LBT Observing Log for 2024 11 24 UT

Observers: Justin Rupert
Partner Observer: Mark Whittle, Yifan Zhou, Dom Rowan
Telescope Operator: Josh Williams

Plan:

Anticipating some light cirrus,
PEPSI PFU will be the workhorse tonight.

UM 58Aql [done]
UVa TIC 1230 [done]
    Pointing check
UM V1405Cas [done]
OSU BHBinaries: J00435538+3505407 [done]
OSU LiDwarf 0108 [done]
OSU BHBinaries: J01574758+2928468 [done]
OSU_Clusters
    0318+5207 [done]
    0326+4850 [done]
    0327+4822 [done]
    0336+4527 [done]
UVa_TIC 3898 within UT 4-6 [done]
OSU_BHBinaries
    J05535674+3052361 [done]
    J04574725+4514512 [done]
    J05313920+4729318 [done]
Near UT 7:30
If clear and seeing OK, change to LUCI
    OSU_XMD_J0807 (~1.5hr), Telluric HIP31659 [skipped due to clouds]
    OSU_SCAT_ufx (~1.2 hr) [skipped due to clouds]
Near UT 7:40 Back to PEPSI
    BHBinaries: J00525502+6335152 [done]
    UVa_TIC 3368 within UT 8-12 [done]
    BHBinaries: J07202130-0856427 [done]
    BHBinaries: J07044555-0831578 [done]
    OSU LiDwarf0844 [done]
    ND_RPED-7 (~1.7 hrs): exposure interrupted due to clouds; two 30-min exposures (CD1 + CD4) have been taken.
    BHBinaries: J08301619-0204550
    BHBinaries: J10474905+4815166

BHBinaries: J09263022-0145112
12-deg UT 13.

Summary:

PEPSI for the entire night. The attempt to swap to LUCI was thwarted by clouds, so we returned to PEPSI. We were clouded out while observing ND_RPED-7.

UM V1405Cas and flux standard 58Aql

UVA Multistar:
TIC 123098844
TIC 389836747
TIC 336882813

OSU Clusters:
0318+5207
0326+4850
0327+4822
0336+4527

OSU LiDwarf:
J01084954-0030464
J08443258+1116500

OSU BHBinaries:
J00435538+3505407
J01574758+2928468
J05535674+3052361
J04574725+4514512
J05313920+4729318
J00525502+6335152
J07202130-0856427
J07044555-0831578

OSU_XMD_J0807 – **skipped due to clouds**
OSU_SCAT_ufx – **skipped due to clouds**
ND_RPED-7 – **interrupted by clouds**

Issues:

None

Weather:

Clouds were present all night to various degrees. Seeing was decent all night. Wind picked up the second half of night, at moments gusting above the observing limit.

Overview (times are given in UT):

