LBT Observing Log for 2024 02 13

C19 Observer: Justin Rupert
Partner Observer(s): Michael Tucker and Sydney Petz
Telescope Operator: David Gonzalez Huerta

Plan:

If conditions are good, we will start with LBCs for the OSU nearby galaxy monitoring program. Otherwise we will use PEPSI for various programs.

Observed and completed:

OSU_Monitoring

N2403
M81
M82
N3077

UVA_BCD_MODS

J1004
Feige34

BHBinaries

2MASS J13100180+2230053
2MASS J15562887+1218157
2MASS J12201670+1229024

Summary:

LBTI IQ plot:

http://people.lbto.org/~cveillet/Chris/LBC_Current_Plot.png
(Easier as it does not change… will show the last lbc night if no observing done yet…)

Weather was pretty good. Light cirrus came and went throughout the first half of the night. Temps, winds, and humidity were largely steady.

Issues:

IT #9057

Overview (times are given in UT):

00:15 **Reconfiguring for LBC**

00:45 Running LBC Biases. Evening twilight flats will not be taken due to some cirrus.

01:00 Opening

N2403 (UT 01:24-02:22)

01:24 Sending preset

01:44 Running dohybrid. Too bright still.

01:50 Re-running with –X2. Coma is too high on DX for the procedure to run calculations. Didn't input those values beforehand.

01:58 Re-re-running. Worked!

02:05 Running lbcrangebal.

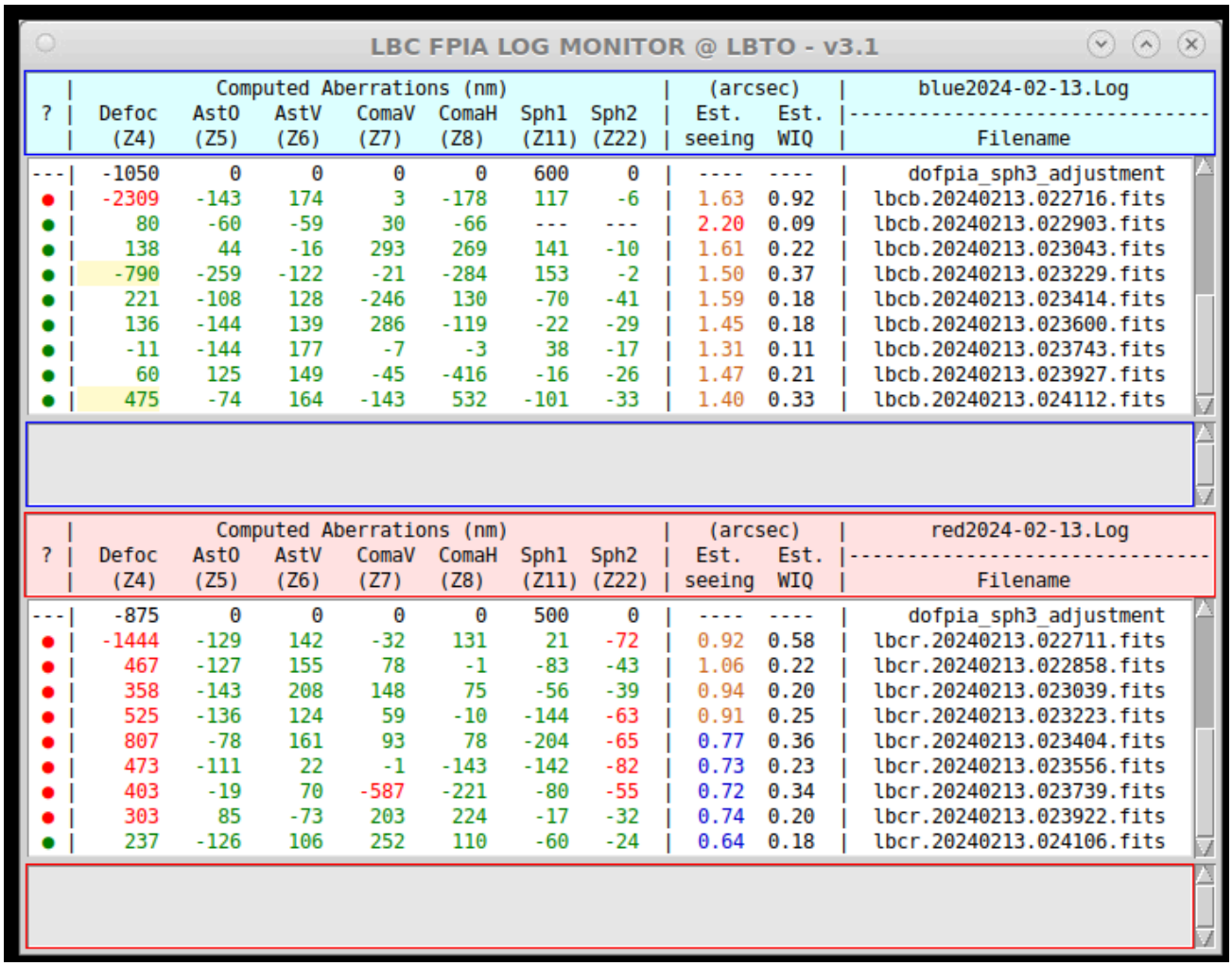
02:08 Temperatures changing rapidly, so running dofpia just to be sure. Looks good.

