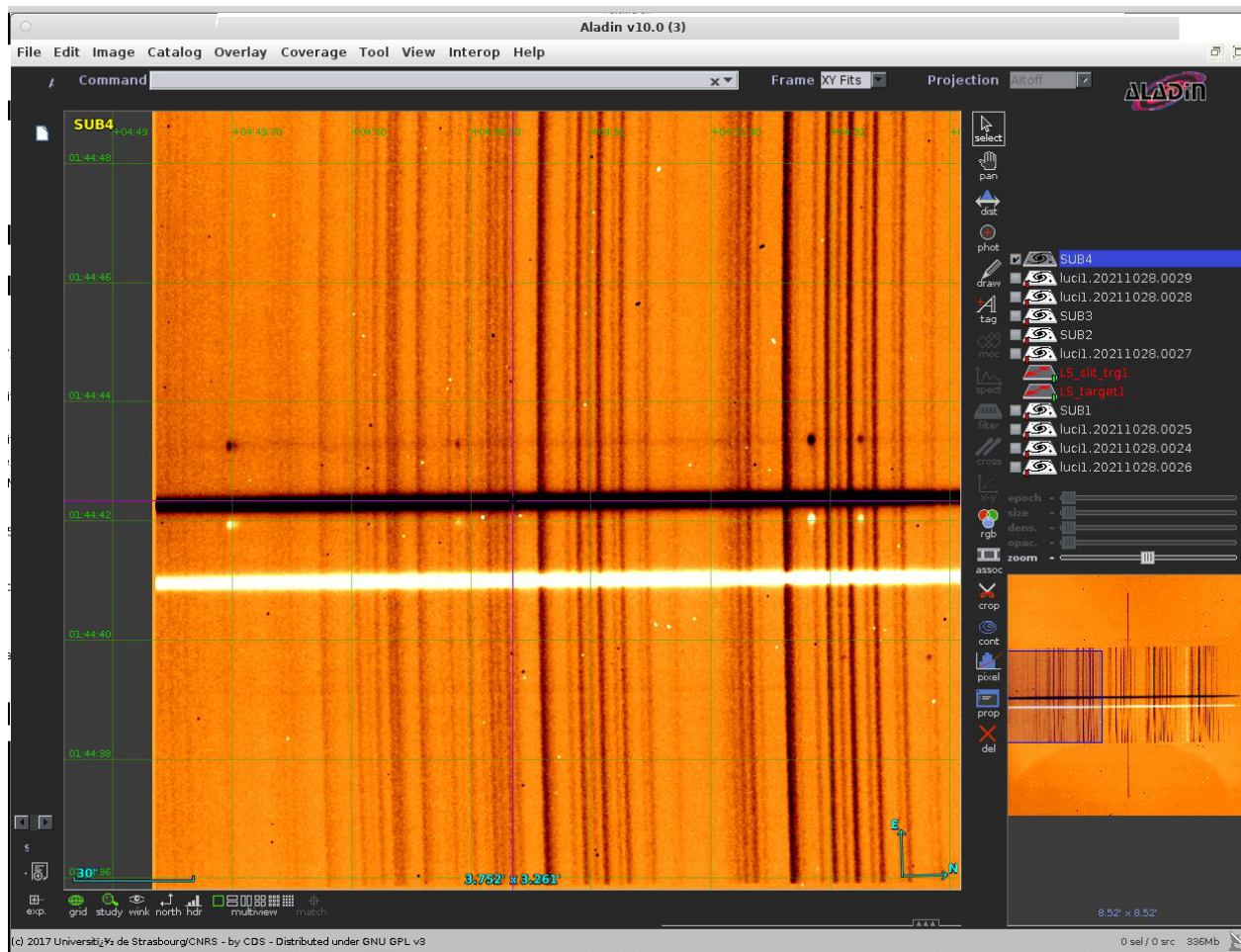L1 0.2521", -0.1685"

UT 05:48 - starting spectroscopy
I see an emission line in first frame - should be ~61pixels above the continuum from the star in
the slit...can see it at 78,1057

Weird GUI glitch, the countdown vanished in the main GUI for a bit, but was still going in the READOUT window.

Seeing a bit soft for first exposure, 2nd down to 0.8"-1"
First pair subtraction

Observers Note: Emission lines are there. Dwarf is ~15" away from starlight still in slit. Dither is +/-10". Might have been better to do a larger dither, like 25"-30" to avoid negative in subtraction from affecting detection when pair subtracted and combined.