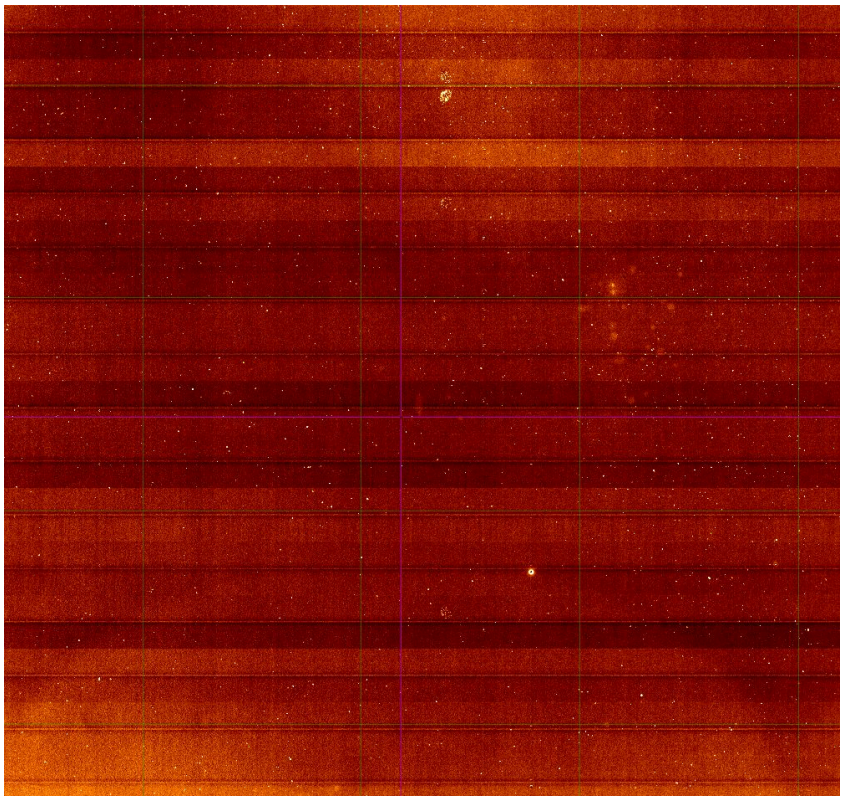
23:30 Initializing LUCI1

23:31 Running UVa_nirjets darks.

23:44 Running OSU_XMD darks.

00:04 Looks like there's persistence from the previous night in these 600-s darks:

00:17 Cutting this off. Completed the first four, 600-s darks. Josh is opening.



Counts are only a ~10 units higher than the rest.

00:35 Pointing check.

00:45 Secondary pointing check.

00:47 Spare cirrus clouds are going by. Josh was having trouble seeing this target. ND2 filter was in. Changed to ND0.

00:51 Collimation check.

UM_58Aql

58 Aql (UT 00:53-01:07)

00:53 Preset.

00:55 Starting science. Seeing is 1.3” on guider.

00:58 Finished generating new OB for UVa_Multistar. Previous version had incorrect exp times.

01:03 Seeing has degraded to 2” on guider.

UVa_Multistar

TIC 12309…(UT 01:07-01:17)

01:07 Preset.

01:09 Starting science. Seeing is 1.6” on guider.

01:10 12-degree twilight

01:14 Seeing back down to 0.7” on dIMM, 0.6” on guider.

BD+28 3402 (UT 01:17-01:24) Radial velocity standard

01:17 Preset.

01:19 Pointing check.

01:21 Preset back to target.

01:22 Starting science. Seeing is 0.6” on guider.

UM_V1405Cas

V1405Cas (UT 01:24-02:30)

01:24 Preset.

01:26 Starting science.

01:40 18-degree twilight

01:55 SNR was 57 (blue) and 85 (red). Goal is 100. Likely due to binocular estimate for S/N but to confirm correct target, we did a pointing check. Skies are clear. Emailed PI to confirm that S/N is adequate for science.
01:59 Preset back to target.

02:03 Guider image looks the same. Taking the second pair of spectra in CD3 and CD5. The lower SNR in the first pair of spectra has been accepted by the observer. SNR 75 (blue) and 86 (red), with Halpha identified in the red spectrum.

02:04 Seeing is 1” on DIMM, 0.6” on guider.

OSU_BHBinaries

~~J2243+0445 (UT 02:33-02:37)~~

02:33 Preset.

02:37 Preset canceled. EL drive issue from last night. We’re into the ~10m/s wind. Looking for a target out of the wind.

J0043+3505 (UT 02:41-03:16)

02:41 Preset. Some clouds in the very northern part of the All-Sky. Thicker clouds are coming our way according to the satellite.

02:42 Didn’t get the target. Pointing check.

02:44 Preset back to target.

02:46 Starting science. Seeing is 0.7” on guider.

03:04 Seeing is 1.0” on DIMM, 0.6” on guider.

OSU_LiDwarf

J0108-0030 (UT 03:16-03:33)

03:16 Preset.

03:20 Starting science. Seeing is 0.9” on DIMM and guider. Thin clouds overhead.

03:31 SNR: 62 (blue), 72 (red). Goal is 100. After discussion it's been decided to move on and contact PI to verify this lower SNR is acceptable.

OSU_BHBinaries

J0157+2928 (UT 03:36-03:52)

03:36 Preset.

03:38 Starting science. Seeing is 0.7" on guider. Thin clouds are still overhead. The cloud system continues its approach.

OSU_Clusters

GDR3 44599…(03:52-04:31)

03:52 Preset.

