LBT Observing Log: 2025 Jun 26 UT

Observers: Jenny Power
Partner Observer: Mark Whittle
Telescope Operator: Steve Allanson

Plan:

Start with LUCI
HIP 56735 (Telluric for next two) (done)
OSU_XMD_VCC1744 (done)
OSU_XMD_HS1222 (done)
UVa_nirjets Just K-band and then J+H and PaB + FeII (did Br-g + H2 last night)
    UVa_nirjets_G11 now considered done.

Change to MODS.

BD+28 4211 standard (done – four exposures)
UM_V1405Cas (done)
OSU_Marianassoc (to 18 deg) partly done (MODS2 is down with mask fault).
UM_DQHer (to 12 deg) (done – ran script twice since only MODS1.)

Summary:

Calibration Overview LUCI

Program	Calibration	Date obtained
OSU/UM_XMD	1" LS G200 zJspec@1.17 Lamps and Arcs - Darks	20250624* note Ne lamp issue 20250625 repeated 20250624* 9/10 of 600s completed
UVa_nirjets	- Pbeta, FeII, H2, BrG, J, H, K Flats - Darks	20250624 20250625
UVa_BCD	1" LS G200 zJspec@1.17 Lamps and Arcs - Darks	20250624* note Ne lamp issue 20250625 repeated 20250626
UVa_Supernovae	- Darks 0.75" LS G200 HKspec@1.93 Lamps and Arc	20250625 20250625

Issues:

Weather:

Overview (times are given in UT):

01:03 UT LUCI's initialized and prepped to run darks. MODS awake and running simSnap.

Calibrations

UVa_BCD LUCI Darks
10x[5x9.00] LIR INT luci[½].20250626.0003-12
10x[1x240] MER NORM luci[½].20250626.0013-22

10x[4x15.0] LIR INT luci[½].20250626.0023-32

OSU_XMD LUCI Darks
(9/10 taken on 20250624)
2x[1x600] MER INT luci[½].20250626.0033-34

ND_V844Her Calibrations:
0.8" Dual Grating Flat Bin12
mods[½]b.20250626.0003-8
Mods[½]r.20250626.0003-8

5" Dual Grating Flat Bin12
mods[½]b.20250626.0009-14
Mods[½]r.20250626.0009-11

Slitless dual grating flats Bin12
mods[½]b.20250626.0015-24
Mods[½]r.20250626.0012-16

Bias 8Kx3K bin12
mods[½]b.20250626.0025-29
Mods[½]r.20250626.0017-21

Bias 3Kx3K (bin11)
mods1b.20250626.0030-34
Mods1r.20250626.0022-26
Only took 1 with mods2 after failure to set BLUE ROI, and then impending opening.
mods2b.20250626.0030
Mods2r.20250626.0022

02:19 UT Opening will be delayed. Some thick dark cloud hanging around the mountain, but its clearing out.

02:37 UT Sunset. Field stop alignments checked on LUCI's

02:49 UT Steve is opening now. He has put the 26deg elevation limit in place.

02:58 UT Pointing and collimation

03:09 UT Seeing is 1" on the guiders.

OSU/UM XMD

Telluric HIP53735 (twilight-3:37)

03:15 UT Sending preset to telluric. Seeing 1.0-1.2" on the guiders

Long Slit Result					Long Slit Result				
X-shift:	-9.4428	as	-80.1600	px	X-shift:	-10.8159	as	-90.8900	px
Y-shift:	-0.2274	as	-1.9300	px	Y-shift:	-0.6735	as	-5.6600	px
Angle:	0.0000	deg			Angle:	0.0000	deg		
reset LS	calculate		send		reset LS	calculate		send	

Waiting to hit go on the science. Seeing is 0.9" on the guiders.

03:35 UT 12 degree evening twilight. Starting science. 1" seeing. Mostly clear.
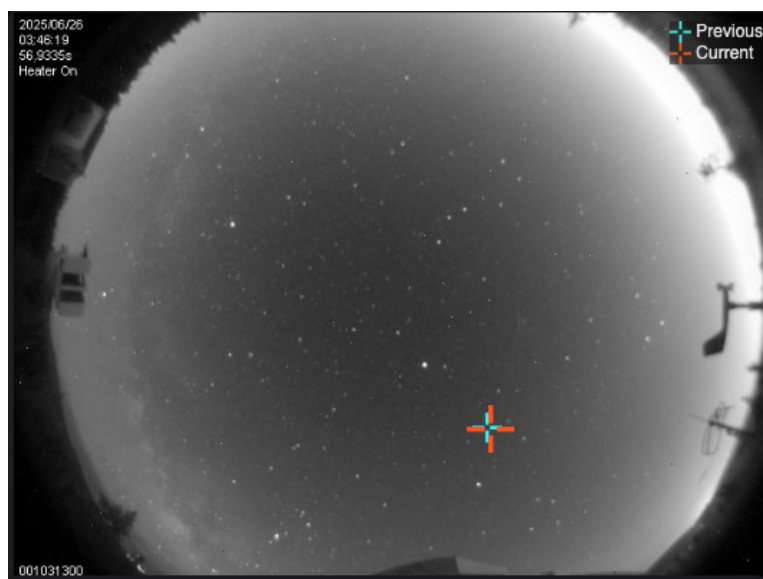
VCC1744 (3:37-5:02)

