

LBT Observing Log: 2025 03 01 UT

Observers: Justin Rupert

Partner Observer: Peter Garnavich

Telescope Operator: David Gonzalez Huerta

Plan:

MODS

- Standard g191b2b (looks like some high clouds though)
- ND/BG CMi repeat visit 2.5 hours (ends at 5:00 UT)
- OSU_lmcsats/UGC4115_dw1 1.7 hours (ends at 7:30 UT)
- xxxxxOSU_lmcsats/NGC3738_dw7 1.7 hours (ends at 8:20 UT)
- OSU_scat/2024inv 1.3 hours
- OSU_lmcsats/NGC5204_dw3 1.7 hours (ends at 10:30 UT)
- OSU_scat/sn24igg 1.7 hours
- OSU_lmcsats/NGC5585_dw11 1.7 hours (ends at 11:40 UT)

PEPSI

- UM_PEPSITCrB/TCrB 0.8 hours (ends at 12:30 UT)
- UM_PEPSITCrB/HR550 0.4 hours (ends at 13:00 UT -in twilight)

LBC

- Sky flats if possible?

Summary:

[Standard: G191B2B \(UT 01:50-01:57, 02:10-02:23\)](#)

[ND](#)

[BG CMi](#)

[BG CMi_pa-20 \(UT 02:23-05:16\)](#)

[OSU](#)

[lmcsats](#)

[UGC4115_dw1 \(UT 05:17-07:21\)](#)

[SCAT](#)

[2024inv \(UT 07:21-08:39\)](#)

[lmcsats](#)

[NGC5204_dw3 \(UT 08:39-10:53\)](#)

[SCAT](#)

[~~2024igg \(UT 10:53-11:05\)~~](#)

[UM](#)

[TCrB](#)

[TCrB \(UT 12:26-13:09\)](#)

[TCrB](#)

[~~Telluric: HR 5501 \(UT 13:09-13:14\)~~](#)

Issues:

MODS2R lagged at read out numerous times during a series of 150s exposures.

Has trouble with SX collimation with PEPSI PFU, HAd to switch to mono for the sake of time.

David had to restart the AZCAM server for the PEPSI PFUs as well as GCS multiple times after reconfig.

Weather:

Light clouds were a factor for most of the night. Seeing was variable (.6"-2"). Winds were calm.

Temperature at ground *

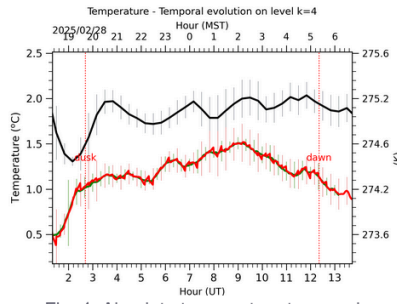


Fig. 4: Absolute temperature temporal evolution between the sunset and the sunrise at [38-62]m.

Wind Speed at ground *

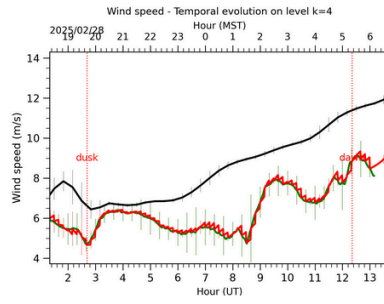


Fig. 5: Wind speed temporal evolution between the sunset and the sunrise at [38-62]m.

Wind Direction at ground *

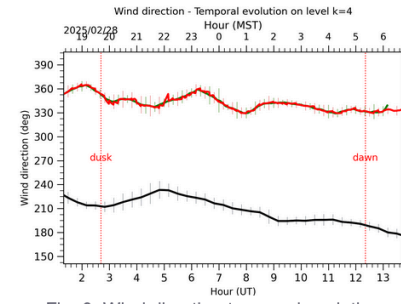
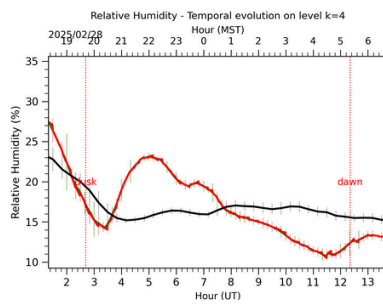
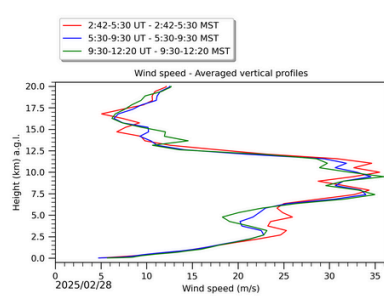


Fig. 6: Wind direction temporal evolution between the sunset and the sunrise at [38-62]m.