03:55 Unclear if we missed that target or if it's thickening clouds. Pointing check.

03:57 Preset back to target.

04:01 R mag of object is 12.9 on SIMBAD. Guider is reading over 18. WFS exp time is maxed out and struggling to get a reading.

04:12 Starting science. Seeing is 1.1" on guider. Guider mag is reading ~17.5. I upped the exp tiem from 8 to 20 minutes.

04:18 Guider mag up to ~17.

04:31 Target has disappeared. Stopped and readout exposure after ~19 minutes. SNR: 57 (blue), 76 (red). Goal is 50 on blue, 100 on red.

04:41 After some discussion, we'll go to the next Cluster target while Dom finds brighter ones we could better observe.

GDR3 44138…(UT 04:41-04:55)

04:41 Preset.

04:45 Starting science. Seeing is 1" on guider. R mag of target is ~11, guider is reading 16.5. Bumped exptime from 8 to 20 minutes.

04:49 Guider mag is 17

04:52 Guider mag is 17.5

04:55 Guider mag >18. Stopping exposure. Josh is closing. Thicker clouds are on the way. SNR: 53 (blue) 61 (red).

05:41 Taking more OSU_XMD darks.

05:49 Cut off the first one. We're going to open.

05:55 Pointing check.

05:57 Collimation check.

GDR3 24920…(UT 06:00-06:14)

06:00 Preset.

06:02 Starting science. Seeing is 1.4" on DIMM, 0.8" on guider. R mag of object is 12.8, guider mag is ~16. Still thin clouds above us on the All-Sky camera.

06:14 SNR: 71 (blue), 102 (red)

GDR3 24771…(UT 06:14-06:27)

06:14 Preset.

06:15 Starting science. Seeing is 0.6" on guider. R mag 12.8, guider mag 16. Thin clouds still.

06:22 Guider mag ~16.5.

UVa_Multistar

TIC 3898…(UT 06:27-06:34)

06:27 Preset.

06:29 Starting science. Seeing is 0.7" on guider. R mag ~10, guider mag ~14. Still thin clouds.

OSU_BHBinaries

J0553+3052…(UT 06:34-06:55)

06:34 Preset.

06:37 There's another, object nearby. Going to do a pointing check to be sure we get the correct target.

06:39 Preset back to target.

06:41 Starting science. Seeing is 1.1” on DIMM, 0.7” on guider. R mag of target is 13.6, guider mag is 17.3.

J0457+4514…(UT 06:55-07:03)

06:55 Preset.

06:58 Starting science. Seeing is 0.7” on guider. R mag is 12, guider mag is 15.4.

J0531+4729…(UT 07:03-07:09)

07:03 Preset.

07:05 Starting science. Seeing is 1.1” on DIMM, 0.9” on guider.

07:09 Done. **Reconfiguring to LUCI1.**

07:17 Pointing check.

07:21 Collimation check.

OSU_XMD

~~J0807+3414…(UT 07:25-07:40)~~

Luci1: 15-18
07:25 Preset.

07:36 Can’t see the target in the subtraction. Still have a thin layer of clouds. Trying another field image with 6 instead of 4 NDITs.

07:40 Still nothing. We’re going to **reconfigure to PEPSI.** Seeing has blown up as well. In fact, it was poor throughout the acquisition, which is another factor.

07:50 Pointing check.
07:55 Collimation check.

OSU_BHBinaries

J0052+6335…(UT 07:57-08:26)

07:57 Preset.

07:59 Starting science. Seeing is 1.5” on guider. Thin clouds still.

UVa_Multistar

TIC 3368…(UT 08:26-08:43)

08:26 Preset.

08:30 Starting science. Seeing is 1” on guider. Still thin clouds. More thicker clouds approaching.

OSU_BHBinaries

J0720-0856…(UT 08:43-09:01)

08:43 Preset.

08:46 Starting science. Seeing is 1” on DIMM, 0.9” on guider. Slightly thicker clouds now.

J0704-0831…(UT 09:01-09:25)

09:01 Preset.

09:03 Starting science. Seeing is 1.1” on guider. Medium-thickness clouds above us. Increased exposure time from 15 to 20 minutes.

