LBT Observing Log for 2023 Dec 9/10 (MST)

C19 Observer: Andrew Cardwell
Partner Observer(s): Mark Whittle UVa.
Telescope Operator: Steve Allanson

Plan:

Start with LBC (new OSU_monitor objects):
N6746 (50m) 01:40-02:30 [estimated UT]
N672 (50m) 02:30-03:20
N628 (50m) 03:20-04:00
N925 (40m) 04:00 – 04:40
Change to LUCI (20m)
UM_Warhol 05:00 – 07:00. Use new scripts from Olga (v9.5).
Change to MODS (11m):
UVa_SN2023xgo (1 hour) [Priority 1] 07:20-08:00
[[if time: UVa_SN2023mut (40min) [Priority 1] 08:00 – 09:00]]
UM_XMD_J0807 1.3hr 09:10-10:30
OSU_SCAT (1.5 hrs) [Priority 1] 10:40-12:20
[[If time: ND_Bluegals (1hr) [Priority 1]. 12:20-13:20
Flux calibrator to end. 12 deg is UT 13:15.
IF seeing is poor, then try to quickly catch:
OSU_GammaDor: K-3967 (11m) ; K-6614 (11m); K-1177 (11m)
Then, until conditions improve:
OSU_BHBinaries (possibly with some UVa_Multistar added).

Observed and completed:

OSU_Monitor NGC 6946
OSU_Monitor NGC 672
OSU_Monitor NGC 628
OSU_Monitor NGC 925
No more LBC targets.

Seeing (at high elevation) varying and at best was close to threshold (1.2) for low-elevation UM_Warhol. So unlikely to meet criteria. Decided not to go to LUCI for UM_Warhol.

So changed to MODS:
PhotCals: g191b2b
UVa_Supernova 2023xgo and 2023mut
UM_XMDs J0807 and J0851
OSU_SCAT
PhotCals: Feige 34 and WD0809 (just past 18 deg)

Summary:

Clear all night, with intermittent very thin cirrus. Seeing initially rather variable, starting ~1.2, increasing to 1.8, but then steadily improved, so second half was 1 arcsec or better. Completed OSU_Monitor first-half targets, switched to MODS and completed: UVa_supernova (two targets); UM_XMDs (two targets); and OSU_SCAT, all under good conditions. Obtained three photcals: G191B2B and Feige 34 and WD0809.

OSU_Monitor
SpecPhot G191B2B
UVa_Supernovae: SN2023xgo_PA210
UVa_Supernovae: SN2023mut_PA0
UM_XMDs_MODS SDSSJ0807_UT0800
OSU_SCAT: 2023ufx_rising
UM_XMDs_MODS: WISEAJ0851_UT1100
SpecPhot Feige34
SpecPhot WD0809

Issues:

Overview (times are given in UT):

23:45 LBCs powered on, running the 2 bias bino checkout.

23:52 Looks good. Running 25 biases.

23:58 Waking mods, taking simSnap.

00:00 Error on lbcr as the day changed over. lbckill/start

00:09 Restarting the bias sequences.

00:19 **Sunset**.

00:32 LUCI field stops aligned. Slight delay as luci2 geirs needed to be restarted. (geirs restart via the noVNC) Opening up. We have thin cloud, so no flats tonight.

01:02 Running dohybrid, /X2. It's likely still too bright though.

01:05 Our field has very few start, dohybrid failed. Backing out dofpia and making a preset to another target.

01:09 Running dohybrid again.

01:11 **12 degree twilight.**

01:23 We didn't catch spherical very well. The seeing is degrading. Copointing.

01:30 I had to restart iraf due to an error while copointing. Copointed, running collimation one last time to try and catch the spherical term on the blue camera.

OSU_Monitor

01:37 Preset to **NGC6946**.

01:41 **18 degree twilight.**

01:46 IQ in initial exposures is 1.2" in blue and 1.0" in the red.