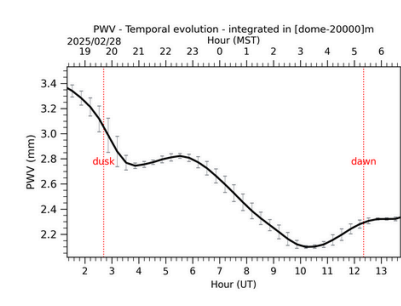
Relative Humidity at ground *



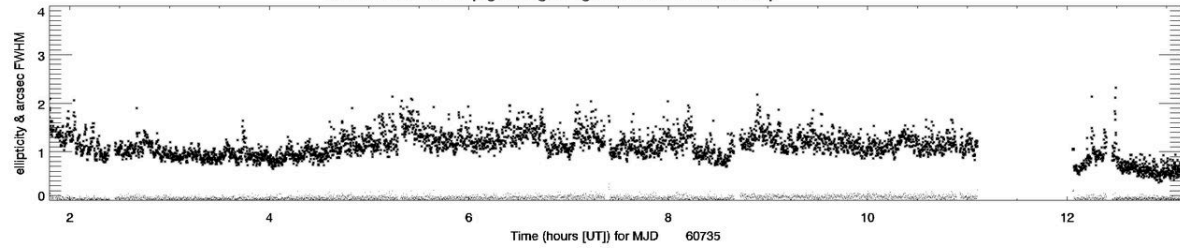
Wind Speed vertical profiles



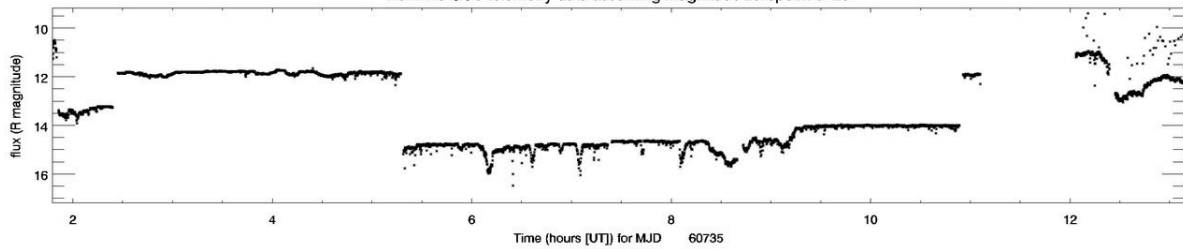
Precipitable Water Vapor



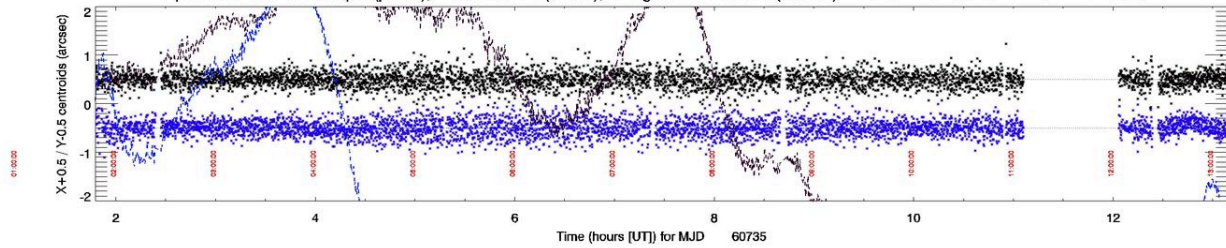
LBT AGw Guider /tmp/gcs.dx.guiding.20250301osurc10591.tmp