UT 06:43 - seeing getting a bit soft, some excursions up to 1.8" then back down to 1.2"

L1 0028-0033

HD 13917 looks like a better match in airmass given the time.
UT 06:52 - sending preset
-seeing blew up to 2" then down to 1.7" while acquiring telluric

L1 -10.2262", -0.2886"
-This will fail again on offset
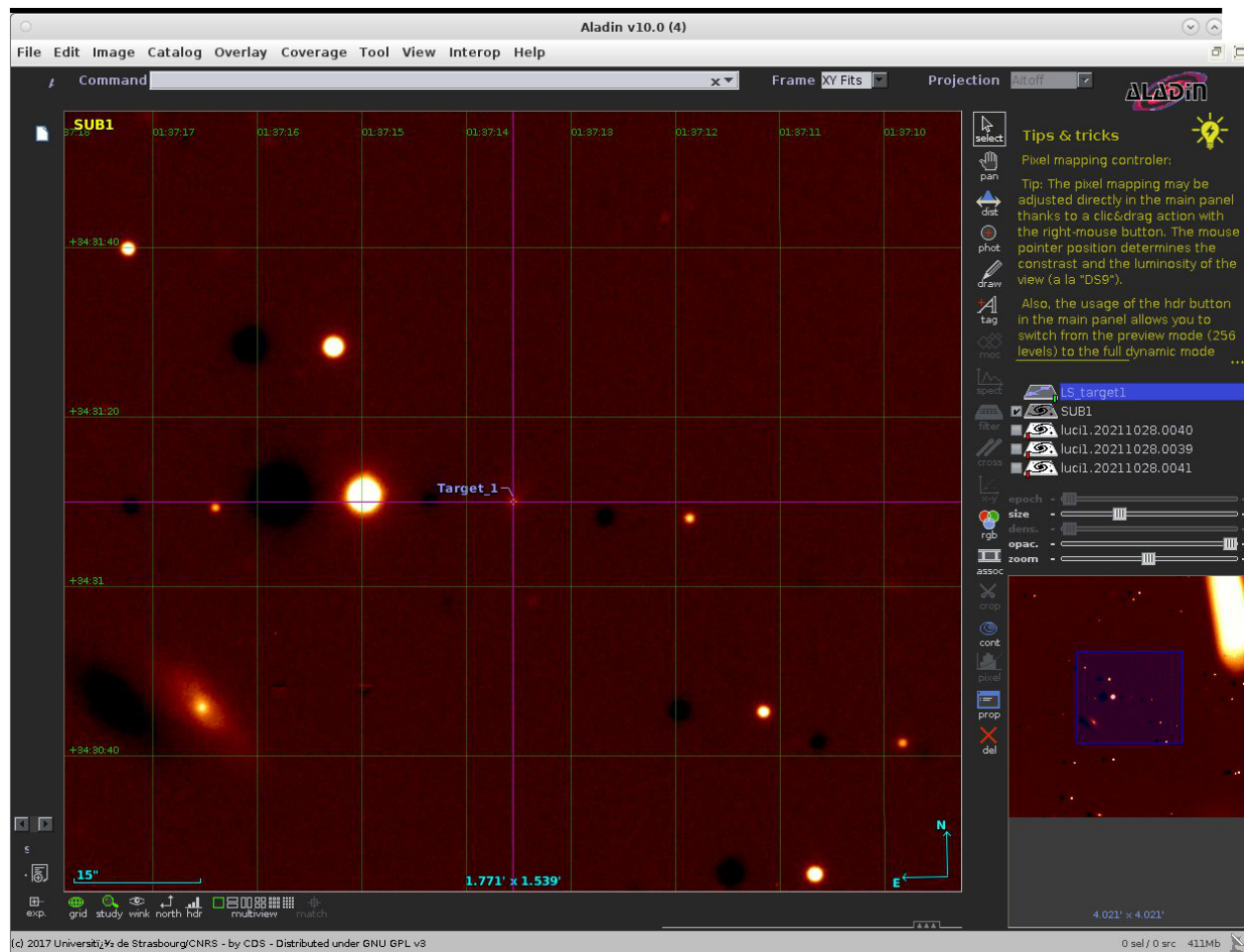-Nope, it worked this time...very odd!
L1 0037-0038

