LBT Observing Log for 2024 10 06 UT

Observers: Justin Rupert Partner Observer: Mark Whittle, Yifan Zhou Telescope Operator: David Gonzalez Huerta

Plan:

MODS2 will be the workhorse for the night.

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Summary:

Clear night, variable seeing 1-2, MODS all night, concentrated on XMD program (OSU & UM), and did UM_V1405Cas with standard G191b2b. Would have done ND_blobs (imaging), but the seeing wasn't good enough. Ended night with OSU_SCATufx spectra (but not imaging). See above for list of completed targets.

Issues:

IT #9196 The QTH1 lamp in MODS 2 no working.

Weather:

Clear skies, low winds, and low humidity all night. Seeing was quite variable for much of the night between 1" and 2.5".

Overview (times are given in UT):

01:13 David is opening.

01:29 Pointing and collimation check.

OSU

XMD_J2104 (UT 01:42-03:13)

Mods2r: 1-7 Mods2b: 1-3 01:42 Preset. PA for the UT0300 acquisition script was adjusted from -8 to -20 to accommodate an earlier starting exposure time. 02:12 Seeing is up to 1.4".

01:49 12-degree twilight.

02:06 Starting science. Seeing is 1.1" on DIMM, 0.9" on the guider. Skies are clear and we're in the southeast.

02:17 18-degree twilight.

02:32 Spectra look good. Clear oxygen and nitrogen lines.

02:37 Seeing is 1.2" now.

02:59 Seeing down to 0.9".



UM

XMD_HS2236 (UT 03:14-05:00)

Mods2r: 8-15 Mods2b: 4-7 03:14 Preset with the UT0330 script.

03:29 Retaking the through-slit image with a -.1" offset in x to tough up the centering. There is a nearby object that appears to be closer and more in the slit than expected (the target is the lower object in the below image).



03:32 Second through-slit looks good. Starting science. Seeing is 1.2" on the DIMM, 0.9" on the guider.



03:44 Seeing has grown to 1.8".

03:46 It has settled back to 1.3".

03:59 First spectra look good. Caught the nearby object in the brighter lines. Still clear out.Seeing still at 1.3".04:09 Seeing back up to 1.5" - 2".

04:15 The seeing is more solidly above 2" now.

04:18 Observers have decided to tack on one extra exposure of 1200s.

04:39 Starting the extra exposure. Seeing still 2" - 2.5"



V1405Cas (UT 05:05-05:39)

Mods2r: 16-22 Mods2b: 8-11 05:05 Preset. Adjusted PA in acq script from 0 to 6 (= parallactic angle for UT 05:30 which should be roughly mid-exposure (object near transit, so altitude 61). Guide star from PA 0 in original script works.

05:09 Observers want to do a pointing check since this is a crowded field. I started the acquisition script prior to that decision, so we're slewing to the target for now.

05:12 Pointing check.

05:14 Preset back to target.

05:16 Seeing has improved markedly to 0.8"! Quite a change and timing.

05:22 Starting science. Seeing is 1.1" on DIMM, 0.8" on guiders. Still clear.

05:36 Peak counts are ~19K (in H-Alpha).



mods

OSU

XMD_HS0029 (UT 05:41-07:00)

Mods2r: 23-28 Mods2b: 12-14 05:41 Preset with UT0530 acq script.

05:52 Starting science. Seeing is 1.6".

06:05 Seeing down to 1" on guider (1.3" on DIMM).

- 06:12 Seeing back up to 1.5" 2".
- 06:17 Aaand now back to ~1".

06:21 Seeing is quite variable between 1" and 2" for these exposures so far.

Spectra have strong lines, H-alpha about 18000 counts peak in 1200s. Decided not to add a fourth 1200s.



UM

XMD_HS0122 (UT 07:00-08:20)

Mds2r: 29-34 Mods2b: 15-17 07:00 Preset with UT0700 acq script.

07:11 Starting science. Seeing is still variable between 1" and 2".

07:38 Seeing is a little more stable between 1" and 1.5". H-alpha has about 15000 counts peak, with other clear emission lines.

08:09 Seeing variability stretched to 2" again.





OSU

XMD_UM420 (UT 08:20-10:00)

Mods2r: 35-41 Mods2b: 18-21 08:20 Preset with the UT0830 acq script.

08:26 Not entirely clear from the acquisition image and the finder what our target is. (seeing was between 2" and 2.5"). Trying the brightest part of the object(s) just off center to the left here:



- 08:32 Starting science. Seeing is `2".
- 08:54 Seemed to have hit the target. Seeing \sim 2".
- 09:11 Seeing still ~2". H-alpha counts ~4000.
- 09:31 Observers have decided to add an additional 1200s exposure due to poor seeing.

09:39 Starting additional exposure. Seeing still ~2".



All (UM-script matched to their V1405Cas observation)

G191B2B (UT 10:00-10:27)

Mods2r: 42-47 Mods2b: 22-25 10:00 Preset.

10:10 Starting science. Seeing has improved to 0.9".





OSU

SCAT_2023ufx (UT 10:28-12:20)

Mods2r: 48-55 Mods2b: 26-29 10:28 Preset.

10:38 There's a gap between LastFile and NextFile on the red channel by 6. Running fitsflush.

10:45 Needed to touch up the slit alignment.

10:49 Starting science. Seeing is 1" - 1.5". Still clear.

11:14 Seeing is ~1".

11:54 18-degree twilight.

11:57 Seeing still ~1".

12:23: 12-degree twilight.

12:25 Closing. We haven't been able to locate any calibration scripts. Mark is asking Rick.

12:35 Calibrations to complete this run: Slit flat 1.0, 1.2 DG Slit flat 0.8 Dual Prism Arcs Pixel Flats

12:40 Running Arcs

12:49 Running Pixel flats

13:12 Running 1.0" Slit Flats.

13:16 It doesn't appear the QTH1 lamp is on even though the MODS GUI says it is. See images mods2r|b 64-66|43-46. Re-running script with the QTH2. IT #9196.