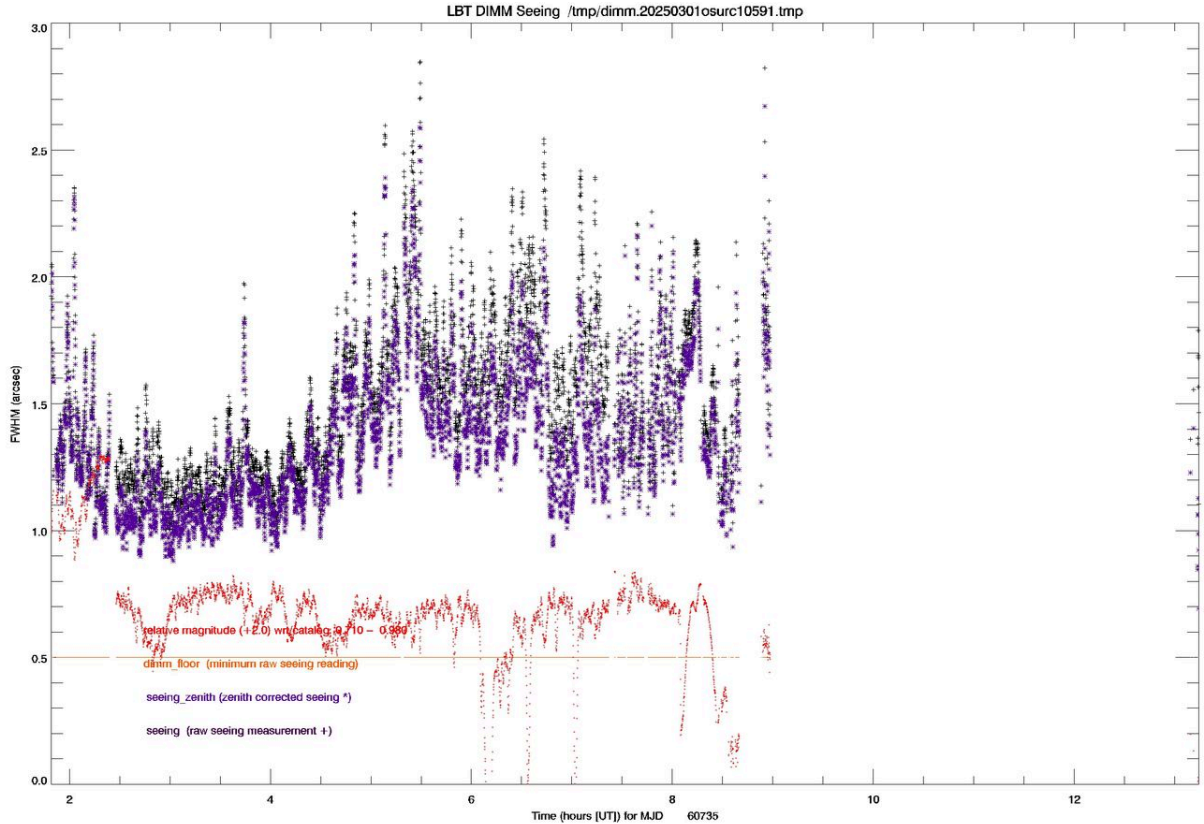


from the GCS telemetry data assuming magnitude zeropoint of 28



positions relative to hotspot (points), reference line (dotted), integrated corrections (dashed) Xrms= 0.158746 Yrms= 0.162305





Overview (times are given in UT):

00:24 Waking MODS.

00:25 modsSimSnap. Looks good.

00:26 Turning on LBCs.

00:31 Running 2-bias checkout.

01:16 Sunset.

01:23 Opening.

01:38 Pointing check.

01:46 Collimation check.

Standard: G191B2B (UT 01:50-01:57, 02:10-02:23)

Mods1r: 3-7

Mods2r: 3-7
Mods1b: 3-5
Mods2b: 3-5
01:50 Preset.

01:54 Computed Slit Alignment Offset:
dX = -0.832 arcsec
dY = 11.072 arcsec

MODS1 Offset Command:
offsetxy -0.832 11.072 rel

Computed Slit Alignment Offset:
dX = 3.800 arcsec
dY = 7.999 arcsec

MODS2 Offset Command:
offsetxy 3.800 7.999 rel

01:57 We'll wait to start science exposures to allow the cirrus to pass and the sky to darken.

02:09 12-degree twilight.

02:10 Starting science. Seeing is 1.2" on guiders, 1.1" on DIMM. Light, sparse cirrus passing by.