OSU_LiDwarf

J0844+1116…(UT 09:25-09:47)

09:25 Preset.

09:27 Starting science. Seeing is 0.8” on guider. Medium clouds still. Increased exp time from 10 to 17 minutes.

ND_RPED

~~GDR3 36048…(UT 09:48-10:57)~~

09:48 Preset.

09:49 Starting science. Seeing is 0.9” on guider. Thin clouds. Guider mag 16.5

10:30 Seeing is 1.1” on DIMM, 1” on guider. Guider mag is 17.5.

10:45 Clouds have thickened. Guider mag is >18.

10:57 We’re closing. Can barely see the target. We got two spectra in CD1 and two in CD4.

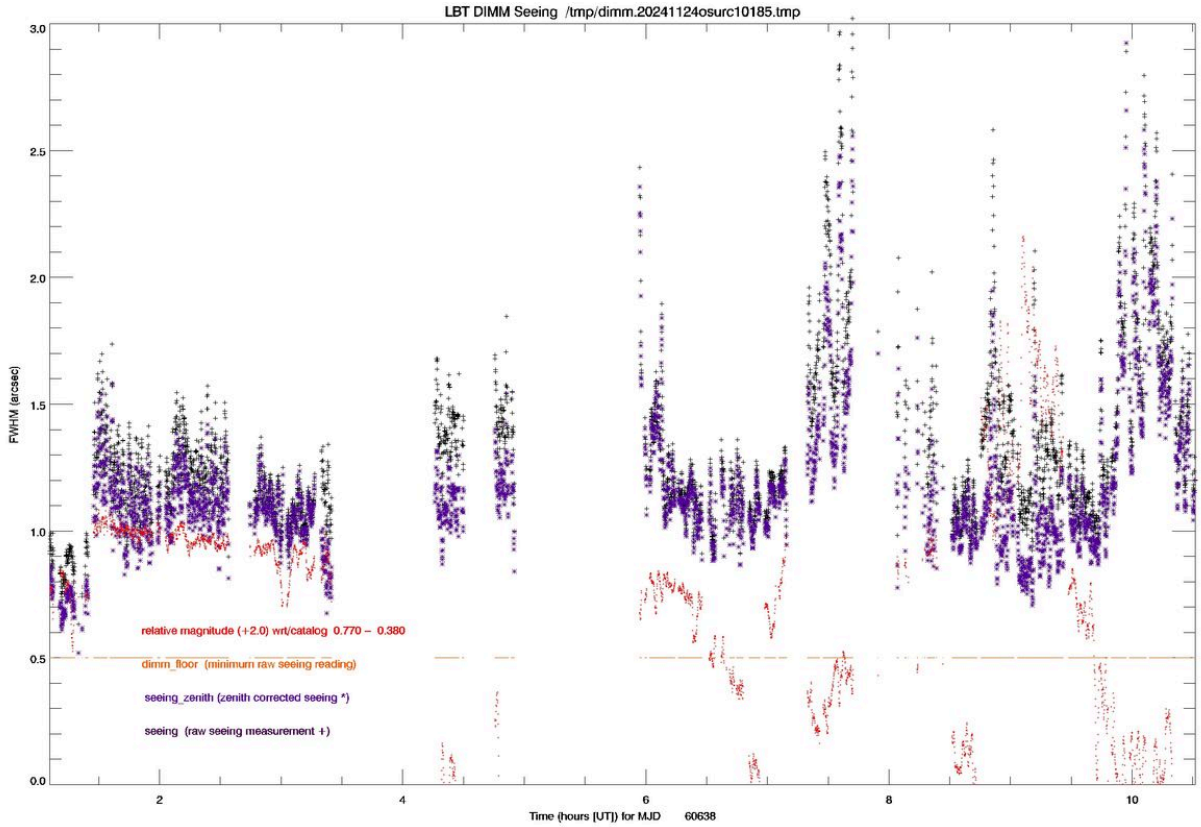
12:31 18-degree twilight.