02:12 Starting science. DIMM ~1.3"

M81 (UT 02:23-02:59)

02:23 Sending preset.

02:26 Running dofpia. Took many iterations for DX to refocus. Temperatures were pretty stable for it and there was a 2-degree difference between ambient and mirror temps.



02:44 lbcrangebal

02:47 Starting science. DIMM ~0.8”.

M82 (UT 02:59-04:28)

02:59 Sending preset.

03:01 Running dofpia. Z4 varying wildly now. Re-running in interactive mode. Temperature difference ~1.5 degrees.

04:11 Struggled wrangling the collimation on this one. Experienced Z22 runaway in LBCR. Cleared active optics twice. Finally got it to a reasonable level with Olga’s help.

04:13 lbcrangebal

04:15 Starting science. DIMM ~0.9”

N3077 (UT 04:28-04:48)

04:28 Sending preset.

04:30 Running dofpia.

04:34 lbcrangebal

04:37 Starting science. DIMM ~1.0”

~~I2574 (04:55-05:30)~~

04:55 Sending Preset

04:56 Running dofpia.

05:13 Clearing active optics. More Z22 runaway in LBCR.

05:20 Now LBCB is struggling with Z22. Temperature difference of 0.7 degrees between ambient and each mirror.

05:30 **Reconfiguring to MODS.** Taking too much time wrestling with the LBC Z22 runaway.

06:15 Reconfiguration complete. David had issues with AZCAM.

06:20 The workstation on which I was working froze. Mouse and keyboard stopped working so I migrated to another workstation. In the meantime, David had some issues with pointing and collimation.

06:25 Sending preset to J0827. Elevation too high.

J1004 (UT 06:36-07:49)

Mods1r: 3-8
Mods2r 3-8
Mods1b: 3-4
Mods2b: 3-4

06:36 Sending preset. David needed to unwrap AZ.

06:37 Pointing check.

06:40 Resending preset.

07:02 Starting science. Left guider reading ~1”, right reading ~0.6”

07:21 See the banding in the lower right quadrant of MODS1 blue on both spectra here.

07:47 Aborting exposure as we’re approaching the elevation blind spot. Will come back to this target.

Feige34 (UT 07:51-09:00)

Mods1r: 9-22
Mods2r 9-22
Mods1b: 5-16
Mods2b: 5-16

07:51 Sending preset.

07:58 Starting science. Guiders reading ~0.8” All mods1 blue files displayed the banding in the bottom right quadrant.

J1004 (UT 09:00-10:18)

Mods1r: 23-28
Mods2r 23-28
Mods1b: 17-19
Mods2b: 17-19

09:00 Sending preset.

09:06 Pointing check.

09:10 Resending preset.

09:20 Error in modsAlign on MODS2:

```
Send this offset to the telescope (Y|N)?: y
Traceback (most recent call last):
  File "/lbt/lbto/mods/bin/modsAlign", line 3115, in <module>
        OF = open(offFile,"w")
OSError: [Errno 30] Read-only file system: 'MODS2_lastOffset'
```

09:20 Starting science. Seeing ~0.8” on guiders.