HS 0134

Scripts is PA=0, finder chart is PA=0
UT 07:01 - sending preset to the next target.
-didn't find the guidestar
UT 07:04 - pointing check

L1 -1.275*, 1.6268"
UT 07:18 - starting spectroscopy

Observer's Note: Seeing in guider did just to 2" and 1.43" in WFS - README says 1"
-and then back down to 1" likely this will be some variable seeing during observation

UT 07:29 - see bright spots similar to emission lines before in first exposure of this series
UT 07:39 - seeing dropped to more steady 0.8"
First pair subtract shows emission lines
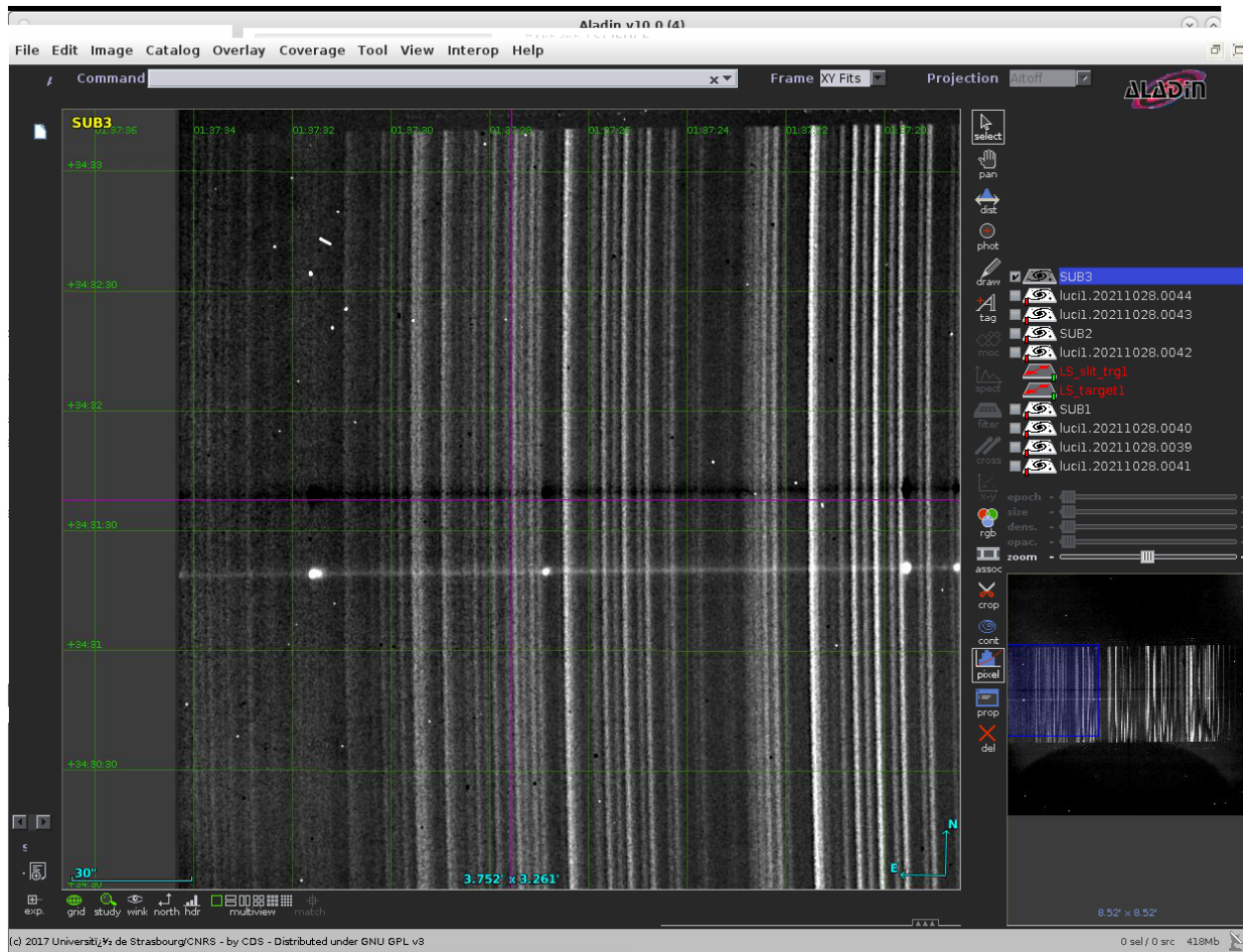
HIP 8535 will be a better choice after science target is done