03:37 UT Preset to science target. AZ needs to unwrap.
03:43 UT Unwrap complete, starting acquisition. Seeing 1-1.25" on the guiders.

Long Slit Result					Long Slit Result				
X-shift:	-0.2839	as	-2.4100	px	X-shift:	-1.1519	as	-9.6800	px
Y-shift:	-0.0825	as	-0.7000	px	Y-shift:	0.0190	as	0.1600	px
Angle:	0.0000	deg			Angle:	0.0000	deg		
reset LS	calculate		send		reset LS	calculate		send	

03:53 UT Waiting until 10 min to 18 degree as per readme. Seeing 0.9" on the guiders.

03:58 UT Starting science. Seeing 0.85" on the guiders.
luci{½}.20250626.0050-55

04:08 UT 18 degree evening twilight

04:46 UT Seeing has deteriorated a bit, about 1.3" on the guiders.

04:51 UT Seeing is now 1.3-1.6", starting the last exposure.

05:01 UT Seeing improved over the course of this last exposure to 1"

HS1222 (5:02-6:19)

05:02 UT Sending preset to target. Seeing 1.05" on the guiders. Mostly clear with some clouds on the southern horizon.

Long Slit Result						Long Slit Result					
X-shift:	0.5878	as	4.9900	px		X-shift:	-0.8485	as	-7.1300	px	
Y-shift:	-0.0082	as	-0.0700	px		Y-shift:	0.0202	as	0.1700	px	
Angle:	0.0000	deg				Angle:	0.0000	deg			
reset LS	calculate	send				reset LS	calculate	send			

05:15 UT Starting science. Seeing 1" on the guiders.
luci{½}.20250626.0060-65

05:52 UT Seeing holding stable at 1".

06:17 UT Clouds moving in.

UVa Nirjets

G11(6:19-7:38)

06:19 UT Sending preset, starting with Kband imaging. We have some clouds passing through from the east.

06:22 UT Pointing check needed.

06:24 UT Resending preset to G11. Seeing a bit variable, 1.2-2.6".

06:35 UT Seeing variable, 1.2-3", and we have extinction from the clouds, up to 3magnitude.

06:37 UT % magnitudes of extinction now and guide star is going in and out. We have paused the script.

06:40 UT Skipping back up 4 obs items to the 4th obs item in the script to repeat the Kband dithers that were hardest hit by the seeing bubble and extinction from the clouds. Seeing is back down to ~1.4-1.6" and extinction minimal.

06:48 UT Seeing extremely variable on short timescales, 1.25-2" between images

Kband:
Luci{½}.20250626.0066-80

06:54 UT Skipping BrG and H2 (obtained on 20250624) Starting J & H. Seeing averaging 1.4" on the guiders. Clouds are moving out.

07:06 UT Seeing has stabilized at around 1.4" on the guiders. A few thin clouds moving through.

Jband:
Luci1.20250626.0081-91
Hband
Luci2.20250626.0081-91

07:12 UT Starting the Pbeta and FeII. Seeing averaging around 1.4" on the guiders. Some clouds by not where we are pointed.

07:18 UT Seeing has improved to 1-1.1" on the guiders.

07:25 UT Seeing has improved to 0.9-1.1" but we are seeing some extinction from a small cloud moving through.

07:36 UT Seeing 0.9-1". Clouds have moved out.

Pbeta
Luci1.20250626.0092-106
FeII
Luci2.20250626.0092-106

Reconfigure MODS (7:38-7:57)

07:38 UT Reconfiguring to MODS

07:50 UT Pointing and collimating

SpecPhot

BD+28 4211 (7:57-8:22)

07:57 UT Sending acquisition script for BD+28. Seeing 0.8-0.9" on the guider. Some cloud to the south but clear where we are.
MODS1:
Computed Slit Alignment Offset:
  dX = -0.184 arcsec
  dY = 12.281 arcsec

MODS1 Offset Command:
  offsetxy -0.184 12.281 rel
Additional MODS1 offset: MODS1 Offset Command:
  offsetxy -0.984 -0.011 rel