02:13 A little oscillation in the MODS2R CCD vacuum:

[2025-03-01T00:22:56] MODS2 Red CCD dewar pressure of 1.01E-03 torr exceeds 0.001 torr
[2025-03-01T00:28:54] MODS2 Red CCD dewar pressure of 1.01E-03 torr exceeds 0.001 torr
[2025-03-01T00:34:54] MODS2 Red CCD dewar pressure of 1.01E-03 torr exceeds 0.001 torr
[2025-03-01T00:40:54] MODS2 Red CCD dewar pressure of 1.01E-03 torr exceeds 0.001 torr
[2025-03-01T00:46:54] MODS2 Red CCD dewar pressure of 1.01E-03 torr exceeds 0.001 torr
[2025-03-01T00:52:54] MODS2 Red CCD dewar pressure of 1.01E-03 torr exceeds 0.001 torr
[2025-03-01T00:58:54] MODS2 Red CCD dewar pressure of 1.01E-03 torr exceeds 0.001 torr
[2025-03-01T01:04:54] MODS2 Red CCD dewar pressure of 1.01E-03 torr exceeds 0.001 torr
[2025-03-01T01:10:55] MODS2 Red CCD dewar pressure of 1.01E-03 torr exceeds 0.001 torr
[2025-03-01T01:16:54] MODS2 Red CCD dewar pressure of 1.01E-03 torr exceeds 0.001 torr
[2025-03-01T01:22:54] MODS2 Red CCD dewar pressure of 1.02E-03 torr exceeds 0.001 torr
[2025-03-01T01:28:54] MODS2 Red CCD dewar pressure of 1.03E-03 torr exceeds 0.001 torr
[2025-03-01T01:34:54] MODS2 Red CCD dewar pressure of 1.04E-03 torr exceeds 0.001 torr
[2025-03-01T01:40:54] MODS2 Red CCD dewar pressure of 1.04E-03 torr exceeds 0.001 torr
[2025-03-01T01:46:54] MODS2 Red CCD dewar pressure of 1.03E-03 torr exceeds 0.001 torr
[2025-03-01T01:52:54] MODS2 Red CCD dewar pressure of 1.02E-03 torr exceeds 0.001 torr
[2025-03-01T01:58:54] MODS2 Red CCD dewar pressure of 1.01E-03 torr exceeds 0.001 torr

[2025-03-01T02:04:55] MODS2 Red CCD dewar pressure of 1.01E-03 torr exceeds 0.001 torr
[2025-03-01T02:07:56] MODS2 Red CCD dewar pressure is back in normal range

ND

BG CMI

BG CMI_pa-20 (UT 02:23-05:16)

Mods1r: 8-48

Mods2r: 8-50

Mods1b: 6-46

Mods2b: 6-45

02:23 Preset.

02:31 Computed Slit Alignment Offset:

dX = -0.847 arcsec

dY = 11.092 arcsec

MODS1 Offset Command:

offsetxy -0.847 11.092 rel

Computed Slit Alignment Offset:

dX = 3.192 arcsec

dY = 7.997 arcsec

MODS2 Offset Command:

offsetxy 3.192 7.997 rel

02:34 Tweaking alignment on MODS1.

02:36 Starting science. Seeing is 1" on guiders, 1.1" on DIMM. Light, sparse cirrus passing by.

02:38 18-degree twilight.

03:08 Seeing is 0.7" on SX guider, 0.9" on DX guider, 1" on DIMM. Skies are clear.

03:37 Seeing is 0.9" on SX guider, 1" on DX guider, 1.2" on DIMM.

03:52 Just realized the MODS1R channel had been stuck on "starting exposure 15 of 40" for a while. Did a red expdone. It is four exposures behind now. Light, sparse cirrus starting to pass by again.

04:14 Seeing is 0.9" on SX guider, 1" on DX guider, 1.1" on DIMM. Light, sparse cirrus still.

04:26 blue fitsflush on MODS2.

04:47 Seeing is 1.2" on guiders, 1.5" on DIMM.

05:12 Adding an additional exposure to mods1b while we wait for other channels to finish the script. MODS2R experienced multiple holdups at reading out.

OSU

Imcsats

UGC4115_dw1 (UT 05:17-07:21)

Mods1r: 49-56

Mods2r: 51-58

Mods1b: 47-51

Mods2b: 46-50

05:17 Preset.

05:26 Tough to centroid being so faint and extended.

Computed Slit Alignment Offset:

dX = -0.024 arcsec

dY = 11.890 arcsec

MODS1 Offset Command:

offsetxy -0.024 11.890 rel

Computed Slit Alignment Offset:

dX = 3.067 arcsec

dY = 9.152 arcsec

MODS2 Offset Command:

offsetxy 3.067 9.152 rel

05:28 Starting science. Seeing is 1.2 to 1.5" on guiders, 2.1" on DIMM. Light, sparse cirrus still.

05:47 Seeing is 1.2" on guiders, 1.7" on DIMM.