10:18 **Reconfiguring for LBC**

~~N4826 (UT 10:38-11:08)~~

10:38 Sending preset.

10:44 Running dohybrid.

10:58 Clearing active optics. Z22 again in LBCR. Temperature difference ~0.7 degrees between ambient and each mirror.

11:08 Add Z7 and Z11 to the mix.
Reconfiguring to PEPSI. Spending way too much time on LBC collimation.

11:50 Struggling with pointing…*sigh*

2MASS J13100180+2230053 (UT 12:17-12:34)

12:17 Sending preset

12:30 Starting science. Seeing ~0.8” on DIMM.

2MASS J15562887+1218157 (UT 12:34-12:44)

12:34 Sending preset.

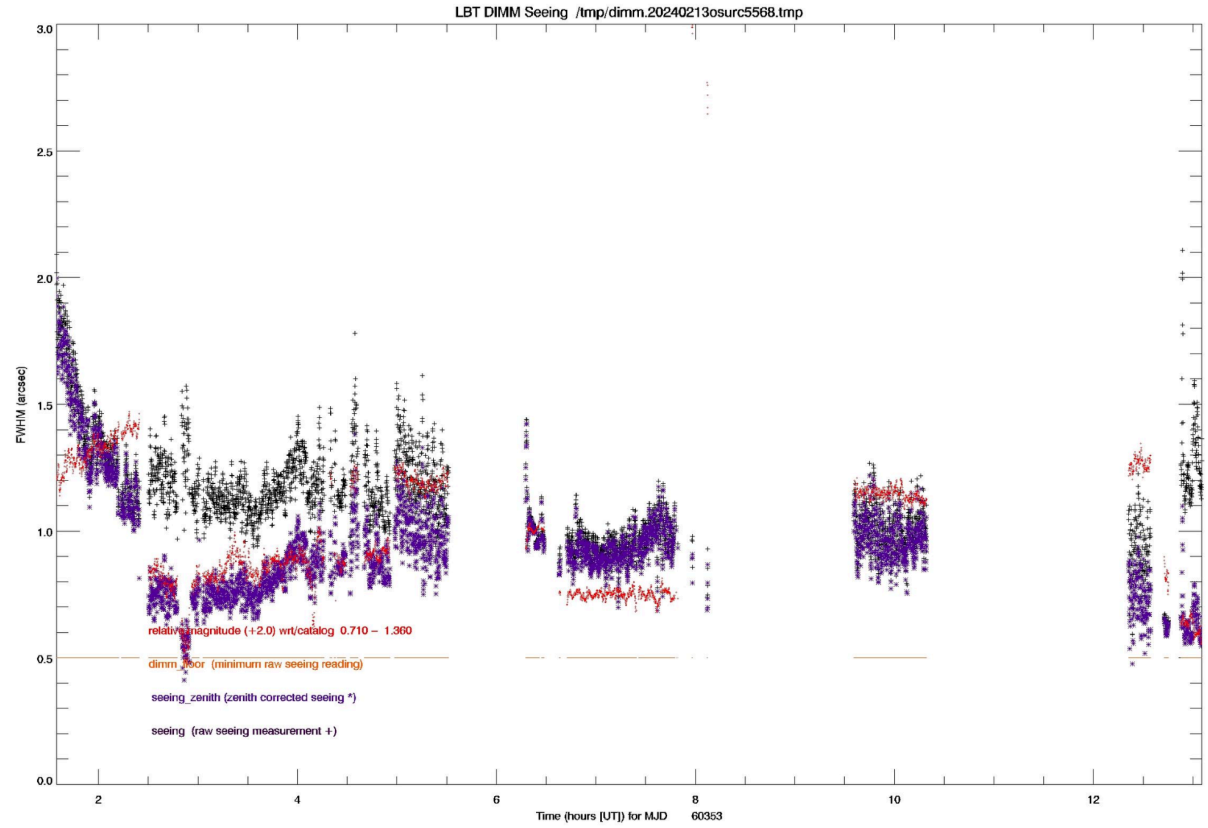
12:39 Starting science. DIMM reading ~0.7”.