MODS2:
Computed Slit Alignment Offset:
  dX = 4.091 arcsec
  dY = 8.187 arcsec

MODS2 Offset Command:
  offsetxy 4.091 8.187 rel
Additional MODS2 offset: MODS2 Offset Command:
  offsetxy -0.592 0.017 rel

08:05 UT Readout delay on mods2 red

08:07 UT Starting science on BD28 taking 4 exposures as requested for UM NovaRecon program. Seeing 0.85" on the guiders. Mostly clear now. El 57deg

Mods1b.20250626.0035-38
Mods1r.20250626.0030-33
Mods2b.20250626.0031-34
Mods2r.20250626.0026-29

08:20 UT readout delay on mods2b

UM NovaRecon

V1405Cas (8:22-9:03)

08:22 UT Sending preset to V1405 Cas with a PA of 80deg. Seeing 0.9" on the guiders, mostly clear.

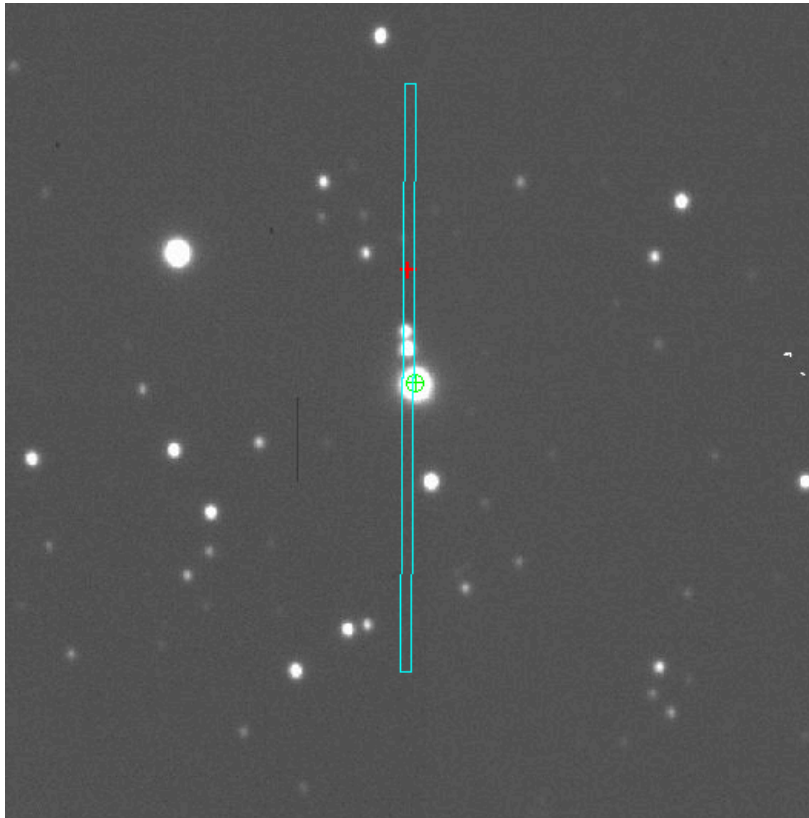Some confusion from the finders but I think we've got it.

MODS1:
Computed Slit Alignment Offset:
  dX = -0.649 arcsec
  dY = 11.503 arcsec

MODS1 Offset Command:
  offsetxy -0.649 11.503 rel

MODS2:
Computed Slit Alignment Offset:
  dX = 3.724 arcsec
  dY = 8.173 arcsec
MODS2 Offset Command:
  offsetxy 3.724 8.173 rel

Another mods2r readout delay.