LBC IQ plot (courtesy C Veillet): Note that FWHMs corrected to zen & 500nm:
http://people.lbto.org/~cveillet/Chris/LBC_Current_Plot.png
http://people.lbto.org/~cveillet/Chris/lbcIQ_500nm_Zenith/lbcIQ500z_20231210.png

01:57 Collimation is going soft on blue, 1.6". Red is pretty much tracking the seeing, 1.1".

02:12 Preset to **NGC672**. Thin clouds are still present.

02:22 Collimated. Still not picking up the spherical well on blue. Preset to the science field.

02:31 Rotational trailing in the first red exposure. I had skipped copointing in the mistaken belief that we hadn't changed elevation much. Stopping and copointing now. We will also collimate again.

02:43 Returning to the science field.

02:52 IQ of 0.9" measured on red and 1.1" on blue.

03:08 2" measured on blue, 1.1" on red. Collimation on LBCB is going soft very quickly. Unfortunately the PI did not supply the OT files to allow us to split the observations and recollimate in the middle.

03:19 Preset to **NGC628**. The DIMM reports that the seeing has been steadily degrading.

03:21 Collimating.

03:31 Collimated. Looks good on both sides this time! Copointing.

03:34 Preset to science source. Copointing exposures have 1.35” on both sides, which matches the trend on the DIMM.

03:32 DIMM currently reading 2.5”. FIrst science exposures have 1.35”.

03:54 IQ of 1.45” measured on both sides.

04:05 IQ of 1.3” measured in blue, 1.2” measured in red.

04:15 Preset to **NGC925**.

04:16 Collimating.

04:20 Copointing.

04:23 Preset to science field. Copointing exposures have 1.2” in the blue and 0.9” in the red.

04:32 Pausing after the first exposures to let the target transit. IQ of 1.35” measured on blue, 1.2” measured on the red.

04:38 Resuming observations.

04:47 IQ of 1.35” measured on both sides.

04:57 **Reconfiguring to MODS**.

SpecPhot G191B2B

05:20 Preset to G191B2B, mods DG. MODS file numbers are all set to 0018 for easier logging.

05:29 Starting science. Mods[1|2]b.20231210.0018-0020, mods[1|2]r.20231210.0020-0022.

UVa_Supernovae: SN2023xgo_PA210

05:42 Preset.

05:55 Starting science. Mods[1|2]b.0021-0023, mods[1|2]r.0026-0028.
Seeing from guiders variable: 1.1-1.4

UVa_Supernovae: SN2023mut_PA0

07:05 Preset.

07:21 Starting science. Mods[1|2]b.0024-0026, mods[1|2]r.0032-0034.

Both DIMM and guiders give seeing 1.0 arcsec.

UM_XMDs_MODS SDSSJ0807_UT0800

07:59 Preset to SDSSJ0807_UT0800.

08:09 Guiders and DIMM report 0.9”.

08:11 Starting science. Mods[1|2]b.0027-0029, mods[1|2]r.0038-0040.
Seeing 0.9 arcsec

08:38 The first spectra show multiple strong emission lines in both the red and the blue.

OSU_SCAT: 2023ufx_rising

09:19 Preset.

09:32 Starting science. 0.9” from the DIMM and guiders. Mods[1|2]b.0032-0034, mods[1|2]r.0041-0043.

10:30 Moving on to imaging for this target, We are running 2023ufx_IM.img. Seeing is around 0.8”. NOTE: This script covered ugri. There was also a second script, 2023ufx_IM2.img, which covered ig only. This second script was not run.

10:34 The GS is poorly chosen, the probe is shadowing the lower right hand corner of the exposures. It does not appear to be blocking the target of interest,

UM_XMDs_MODS: WISEAJ0851_UT1100

10:47 Preset.

11:01 Starting science. DIMM reports 1”, guiders 0.8”. mods[1|2]b.0042-0044, mods[1|2]r.0053-0055.

11:26 Lots of strong emission lines in both the red and blue spectra.

SpecPhot Feige34

12:12 Preset.
12:19 Starting science. 0.7” from the guiders. mods[1|2]b.0045-0047, mods[1|2]r.0058-0060.