L1 0043-0048
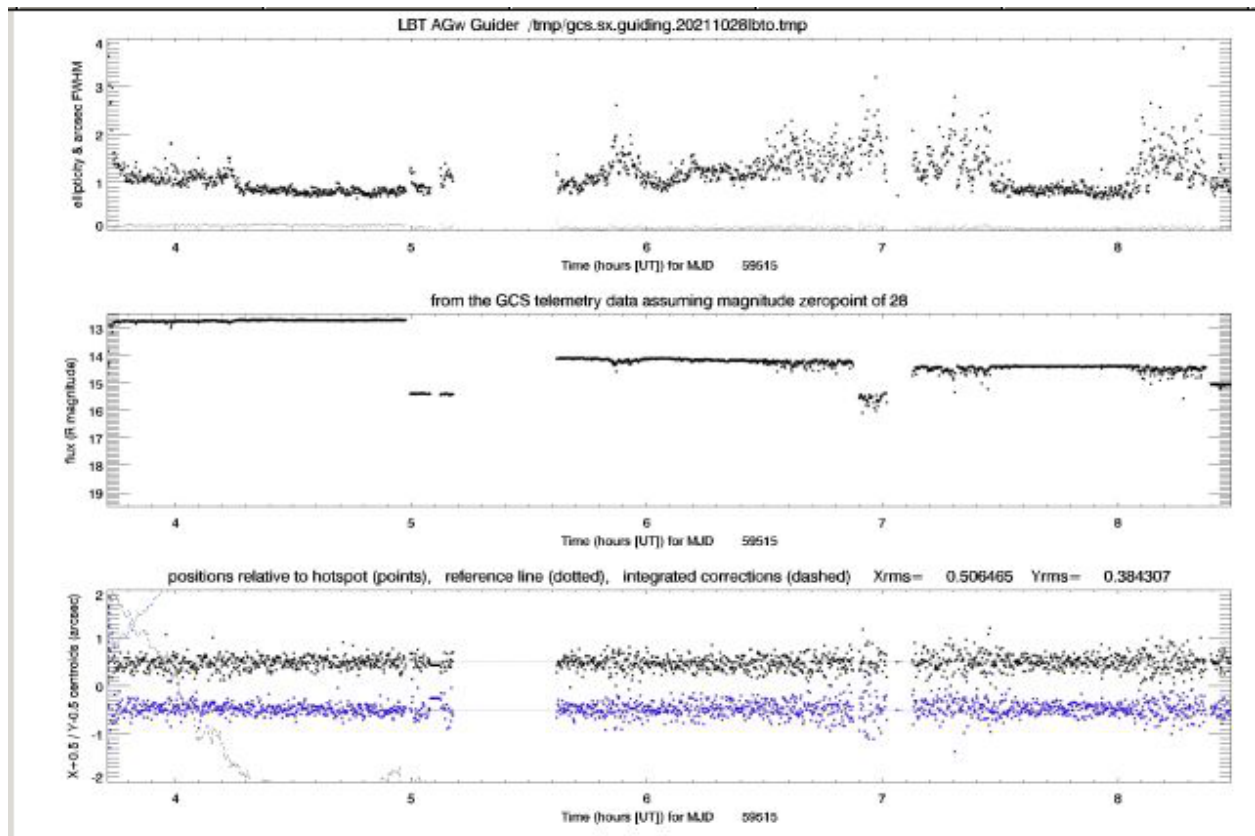
UT 08:22 - preset to telluric
L1 -10.4194", 0.5725"
UT 08:28 - starting spectra
L1 0052-0053

Guide Info during block:

LBT AGw Guider   /tmp/gcs.sx.guiding.20211028lbto.tmp

from the GCS telemetry data assuming magnitude zeropoint of 28

positions relative to hotspot (points),   reference line (dotted),   integrated corrections (dashed)   Xrms=   0.506465   Yrms=   0.384307

UT 08:30 Reconfiguring for MODS-1
-powering off LBCs since they won't be needed
-LUCI-1 in safe config

ASASSN!

