

# LBT Observing Log for 2023 June 17/18

C19 Observer: Andrew Cardwell (From obs1, x2go session 50)

Partner Observer(s): Rick Pogge (OSU, remote).

Telescope Operator: Steve Allanson

[PEPSI Log](#)

## Plan:

We will start with MODS.

MODS: UM\_XMDs\_MODS complete with SBS1211 and GD153 standard

LBC: delve5 if possible, OSU\_monitor NGC 4736, M101, NGC5474 (wind restricted pointing)

PEPSI: ND\_NitroPlanet Kepler 444, OSU\_BHBinaries J2156, UVa: TIC stars (all short) at the end

## Summary:

MODS:

UM\_XMDs\_MODS SBS1211 completed, some cloud impacts, completes that program.

LBC:

OSU\_monitor NGC 4736, M101, and NGC5474, wind limited the pointing zone

PEPSI:

ND\_NitroPlanet Kepler 444, OSU\_BHBinaries J2156, UVa: TIC470710327,  
TIC25818450, TIC283940788, TIC307119043, TIC389836747

## Issues:

## Overview (times are given in UT):

01:56 Olga has been investigating the MODS2b IMCS lock issue. Conditions are cloudy. Satellite animation shows much more on the way, with intermittent gaps. Looks like a night of sucker holes.

02:05 Init\_all on LUCI1.

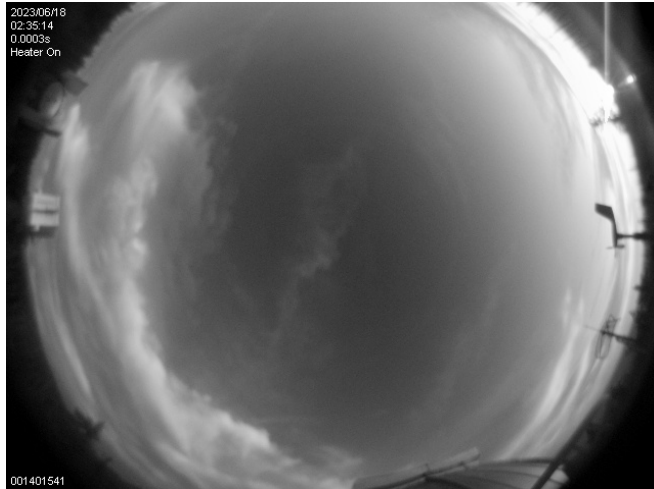
02:14 Field stop is aligned on LUCI1.

02:21 LBCB errors on startup. Olga is looking into it.

02:28 Rick has joined us.

02:35 Sunset

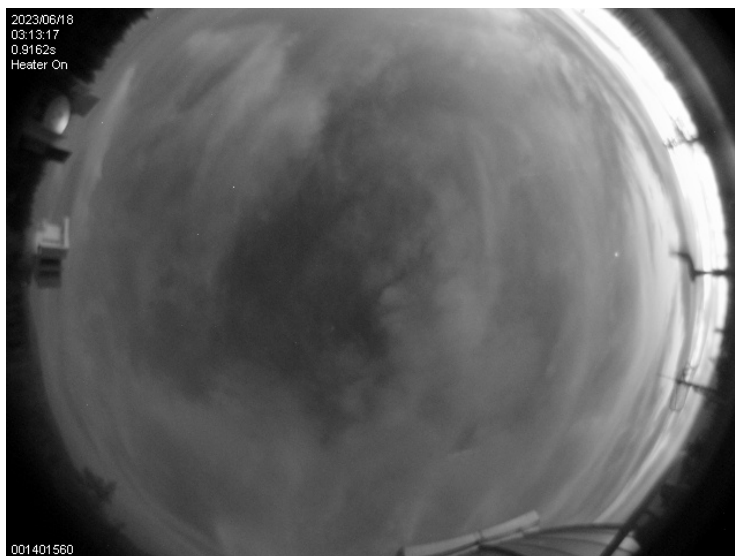
02:37 Opening up. Still some cloud, but not threatening at the moment.



02:43 LBCs are up. Thanks Olga!

03:05 Initial pointing and collimation corrections have been made. Waiting for it to get dark enough to proceed with science.

03:15 Preset to gd153 (after an erroneous preset to gd191 on my part). Acquisition begins with mods[1|2]r.20230618.0011. It is considerably cloudier now.



03:18 Could not find GS on either side. Too much cloud for our 14.2 mag GS. Waiting. Scripts aborted, Update on both MODS.

03:27 Trying again.

03:34 12 degree twilight.

03:34 A manual adjustment of +0.4" in x was required on both sides. GS almost lost waiting.