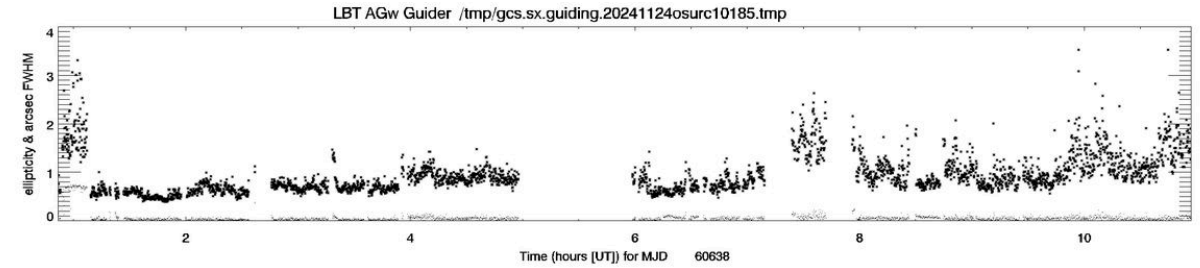
12:55 Calling the night.

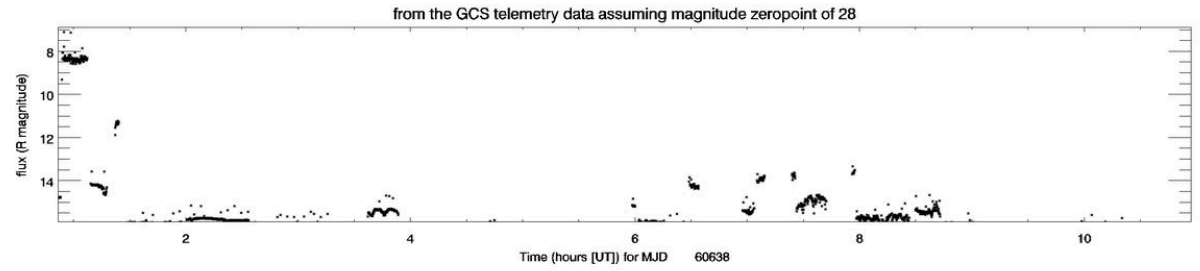
13:00 12-degree twilight.

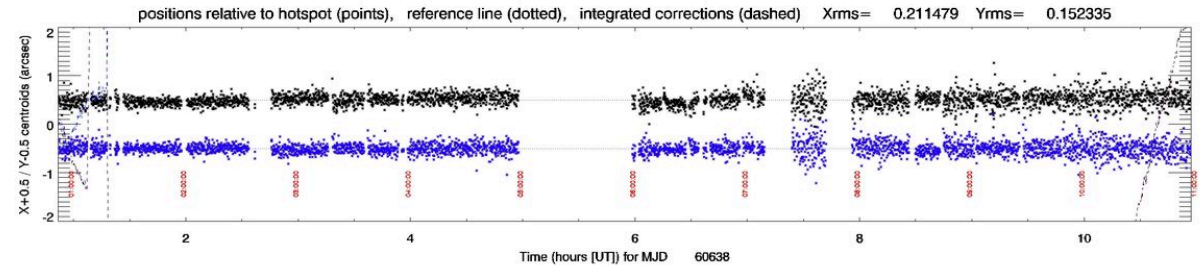
13:03 Running PEPSI cals.

PEPSI Log:
https://drive.google.com/file/d/15POVv7-9uiaNMHXdMcvm5UjycWZlkgJp/view?usp=sharing


LBT DIMM Seeing /tmp/dimm.20241124osurc10185.tmp
FWHM (arcsec)
relative magnitude (+2.0) wrt/catalog 0.770 – 0.380
dimm_floor (minimum raw seeing reading)
seeing_zenith (zenith corrected seeing *)
seeing (raw seeing measurement +)
Time (hours [UT]) for MJD 60638


LBT AGw Guider /tmp/gcs.sx.guiding.20241124osurc10185.tmp
ellipticity & arcsec FWHM
Time (hours [UT]) for MJD 60638


from the GCS telemetry data assuming magnitude zeropoint of 28
flux (R magnitude)
Time (hours [UT]) for MJD 60638


positions relative to hotspot (points), reference line (dotted), integrated corrections (dashed) Xrms= 0.211479 Yrms= 0.152335
X+0.5 / Y-0.5 centroids (arcsec)
Time (hours [UT]) for MJD 60638