LBT Observing Log for 2023 Nov 3/4 (MST)

C19 Observer: Andrew Cardwell
Partner Observer(s): Rick Pogge (OSU, remote), Caprice Phillips (OSU) and Brian Healy (UM)
Telescope Operator: Josh Williams

Plan:

We begin with MODS binocular (LUCI1 is still unavailable)
  Feige 110(cal)
  OSU_XMDs: HSCJ2314+0154, UM161, UM420, SBS0335
  G191B2b(cal)
PEPSI (after 0900UT):
 OSU_BHBinaries: J0625+2418, J0107+0749, J0651-1329
 OSU_FGKHosts: HD51400
 OSU_BHBinaries: J0650+2433, J0542+4248, J0518+1737
 OSU_FGKHosts: HD 37216
 OSU_BHBinaries: J0308+6548

Competed:

MODS:
  Feige 110 (cal)
  OSU_XMDs: HSCJ2314+0154, UM161, UM420, SBS0335
  G191B2B (cal)

PEPSI:
fewer than planned, delay in instrument change and degraded seeing we had to bump up exptime to get close to the target SNR
  OSU_BHBinaries: J0651-1329, J0650+2433
  OSU_FGKHosts: HD37216, HD51400

Summary:

Issues:

Overview (times are given in UT):

22:30 Daily telescope planning meeting / Handover.
23:25 Bringing up MODS. It's too early for the file date to turn over.
23:31 Powering on LBCs. Waiting for fills to end.
23:36 No one is interacting with MODS, waking them now and running simSnap.

23:58 Fills are still ongoing. Looks like we won't get any cals in handover. Telescope test presets are still pending.

00:28 Fills are ongoing.

00:33 **Sunset**. Opening is delayed to allow fills to finish and telescope checkout to be performed.

01:16 Telescope has been handed over. **Reconfiguring to MODS** and performing test presets.

01:23 **12 degree twilight**.

01:43 **Opening up.**

01:51 **18 degree twilight**. Pointing preset.

01:58 Collimation preset.

02:00 Preset to **Standard Star Feige 110**. Acquisition begins with mods[1|2]r.20231104.0003.
02:06 Starting science. mods[1|2]b.0003-0005, mods[1|2]r.0005-0007.
02:10 DIMM reports 0.6".

02:19 Preset to **OSU_XMDs HSCJ2314+0154**. Acquisition begins with mods[1|2]r.20231104.0008.
02:34 Starting science. A small adjustment, +0.13" was required in x for MODS2. mods[1|2]b.0006-0009, mods[1|2]r.0012-0015. DIMM reports 0.8".
03:00 Clear emission lines in the first spectra. Guiders report 0.65".
03:31 Guiders report 0.8".

04:05 Preset to **OSU_XMDs UM161**. Acquisition begins with mods[1|2]r.20231104.0016.

04:16 **Preset issues with MODS1**: preset not received by the telescope. Investigating…

04:23 Back in action. The lbttcs agent on MODS1 had hung, but was showing as running when I sent 'mods1 status' (which means the program was running so far as the Linux system was concerned but unresponsive) - restarted tcs agent manually on mods1data, OK after that. Acquisition begins with mods[1|2]r.20231104.0017.

04:34 Starting science.

04:37 Timeout on mods1r IMCS lock. It caught on retry.The DX guider both looks and reports considerably worse than SX. Approx. 1.1" on SX and 1.6" to 1.7" on DX.

05:00 DIMM reports 1.4", guiders 1.1".

05:37 1.3” from the DIMM, 1.2” to 1.3” from the guiders.

05:46 Preset to **OSU_XMDs UM420**. Acquisition begins with mods[1|2]r.20231104.0023.

06:04 Starting science. mods[1|2]b.0013-0015, mods[1|2]r.0026-0028.
DIMM reports 1.2”, guiders 1.0”.

06:28 Strong emission lines in the initial spectra. DIMM reports 1.2”, guiders 1”.

07:12 Preset to **OSU_XMDs SBS0335**. Acquisition begins with mods[1|2]r.20231104.0029.

07:26 Starting science. mods[1|2]b.0016-0018, mods[1|2]r.0032-0034.
DIMM reports 1.2”, guiders 1.0”.

08:33 DIMM reports 2”! Looks like a brief spike as the guiders report 1”.

08:35 Preset to **Standard Star G191b2b**. Acquisition begins with mods[1|2]r.20231104.035.

08:44 We must have picked up a different GS on SX side, there is a very large offset on MODS1,

Computed Slit Alignment Offset:
dX = -31.656 arcsec
dY = -15.638 arcsec

MODS1 Offset Command:
offsetxy -31.656 -15.638 rel

08:46 DIMM reports 2.8”

08:51 Starting science. The seeing has become highly variable. ods[1|2]b.0019-0021, mods[1|2]r.0039-0041.

09:04 **Reconfiguring to PEPSI**. Taking some MODS biases.

09:21 Pointing preset.

09:27 Or not. The telescope was trying to run into the floor.

09:34 Looks like a coordinate error previously, however now the pointing is poor. Moving to a brighter target.

09:46 Preset to **OSU_BHBinaries 949272716964862720 J0651-1329**.
09:48 No GS found on DX, Josh is performing a pointing correction.

09:50 Returning to science source.
09:53 DIMM reports 1.6”, guiders have reported up to 2”.
09:54 Starting science. Exp time increased from 15m to 20m due to the poor seeing.

10:19 **We did not meet our S/N target for this object**. Target was 100, achieved was 29 in blue and 62 in red.

10:20 Preset to **OSU_BHBinaries 3381217539262727936 J0650+2433**. Exp time increased from 8m 20s to 20m. GS not found on DX, Josh is making a pointing correction.

10:26 Returning to the science target.
10:30 Starting science.
10:52 First exposure gave S/N of 35 in the blue and 70 in the red. Repeating the exposure.
11:17 **Damn! We’ve been using the wrong fiber, 100 instead of 300. I had to set up the targets on the fly and missed this!**

11:23 Returning to **OSU_BHBinaries 949272716964862720 J0651-1329** to repeat it with the correct fiber.

11:24 GS not found on DX, Josh is making a pointing correction.
11:26 Once again the GS is way outside the field on DX. Spiraling.
11:29 Returning to the science source.
11:30 Starting science. Seeing is much improved. DIMM reports 1.2”, guiders 0.8”.
11:47 S/N requirements met!

11:49 Preset to **OSU_BHBinaries 3381217539262727936 J0650+2433**, repeating with the correct fiber and better seeing.

11:51 GS not found on DX, Josh is performing a pointing check.
11:55 Returning to the science source.
11:59 Starting science.

12:09 Preset to **OSU_FGKHosts HD 37216**.
12:13 Starting science.
12:15 **18 degree twilight.**

12:16 Preset to **OSU_FGKHosts HD 51400**.
12:19 Starting science.

12:25 End of observation, end of observing night. Closing the telescope, starting PEPSI cals. Powering off LBCs.

12:44 **12 degree twilight.**
13:34 Sunrise.