SpecStd for MODS-1

GD71 DualGrating

UT 08:42 - No response from MODS GUI when trying to put it into Observing Mode.
Can't access mods1data via ssh
Looks like mods1data computer is frozen just like IT 5087 & 7285

UT 08:50 - J.Williams power-cycling mods1data
UT 08:53 - see mods1data desktop vanish on raritan, watching the reboot sequence
-things claimed to be on but weren't, so stopped and started ie, agw, env, tcs
-calibans looked to be running, but stopped and started anyways just to be sure whats reported was real
-mods1 status doens't freeze anymore, reports all up

-re-waking mods1 up
UT 09:04 - taking test biases make sure things are working (2 images each channel)
-biases look OK

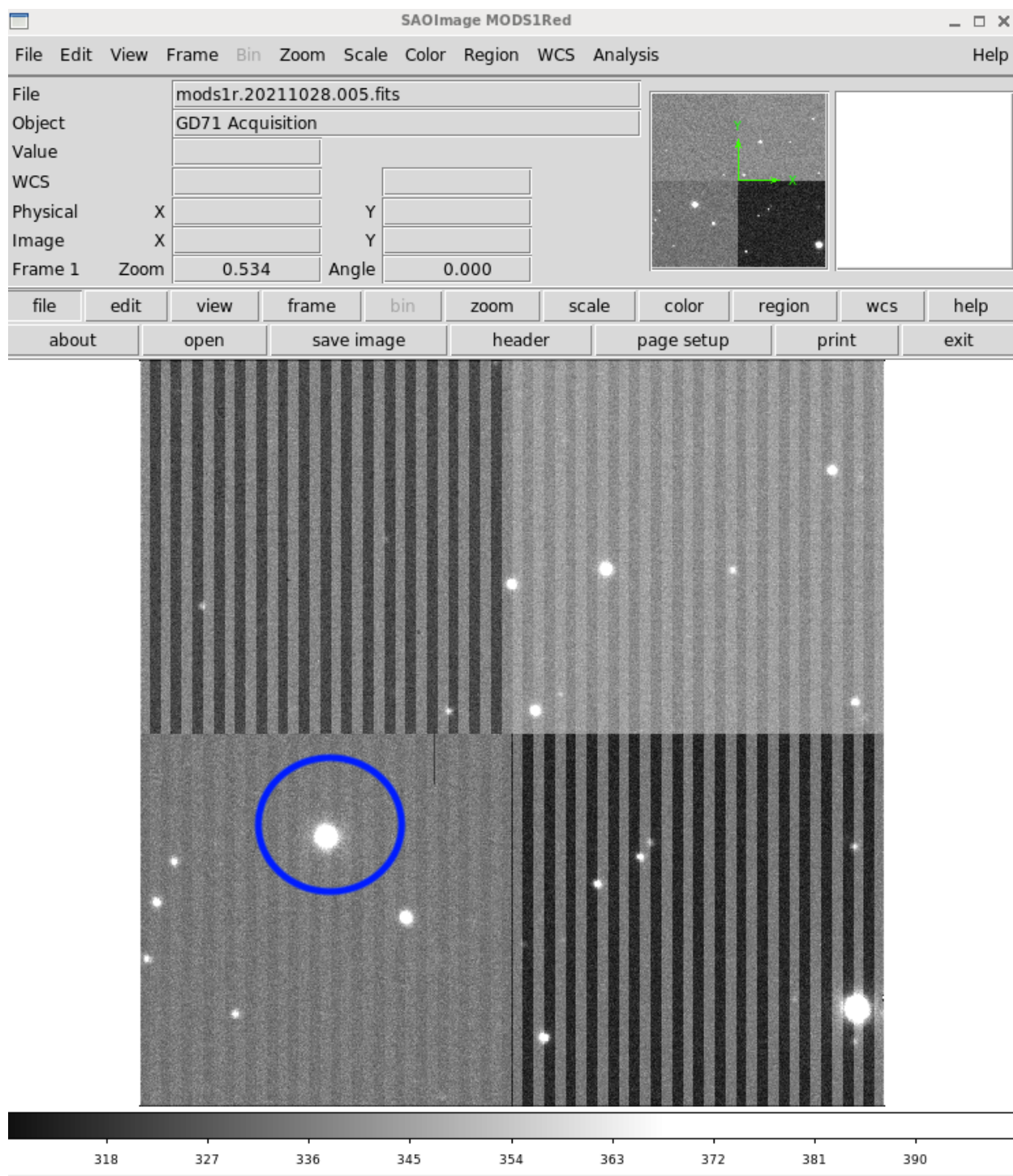UT 09:10 - putting MODS into observing mode and homing AGW
UT 09:11 - pointing check
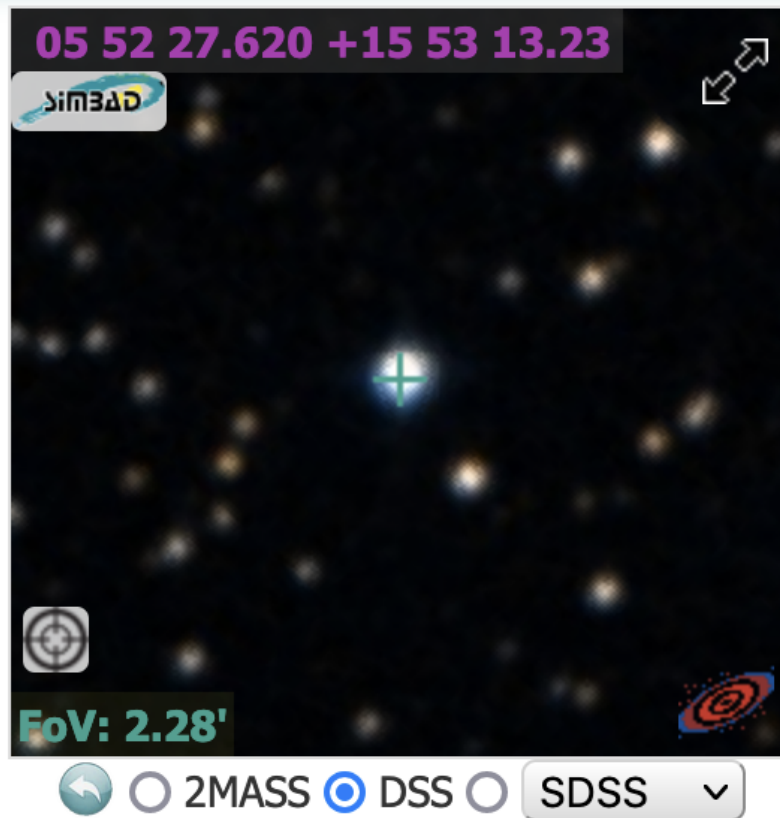UT 09:14 - collimation