06:16 Seeing is 1.2" on guiders, 1.3" on DIMM. Light, sparse cirrus still.

06:41 Seeing is 1.3" on SX guider, 1.4" on DX guider and DIMM. Light, sparse cirrus still.

06:58 Running an extra exposure on all channels. Combining all 5 exposures shows what appears to be slightly redshifted Halpha emission.

SCAT

2024inv (UT 07:21-08:39)

Mods1r: 57-59

Mods2r: 59-61

Mods1b: 52-57

Mods2b: 51-56

07:21 Preset with the UT0800 script.

07:29 Computed Slit Alignment Offset:

dX = 0.123 arcsec

dY = 11.743 arcsec

MODS1 Offset Command:

offsetxy 0.123 11.743 rel

Computed Slit Alignment Offset:

dX = 4.447 arcsec

dY = 7.135 arcsec

MODS2 Offset Command:

offsetxy 4.447 7.135 rel

07:31 Starting science. Seeing is 1" on guiders, 1.6" on DIMM. Skies are clear where we're pointed (there's some departing clouds in the NE part of the all-sky).

08:21 Seeing is 0.9" on guiders, 1.2" on DIMM. Skinny, thin clouds passing through.

Imcsats

NGC5204_dw3 (UT 08:39-10:53)

Mods1r: 60-68

Mods2r: 62-70

Mods1b: 58-62

Mods2b: 57-61

08:39 Preset.

08:51 Again, difficult to centroid.

Computed Slit Alignment Offset:

dX = -1.812 arcsec

dY = 10.316 arcsec

MODS1 Offset Command:

offsetxy -1.812 10.316 rel

Computed Slit Alignment Offset:

dX = 3.066 arcsec

dY = 8.454 arcsec

MODS2 Offset Command:

offsetxy 3.066 8.454 rel

08:54 Taking another confirmation image. Upped exp time from 60s to 120s. MODS2R is slow to readout.

08:58 Still difficult to tell. We'll see if there's a trace. Starting science. Seeing is 1.3" on SX guider, 1.4" on DX guider. Thin clouds passing by.

09:26 Seeing is 1.3" on guiders. Skies are clear.

09:58 Seeing is 0.9" on SX guider, 1.1" on DX guider. Skies are clear.

10:28 Adding another exposure. Mods2r is saying it is on image 2 of 4, but 4 exposures have already completed according to modsDisp. Those files are also in the data directory. Headers seem fine. Images appear in ds9 and the MODS2 Execute window shows 4 Red Gos.

Combining 4 exposures shows what appears to be slightly redshifted H α emission on the trace. But it could be laser spots from the flexure compensator.

SCAT

~~2024igg (UT 10:53-11:05)~~

Mods1b: 63-64

Mods2b: 62-63

10:53 Preset with UT1100 script.

11:05 We're not seeing the target in modsAlign. **Reconfiguring to PEPSI PFU.**

11:12 Upon opening the PEPSI vnc, I noticed in the progress bar of Spectrograph Control Interface that it had been "waiting for clear sun" for over 11 hours. This prevented me from switching from SDI to PFU mode. I killed the software and brought it back up. This cleared the issue.

11:24 David is having trouble with AZCAM. The left side is down.

11:37 Left is up, but now right is down. He's tried multiple times to restart the servers.

11:44 After starting GCS as well, David is ending a test preset. Success!

11:49 Pointing check.

12:02 Collimation check.

12:06 Lots of coma on SX.

12:23 We're short on time and we're having trouble with SX collimation. We're **reconfiguring to PEPSI mono**.

12:24 18-degree twilight.

UM

TCrB

TCrB (UT 12:26-13:09)

12:26 Preset.

12:27 Starting science. Seeing is 1" on the DX guider. Thin clouds overhead.

12:37 Seeing is 0.7" on DX guider. Thin clouds overhead.

12:49 SNR CD2: 57, CD4: 156.

12:52 12-degree twilight.

13:08 SNR CD3: 144, CD5: 327

TCrB

~~Telluric: HR 5501 (UT 13:09-13:14)~~

13:09 Preset.

13:10 Missed it. Pointing check.

13:14 David is having trouble finding it. Clouds and sky brightness are fighting us here. We're calling it. Closing.

13:16 Running PEPSI cals.

13:18 MODS2 Alert Log for the rest of the night:

[2025-03-01T02:36:54] MODS2 Red CCD dewar pressure of 1.01E-03 torr exceeds 0.001 torr

[illegible]

[illegible]