SpecPhot WD0809

12:35 Preset.

12:42 **18 degree twilight.**
12:45 Starting science. mods[1|2]b.0048-0050, mods[1|2]r.0063-0065. 0.9” from the guiders.

13:02 **End of night. Closing up.**

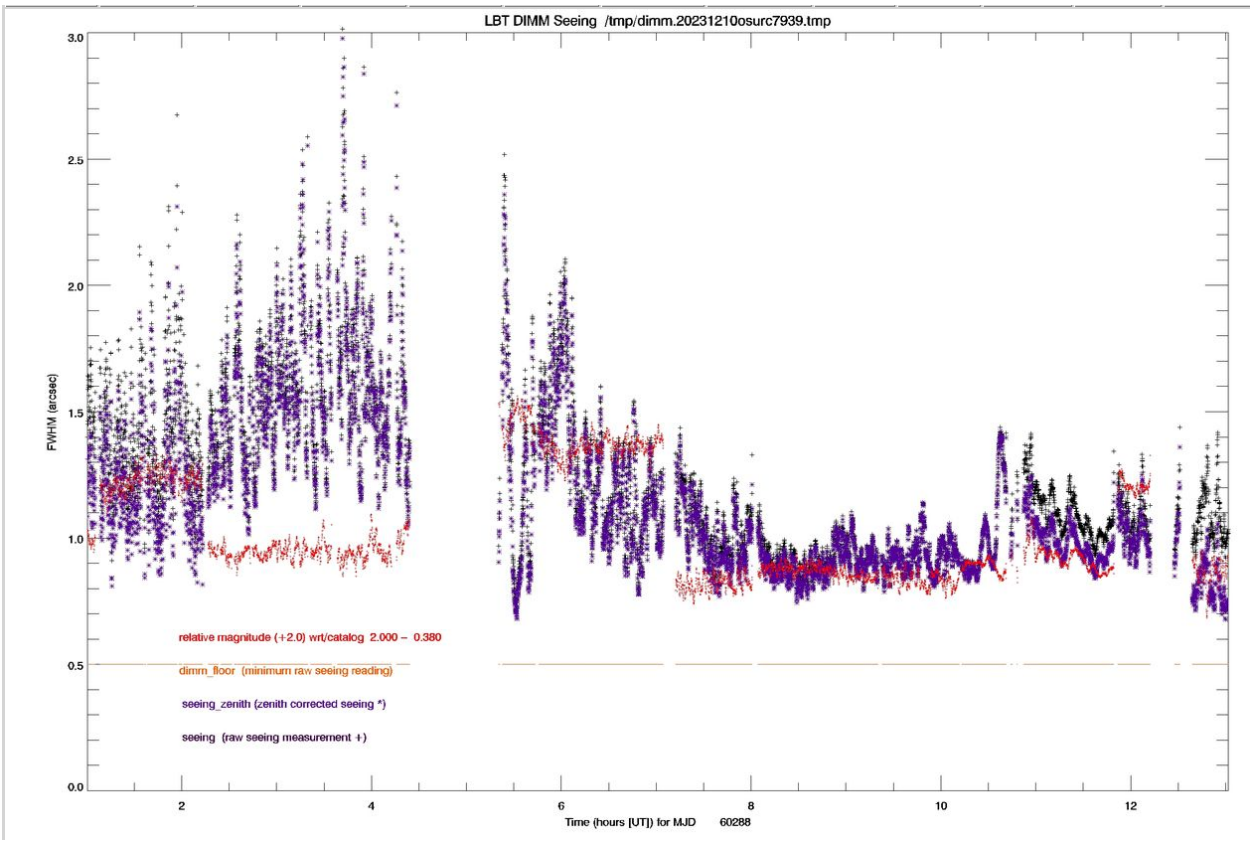
13:08 LUCIs safed.

