# LBT Observing Log for 2024 09 22 UT

Observers: Andrew Cardwell Partner Observer: Mark Whittle & Yifan Zhou (remote) Telescope Operator: Josh Williams.

#### PEPSI Log

# Plan:

PEPSI DX, Possible change to MODS at the end of the night (seeing dependant). We are doubling the requested exposure times to compensate for monocular [given in paren]

- Ø OSU\_BHB\_J1931 [30min]
- ☑ ND\_RPED5 (complete second half from last night) [55 min]
- ✓ OSU\_BHB\_J1833 [20 min]
- ☑ UVa\_TIC\_4707 [6 min]
- ✓ OSU\_BHB\_J2031 [13 min]
- ☑ OSU\_PETS 1431 transit from UT 04:45 09:15). [4hr 30m] [not doubled, of course].
- ☑ OSU\_LiD\_0106 [22 min]
- ☑ OSU\_BHB\_J0001 [23 min]
- ✓ OSU\_BHB\_J0043 [30 min]

If the seeing is 1 arcsec or better, change to MODS at the end of the night.

- UM\_GKper (MODS) [16 min]
- UM\_g191b2b [ If we stay with PEPSI then
- OSU\_BHB\_J0521
- OSU\_LiD\_J0341
- OSU\_LiD\_J0123 (west, before dawn).

#### NOTE:

- We have the flat on DX, the SX adsec is unavailable.
- The humidity sensor at the telescope is working again.

### Summary:

### Issues:

Weather:

# (times are given in UT):

00:42 Clear. 70% humidity at LBT, 75% just below us at the SMT.

01:21 Opening. 74.5% humidity.

01:23 Sunset.

01:51 Preset to OSU\_BHB\_J1931. Seeing appears to be poor, during our initial collimation seeing estimates from the guider ranged from 1.3" to 2.2". Waiting for the sky to further darken before starting science. Double requested exposure to 1800s

02:01 Starting science. Guider reports 1.5".

02:05 DIMM reports 1.8".

02:11 12 degree twilight.

02:27 1.75" from the DIMM.

02:32 Preset to ND\_RPED5.

02:35 Pointing check required.

02:38 Returning to target and starting science.DIMM reports 1.3". 20min exp for CD1/CD5, 35min exp for CD1/CD6.

02:40 18 degree twilight.

02:44 Seeing appears to be improving. 1.2" from the DIMM.

03:23 1.15" from the DIMM, 44.5% humidity.

03:35 Preset to .OSU\_BHB\_J1833. Exp time doubled to 20min.

03:37 Pointing check required.

03:38 Returning to target.

03:40 Starting science.

04:01 Preset to UVa\_TIC\_4707. Exp time increased to 7mins.

04:04 Pointing check required.

04:06 Returning to target.

04:07 Starting science.

04:16 Preset to OSU\_BHB\_J2031. Exp time increased to 15 mins.

04:19 Starting science.

04:35 Preset to OSU\_PETS 1431. Transit observation.

04:39 Starting science.

04:54 DIMM reports 1.6".

08:01 DIMM reports 0.8".

09:15 DIMM reports 0.85".

09:16 Preset to OSU\_LiD\_0106. Exp time doubled to 22min.

09:20 Starting science.

09:25 Checking the mods2 status I see that the red and blue IMCS services are down. Investigating.

09:28 The services had failed, I restarted them.

\*\*\*ERROR: redIMCS quad cell read fault detected: No route to host
\*\*\*ERROR: redIMCS - More than 10 successive write errors to the Red HEB.
Reason: Broken pipe
Is the Red IMCS Comtrol Unit Offline?
redIMCS Aborted at 2024-09-21T17:08:16.086133
\*\*\*ERROR: blueIMCS - More than 10 successive write errors to the Blue HEB.
Reason: Broken pipe
Is the Blue IMCS Comtrol Unit Offline?
Is the Blue IMCS Comtrol Unit Offline?
I blueIMCS Aborted at 2024-09-21T17:08:37.616094

09:33 We have an issue with MODS.

MODS2 Dashboard	
Calibration and AGw Unit	Telescope Preset - Right Side
	Target: RA Dec Catalog
Mode: Calibration Observing Brestore AGW Probe	GuideStar: RA Dec Clear
Hatch: Open Closed Calibration Lamps	Rotator: 0 deg Position + Mode: Acquire + Send Preset
Calib: In Out OFF	Offset Pointing CoordSys: DETXY
AGw X: -90.310 Y: -243.504 Foc: 0.000 Filter: Clear + Home	Offset: ΔX         O         ·         ΔY         O         ·         PA         O         deg         Send Offset
Slit Mask	Configuration
Slit Mask:	Dual   Blue Channel: Imaging   Red Channel: Imaging   Commit Clear
Configuration	Configuration
Mode: Imaging Grating Prism Commit Clear	Mode: Imaging Grating Prism Commit Clear
Filter: Clear 🗢 Grating ID: CenLam:	Filter: Clear 🗘 Grating ID: CenLam:
Focus: um TTF A: B: C: um um	Focus: um TTF A: B: C: um
Exposure Control	Exposure Control
Name: None	Name: None
Type: Object   ExpTime 1 sec # Images: 1	Type: Object + ExpTime 1 sec # Images: 1
Binning X: 1 ♀ Y: 1 ♀ CCD Readout: 3Kx3K ♀	Binning X: 1   Y: 1   CCD Readout: 3Kx3K   ↓
NextFile: mods2b.20240922.0001 LastFile: mods2b.20240917.0002	NextFile: mods2r.20240922.0001 LastFile: mods2r.20240915.0010
Pause Shutter: Closed Image:	Pause Shutter: Closed Image:
GO Exposure:	GO Exposure:
Stop Readout:	Stop Readout:
IMCS: Idle Use IMCS Lock-On	IMCS: Idle 🗹 Use IMCS Lock-On

09:43 Preset to OSU\_BHB\_J0001.

09:44 Starting science.

09:58 I forgot to double the exp time, running the observation again.

10:10 Preset to SU\_BHB\_J0043.

10:11 Starting science.

10:37 DIMM reports 1.2".

10:40 The DIMM graph has been fairly steady around 1 arcsec, and the ALTA is recording around 0.8 to 0.9 arcsec over the past couple hours. These meet the criteria to proceed with GKper (UM) and use the 1 arcsec slit.

10:42 Reconfiguring to MODS. Starting PEPSI cals.

11:05 Preset to UM\_GKper, 1" slit. DIMM currently reports 1.1".

11:13 Acquisition confirmed, starting science. Double exposure (8 x 120s) to allow for monocular.





Above is the refraction information at UT 11:15 (start of exposure), with 1 arcsec seeing and 1 arcsec slit at PA 180.

Here's the ALTA seeing record for the night (green is measured at LBTO).



Seeing hovered around 1 arcsec during the exposure.

11:44 Preset to specphot, g191-b2b.

11:45 18 degree twilight.

11:51 Acquisition confirmed, starting science.

12:07 End of observation, end of science. Closing the enclosure.

12:14 12 degree twilight.

12:20 Enclosure is closed and dark, taking MODS2 arcs.

12:35 MODS2 DG 0.6" slitflat, 1" slitflat, 5" slitflat.

13:03 Sunrise.