08:41 UT Starting science. Seeing 0.85-0.9" on the guiders, mostly clear. Elevation 44deg.
IMCS Lock fail on MODS1retry successful.
08:58 UT Seeing 0.8-0.9" on the guiders.
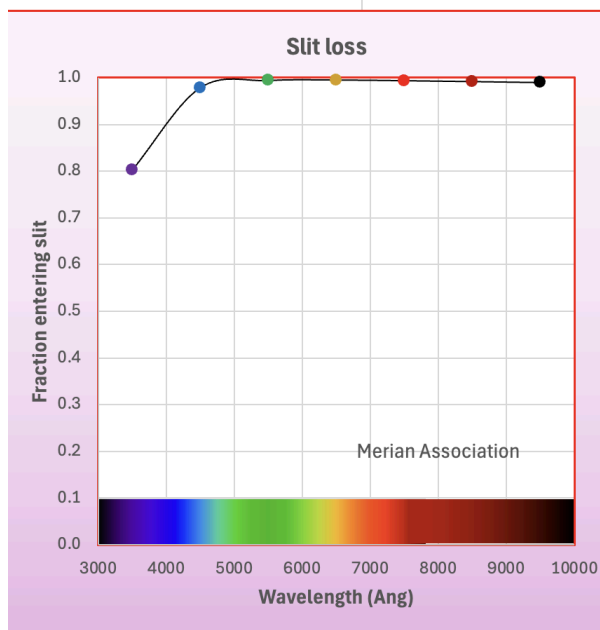
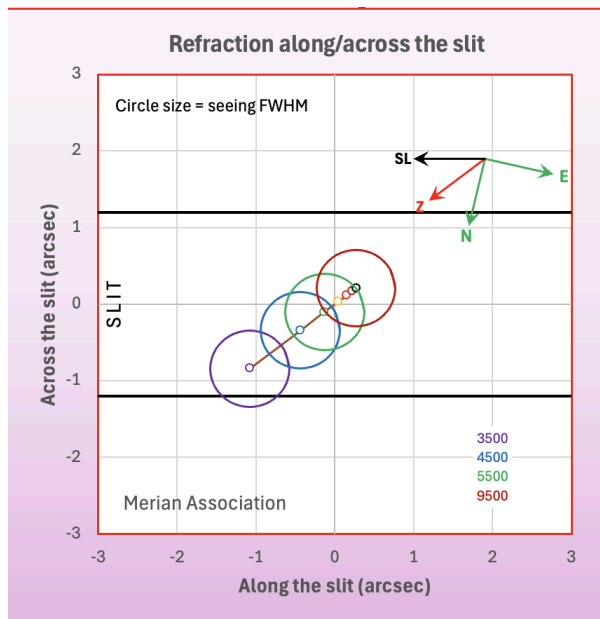Mods1b.20250626.0039-42
Mods1r.20250626.0038-41
Mods2b.20250626.0035-38
Mods2r.20250626.0034-37

OSU_Merianassoc

M3456B (mods1 only, 9:03-10:31)

FYI: With a PA of 283, the atm refraction and

09:03 UT Sending preset to M3456B. Seeing 0.9" on the guiders. Mostly clear.

MODS1:
Computed Slit Alignment Offset:
  dX = -0.194 arcsec
  dY = 11.502 arcsec

MODS1 Offset Command:
  offsetxy -0.194 11.502 rel

MODS2:
Computed Slit Alignment Offset:
  dX = -1.396 arcsec
  dY = 7.992 arcsec

MODS2 Offset Command:
  offsetxy -1.396 7.992 rel

MODS thru slit images: 0040-0041 no mask in FPU despite mask showing in place:
[2025-06-26T09:20:35.125] M2.IE>MC2 ERROR: SLITMASK SLITMASK=12 Impossible Mask in Science Field, but Grabber Stowed MASKPOS=IN GRABBER=STOW
Checked the minsert bit pattern and it is consistent with the mask position in the cassette but the grabber at the focal plane.

DONE: MINSERT SLITMASK=12 BITS=1001 b24-b21
MODS2 out of service until we can take a physical look. IT8468

09:22 UT Problem with MODS2 mask position. While I work to investigate starting mods1 only science. Seeing 1-1.1" on the guider.
Mods1b.20250626.0043-45
Mods1r.20250626.0045-47

10:13 UT Seeing 0.9-1.05" on the guiders.
10:31 UT Completed 3 exposures with mods1.

Troubleshooting (10:31-10:36)

Olga has investigated and confirmed the mods2 mask appears in the cassette. We will whip up to zenith between targets and execute a "minsert reset" to see if we can recover.
10:31 UT slewing to zenith to troubleshoot slitmask issue for mods2. Still indicates:
[2025-06-26T10:32:15.004] M2.IE>MC2 DONE: MINSERT MASKPOS=IN GRABBER=STOW Impossible Mask in Science Field, but Grabber Stowed Reset Successful
isisCmd --mods2 m2.ie minsert rdbits
DONE: MINSERT SLITMASK=12 BITS=1001 b24-b21

Unsuccessful. Continuing mods1 only

10:32 UT 18 degree morning twilight, LMST at morning twilight: 21 32

UM NovaRecon

DQHer (mods1 only, 10:36-twilight)

10:36 UT Preset to DQ Her, mods1 only. Seeing 0.8" on the guider.
Computed Slit Alignment Offset:
  dX = -0.464 arcsec
  dY = 11.868 arcsec

MODS1 Offset Command:
  offsetxy -0.464 11.868 rel

10:44 UT Starting science with MODS1 only.
Mods1b.20250626.0046-51
Mods1r.20250626.0051-56

11:05 UT Seeing is 1.1" on the guiders.

11:08 Seeing starting to blow up with a few excursions up to 1.6". Thin cirrus wafting through

11:10 UT 12 degree morning twilight. Taking a 6th image, in addition to the 5 scripted.

11:12 UT Seeing back down to 1".

11:17 UT Closing

11:30 UT running a mods bias_all script for both mods1 and mods2

12:08 UT sunrise