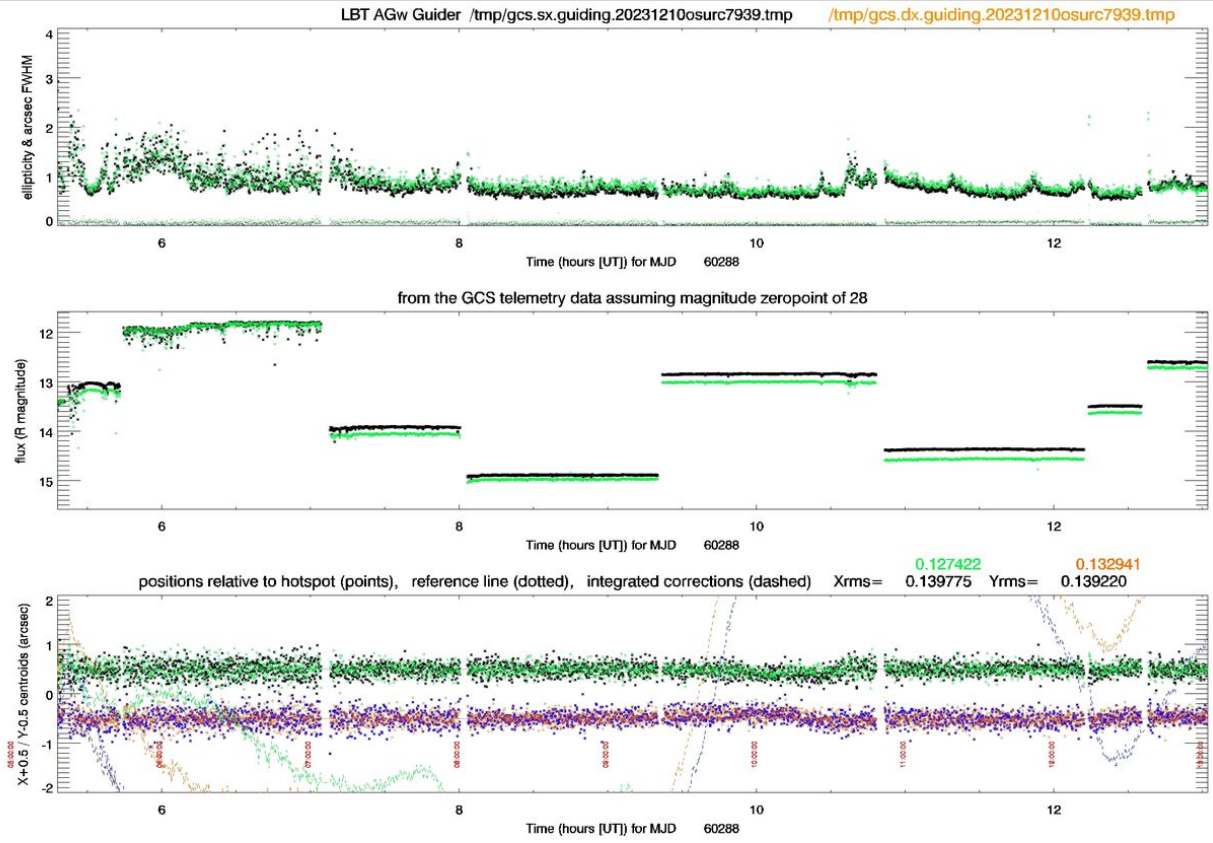
13:12 **12 degree twilight.**

13:14 Running MODS and LBC biases.

13:31 LBCs powered off.

14:05 **Sunrise.**




LBT AGw Guider /tmp/gcs.sx.guiding.20231210osurc7939.tmp /tmp/gcs.dx.guiding.20231210osurc7939.tmp
ellipticity & arcsec FWHM
Time (hours [UT]) for MJD 60288
from the GCS telemetry data assuming magnitude zeropoint of 28
flux (R magnitude)
Time (hours [UT]) for MJD 60288
positions relative to hotspot (points), reference line (dotted), integrated corrections (dashed) Xrms= 0.139775 Yrms= 0.139220
0.127422
0.132941
X+0.5 / Y-0.5 centroids (arcsec)
Time (hours [UT]) for MJD 60288