03:36 Taking the confirmation exposures again.

03:37 Acquisition confirmed on both sides, starting DG science.

03:40 GS lost again.

03:41 And back again.

03:45 Red arm spectra are on the weak side, 300 to 400 ADU above bias.

03:49 Second spectra of sequence looks good. approx . 1k above bias.

03:50 GS is gone again.

03:52 Third spectra is only ~100 ADU above bias. No good.

03:55 Trying again.

03:58 GS lost again.

04:03 'no SSH response mods1data.mods.lbto.org' . MODS1 has stopped exposing, apparently with the shutter open. Olga is looking into it. X windows on mods1data via the raritan is unresponsive. Steve is rebooting the machine.

04:12 18 degree twilight.

04:13 MODS1 is back up. Sky is looking better, if not clear. Guiders report 0.9".

04:17 Particle counts are borderline, but OK for the moment.

04:24 We have at least 3 good exposures for both MODS. Preset to UM\_XMDs, SDS1211, using the 04:30 UT acquisition. Acquisition begins with mods[1|2]r.0022.

04:34 Guiders report 1", 1.2" from the DIMM.

0504:38 Starting science. Mods[1|2]b.0018-0020, mods[1|2]r.0025-0027.

04:41 1.1" from the guiders, about 2 mags of extinction.

05:04 Strong emission lines in both blue and red. Initial spectra may be lower in S/N than expected, due to clouds, but they certainly look useful. Guiders report 1".

05:44 Reading out. 1" from the guiders, 0.9" from the DIMM. Wind has been rising, and getting gustier. Pointing to the SW is not an option.

05:46 **Reconfiguring to LBCs.**

05:47 Warning for high data usage on mods1data.

05:48 Turning on TMS lasers.

05:51 TMS lasers are on.

05:53 Last used TMS references have been copied over.

05:56 wind coming up (15 m/s sustained, gusts to 18m/s), making targets in that sector of the west/south problematic, sticking to NW or eastern LBC targets. This rules out delve5 which would be SW and straight into the wind. Fewer clouds, though



06:06 Preset to collimation field for NGC4736, OSU\_MONITOR.

06:07 Running the TMS loop for a few cycles to apply the last reference.

06:09 Running dof pia, /X2.

06:26 Sending the science preset, starting TMS. A new TMS reference was taken. Some time lost to IRAF idiosyncrasies. Wind gusts up to 18.5 m/s. Copointing exposure had fwhm of 0.95" in the blue and 0.9" in the red.

06:31 IQ in first exposures is 1.2" in blue and 1" in red. Some elongation in the blue PSF. 06:33 Next blue exposure was better, 1.1".

06:40 1.1" in blue, 1" in red.

06:42 Preset to collimation field for M101. DIMM reads 0.9". Blue PSF could be a little better. Letting TMS run for a few cycles and collimating again.

06:44 Starting collimation.

06:50 Collimation looks good! Taking TMS reference.

06:51 Preset to the science target.

07:00 IQ of 0.9" in red and 1.1" in blue in the initial exposures.

07:13 IQ of 0.85" measured in red and 1.1" in blue. DIMM reports 1". Winds have died down a little.

07:22 Preset to NGC5474 collimation field.

07:23 Letting TMS run for a few cycles.

07:27 Took copointing exposures. IQ of 0.8" on both sides, no need to collimate. Preset to the science field.

07:39 1" in blue, 0.85" in red.

08:01 IQ of 1" in blue and 0.85" in red.

08:04 **Reconfiguring to PEPSI.**

08:05 TMS lasers are off.

08:16 Restarting AZcam on SX, then GCS left.

08:25 No images coming in from either GCS... Steve is working on it.

08:30 Wind gust of 19.3 m/s within the last 10 mins.

08:34 Steve is working on some pointing issues.

08:48 Preset to Kepler 444.

08:51 Starting science. Guiders report 1"

09:26 Preset to J2156.

09:32 Seems faint. Making a pointing correction.

09:38 Seems the same. Starting science.

10:08 Preset to TIC 470710327

10:09 GS not found. Pointing correction.

10:10 Preset to target. No problems this time.

10:12 Starting science.

10:14 Preset to TIC 25818450.

10:16 Starting science.

10:29 Preset to TIC 283940788.

10:30 18 degree twilight. Starting science.

10:38 DIMM reports 1.2".

10:45 Preset to TIC 307119043.

10:47 Starting science.

10:50 Preset to TIC 389836747.

10:53 Thick cloud is rolling in. Exposure time doubled.

11:04 End of science. Closing up.

11:06 Starting MODS cals.

11:07 12 degree twilight.

12:05 Sunrise.