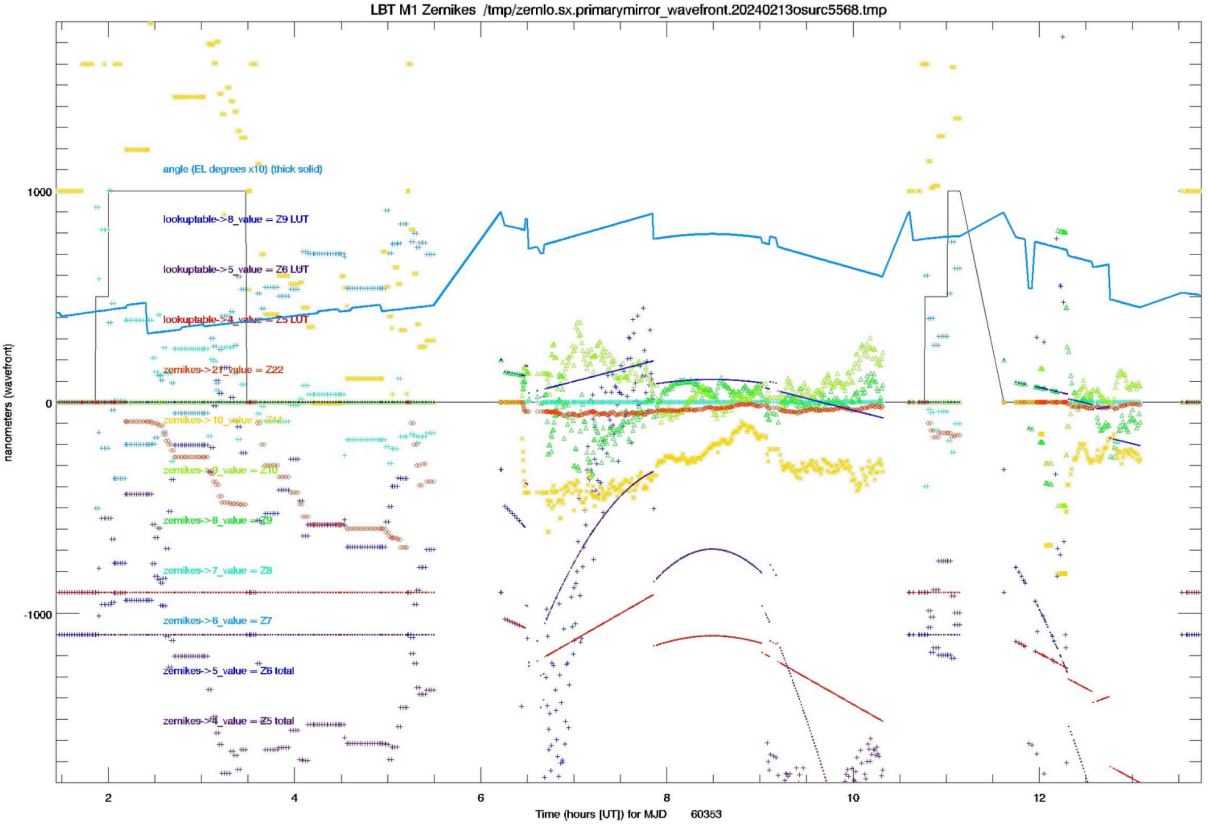
2MASS J12201670+1229024 (UT 12:45-13:05)