UT 09:16 - preset to GD71
Acquisition image put GD71 way off in the bottom left quadrant

VS:

Offset +29.955", +30.644"
Used script in OSURC directory - will compare with OT script
Tweaking with modsAlign -r
Offset -0.524", 0.189"
UT 09:26 - starting spectra
M1B 0005-0007
M1R 0007-0009

Science Target: 2M07570459

UT 09:44 - preset to field
Observer's Note: Finder Chart PA=0, script PA=-86 - can we please make finder charts properly oriented (modsView doesn't count, it shows a bunch of stars circled with mags and the full MODS FOV)

Again...object is way off from where it should be normally.
Offset +6.086", +29.914"
IT 8506

UT 09:53 - starting spectra
UT 10:00 - seeing 1.23" on guider

M1B 0008-0012
M1R 0013-0017

UT 10:12 - taking 5 more exposures
M1B 0013-0017
M1R 0018-0022

MODS1-Red files are 3 digits for numbers - need to fix this IT 8466

UT 10:32 - moving to G191B2b
Seeing bad? GS showing 1.4"-1.9"
Offset -4.897", -8.845"
Tweak -0.397", 0.104"
UT 10:41 - starting spectra
UT 10:52 - seeing improved to 0.6" in guider!

M1B 0018-0020
M1R 025-027

Fixed the 3-digit M1R issue, 0028 onwards is now 4-digits

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UVA_WISE_AGN

J0612

UT 10:56 - sending preset
-finder charts show PA=0, script is PA=137….
UT 11:00 - no GS - pointing check
UT 11:02 - can't find pointing star…
Maybe our pointing is messed up in general and this isn't MODS…
UT 11:05 - sending preset again

Observer's Note: Acquisition script has a 120sec thru slit exposure to start. OT template by default is 15sec. It is changeable for the confirmation thru-slit step later.

