## LBT Observing Log for 2023 June 16/17

C19 Observer: Andrew Cardwell (From obs1, x2go session 50) Partner Observer(s): Mark Whittle (UVa, remote), Candice Phillips (OSU, remote). Telescope Operator: Steve Allanson

## Plan:

Tentative plan for tonight: Start with MODS: Flux standard gd153 end UT 4:00 UM\_XMD SBS1211 (1h) end UT 5:00 UM\_XMD SBS1249 (1h) end UT 6:00 ND\_bluegals J1342 (20m) end UT 6:30 ND\_V844her (2.4h) end UT 9:00 [1x2 binning]

Change to LUCI (done by UT 9:15) aim to complete one nova in zJ. UM\_Nv23A AT2023cxt + Telluric: zJ (ends UT 10:30) Continue into twilight.

## Summary:

See note at the bottom of the log on the impact of the scissor lift light on data from previous nights.

Lost significant time to wind.

Opened at UT5:25 so lost ~2hrs from 12 degree twilight; missed standard gd153 and SBS1211. Slow start as AZ drive cuts out after 10 mins of exposure on SBS1249. Reacquire.

Completed UM\_XMD SBS1249. Data look good.

Completed **flux standard bd332642** in 1x1 and 1x2 binning.

Start ND\_V844her, but closed by wind after 30 mins on target. Stay closed for 1 hour.

Continue with ND\_V844her from UT9:54 to UT 11:07 (12 degree), so add ~70 mins.

Hopefully, 30 mins + 60 min gap + 70 mins are sufficient to follow 1 orbit.

If so, then consider **completed: ND\_V844her**.

Issues:

## Overview (times are given in UT):

00:32 It is extremely windy. Winds have been over the limit for at least the past hour, and likely all afternoon. Peak gusts have been just tinder 30 m/s. As one would expect, we also have high particle counts.

00:44 Bringing up MODS.

00:46 MODS are awake, running simSnap.

00:52 SimSnap looks good. MODS are in observing mode, AGws are homed.

00:57 LUCI1 is up, running init\_all.

01:00 Powering on LBCS.

01:28 No bias voltage warnings from LBCB today. Test presets are complete. Running 2 bias bino checkout on LBCs.

01:30 Running full MODS bias sequence, 1x1 binning.

01:31 LBC test biases look fine. Running 25 biases on each side.

01:38 LUCI1 field stop is aligned.

01:44 Taking HKSpec flats and arcs with LUCI1 for UM\_Nv23A-523Jun.

02:02 LBC biases finished. Powering off LBCs.

02:04 Taking zJSpec flats and arcs with LUCI1 for UM\_Nv23A-523Jun.

02:27 MODS DG arcs.

02:38 Safing LUCI1 for now.

02:35 Sunset Remaining closed for now. Winds are dropping, but still gusting over, or close, to limits.

02:37 MODS DG 0.6" slit flats.

02:54 Wind speeds have risen again. Waiting.

03:21 Wind gusts up to 24.3 m/s within the last 10 mins.

03:22 MODS 1" DG slit flats.

03:34 12 degree twilight.

03:43 MODS 1.2" DG slit flats.

04:01 Wind gusts up to 23.8 m/s within the last 10 mins.

04:12 18 degree twilight.

04:15 MODS 5" DG slit flats.

04:39 MODS slitless DG flats.

05:22 Winds are borderline, but looking better than they have so far tonight. We are opening and will attempt to observe.

05:26 Enclosure open. Steve is taking care of pointing corrections and initial collimation.

05:37 Preset to SBS1249, UM\_XMDs. 05:30 acq file. Acquisition begins with mods[1|2]r.20230617.0058.

05:46 DIMM reports 1.1", guiders agree.

05:49 Starting science. mods[1]2]b.0070-0072, mods[1|2]r.0061-0063.

05:52 mods2b failed to lock on IMCS, retrying. Got it.

05:57 AZ drive cut out. Canceling the scripts. We will have to reacquire.

05:58 Sending acquisition preset. Acquisition begins with mods[1|2]r.20230617.0061. Parallactic angle changing slowly, so we'll keep this PA (-87)

06:09 Starting science. mods[1]2]b.0070-0072, mods[1|2]r.0064-0066.

06:11 IMCS lock failed on mods2b, retrying. Got it.

06:41 First spectra look good. DIMM and guiders report 1.3".

07:06 We are now at 37.5 degrees in elevation, guiders report 1.5".

07:18 Preset to BD33, specphot for previous (1x1 binning) and next (1x2 binning) targets. Acquisition begins with mods[1|2]r.20230617.0067.

07:30 Manual offset of +0.5" in x required on both sides. Odd. Acquisition confirmed, starting science.

07:45 1.5" from the DIMM. Wind gust of 20.5 m/s.

07:53 Preset to ND\_v844her. Acquisition begins with mods[1|2]r.20230617.0077.

08:00 Guiders report 0.75".

08:03 Acquisition confirmed, starting science.

08:21 Guiders report 0.9".

08:38 Winds are over the limit again. Reading out current exposure (7/35) and closing the enclosure.

08:48 Particle counts are now also over the limit.

09:34 Opening up and trying again.

09:41 Preset to ND\_V844her.

09:54 Starting science. Guiders and DIMM currently report 1.2". Wind appears to have calmed for the moment.

09:57 IMCS lock failed on mods2b, it caught on retry.

10:21 1.5" from DIMM and guiders.

10:30 18 degree twilight.

10:43 We are at 34 degrees in elevation. Guiders report 1.4".

11:03 Guiders report 1.4".

11:07 12 degree twilight. End of science. The target hit the lower limit.

11:08 Closing the enclosure.

11:10 LUCI1 safed.

11:23 Taking MODS biases with 1x2 binning.

12:05 Sunrise.

*"I looked at the science, collimation and copointing images from the night before last (20230615 UT) and noticed the stray light on just two exposures:* 

filenameobjectfilterelevationlbcr.20230615.054753.fitsN4258R-BESSEL+46:16:32.59lbcr.20230615.055150.fitsN4258R-BESSEL+45:36:20.06

On the remaining 7 exposures of this field, as it was setting, the stray light does not appear on the image.

Combined with last night it looks like the light was visible to LBCR for elevations roughly from ~ 45:00 - 56:30, the upper limit given by the series on N4605: lbcr.20230616.040804.fits N4605 R-BESSEL +56:44:00.09 - not visible lbcr.20230616.041246.fits N4605 R-BESSEL +56:21:09.66 - appears lbcr.20230616.041724.fits N4605 R-BESSEL +55:57:43.63 - appears

Olga"