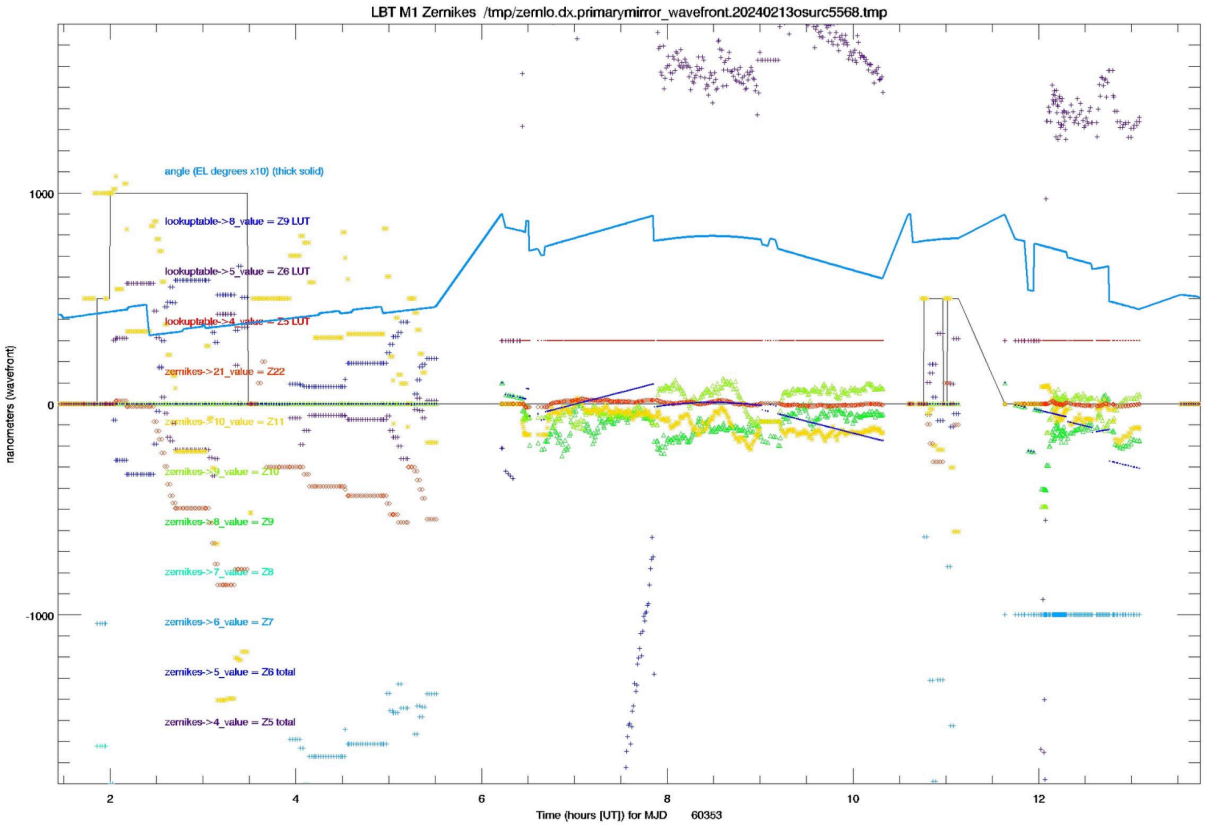
12:45 Sending preset.

12:50 Starting science. DIMM reading ~0.7”.

13:30 Got a few USpec and R-Bessel LBC sky flats. Will need to do B and V later.


LBT DIMM Seeing /tmp/dimm.20240213osurc5568.tmp
FWHM (arcsec)
Time (hours [UT]) for MJD 60353
relative magnitude (+2.0) wrt/catalog 0.710 – 1.360
dimm_floor (minimum raw seeing reading)
seeing_zenith (zenith corrected seeing *)
seeing (raw seeing measurement +)


LBT M1 Zernikes /tmp/zernlo.sx.primarymirror_wavefront.20240213osurc5568.tmp
nanometers (wavefront)
Time (hours [UT]) for MJD 60353
angle (EL degrees x10) (thick solid)
lookuptable->8_value = Z9 LUT
lookuptable->5_value = Z6 LUT
lookuptable->4_value = Z5 LUT
zernikes->21_value = Z22
zernikes->10_value = Z11
zernikes->9_value = Z10
zernikes->8_value = Z9
zernikes->7_value = Z8
zernikes->6_value = Z7
zernikes->5_value = Z6 total
zernikes->4_value = Z5 total


LBT M1 Zernikes /tmp/zernlo.dx.primarymirror_wavefront.20240213osurc5568.tmp
angle (EL degrees x10) (thick solid)
lookuptable->8_value = Z9 LUT
lookuptable->5_value = Z6 LUT
lookuptable->4_value = Z5 LUT
zernikes->21_value = Z22
zernikes->10_value = Z11
zernikes->9_value = Z10
zernikes->8_value = Z9
zernikes->7_value = Z8
zernikes->6_value = Z7
zernikes->5_value = Z6 total
zernikes->4_value = Z5 total
1000
0
-1000
nanometers (wavefront)
2
4
6
8
10
12
Time (hours [UT]) for MJD 60353