Can't find this object. Not sure if its a combination of poor pointing and/or poor finder chart.
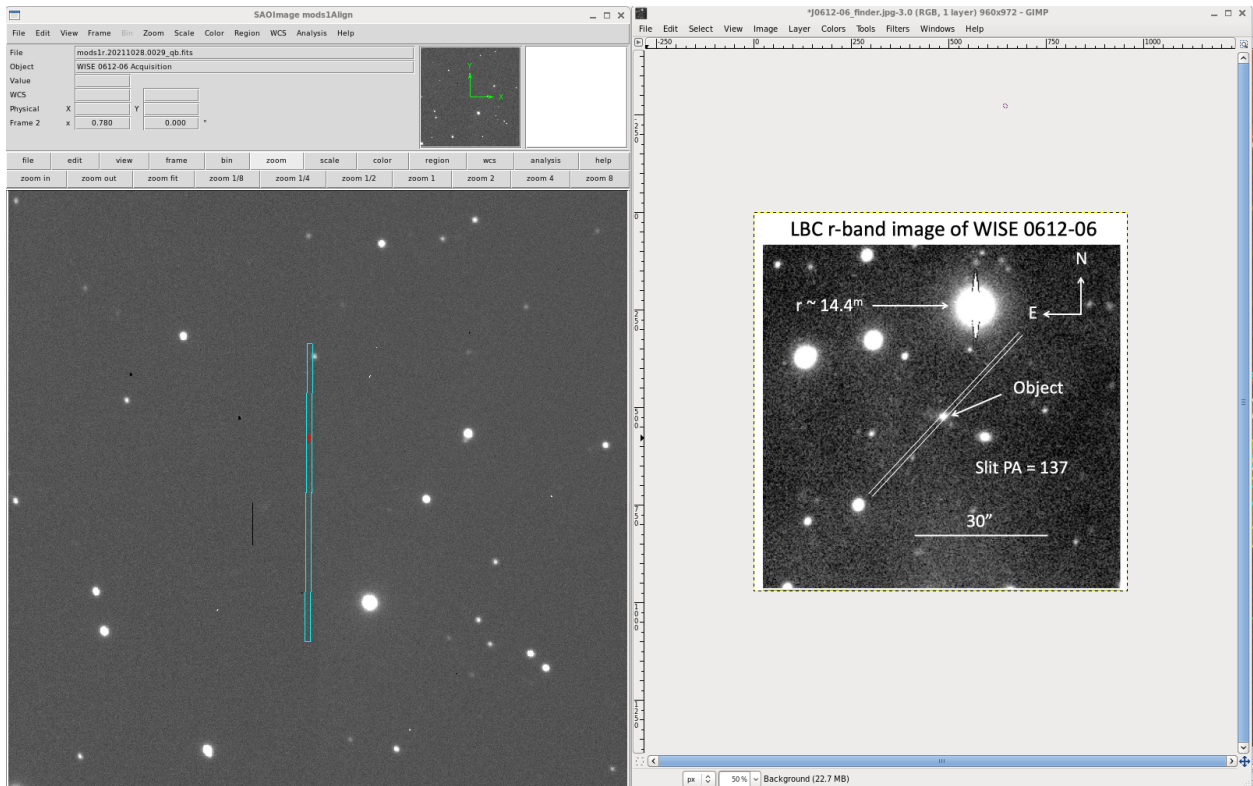
UT 11:18 - giving up on this - moving back to ASASSN

ASASSN!

Target is 14ae

UT 11:20 - sending preset
- Target is below horizon
- Oops, keyboard monkey error

UT 11:21 - sending correct one

Observer's Note: PA=112 in script, finder chart is PA=0 with an SDSS g-band image. Please rotate SDSS images to correct PA of the script instead of rotating the image to PA=0. Acquisition script has a 60sec thru-slit first image. OT templates use a 15sec thru-slit first image - more efficient. The field image and confirmatory thru-slit images can be made longer via the templates.

UT 11:27 - GS looks elongated
Offset -0.983", 9.244"
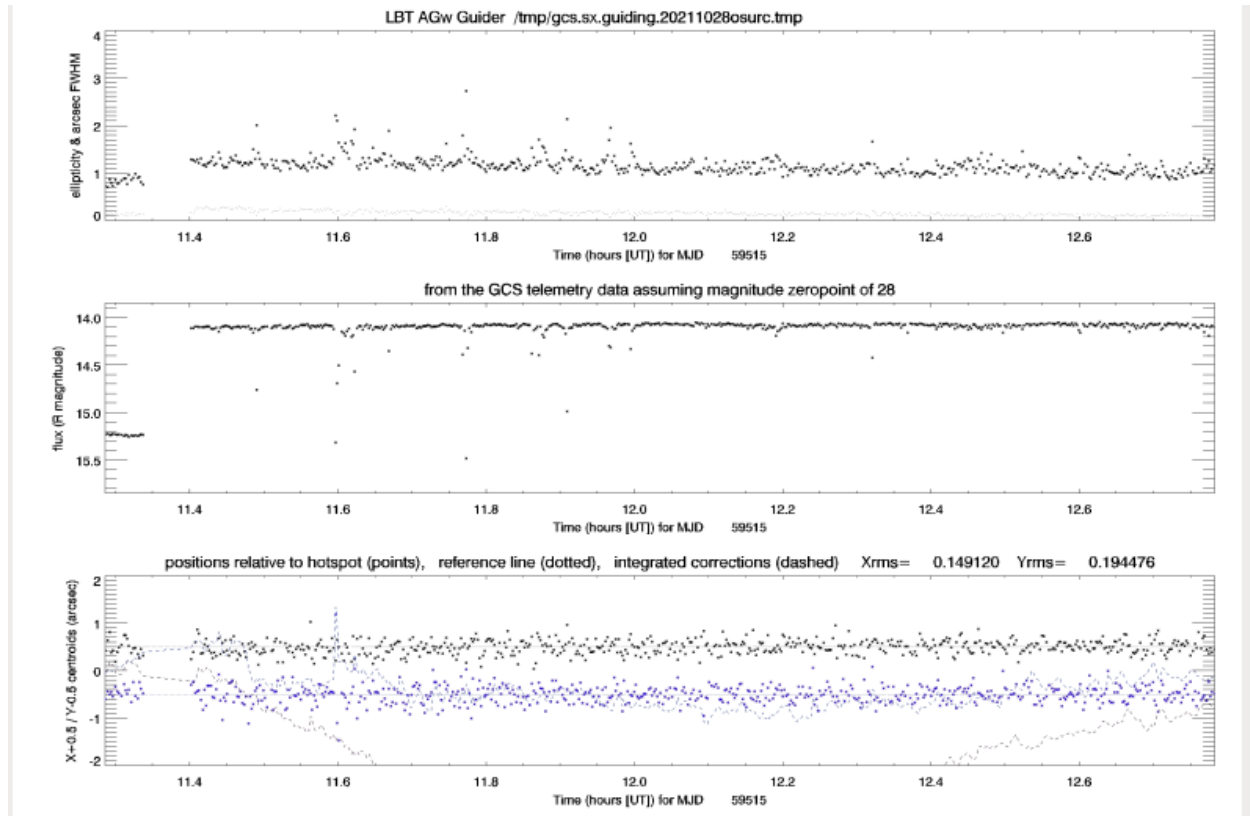UT 11:33 - starting spectroscopy

UT 11:36 - seeing bubble? GS all of a sudden jumped to 1.6" and is dancing around the hotspot…
UT 11:47 - GS not jumping around, but still looks elongated

M1B 0021-0026
M1R 0033-0038

Guider info during last block:

UT 12:49 -closing up dome

Calibrations

LUCI

-exported bino script from OT
UT 13:04 - starting LUCI Cals
L1 0054-0071
L2 0064-0081
UT 13:16 - LUCI-2 safe config

UT 13:24 - LUCI1 safe config

MODS

Biases
M1B 0027-0031
M1R 0039-0043
M2B 0003-0007
M2R 0003-0007
-MODS2 error on biases - error executing calmode - restarted script seems to be OK now

Dual Arcs
M1B 0032-0034
M1R 0044-0046
M2B 0008-0010
M2R 0008-0010

Dual Slitless Flats
M1B 0035-0044
M1R 0047-0051
M2B 0011-0020
M2R 0011-0015

-Blue Grating InstConfig Error MODS-1
--Recovered

5" Dual Slit Flats
M1B 0045-0050
M1R 0052-0054
M2B 0021-0026
M2R 0016-0018

UT 14:08 -putting MODS2 to sleep