LBT Observing Log for 2024 Jan 16/17 (MST)

C19 Observer: Andrew Cardwell Partner Observer(s): Donald Terndrup, Michael Tucker Telescope Operator: Steve Allanson

PEPSI Log

Plan:

We begin the night with Bino LUCI, and hand over to LBTB an hour before the mid point of the night.

Observed and completed:

| 2MASS J04453646+3311351 11.70 PFU 300 CD3 00:18:20 CD5 00:18:20 F | |
|---|-------|
| 2MARC 105254490, 7540202 42.26 DELL 200 CD2 00:48:20 CD5 00:48:20 F | Rowan |
| 2MASS J05354189+7510203 13.36 PF0 300 CD3 00.18.20 CD5 00.18.20 F | Rowan |
| 2MASS J05451844+3931084 12.10 PFU 300 CD3 00:10:00 CD5 00:10:00 R | Rowan |
| 2MASS J08084707+3453258 9.46 PFU 300 CD3 00:01:40 CD5 00:01:40 R | Rowan |

Summary:

After a failed attempt to observe UM_Warhol we gave up on LUCI and switched over to PEPSI. 3.5 hours of quality observing with PEPSI, including a complete pass through ND_ChemPec: LAMOST J0158.

Issues:

The readme for UM_Warhol was not well enough written to allow sensible decision making and observation. It should be improved and uploaded again, with particular emphasis on delivered correction required. Reference to Part I and Part II is confusing.

The atmosphere did not cooperate with us. The turbulence was all at high altitude which renders ESM useless.

Overview (times are given in UT):

00:12 LUCIs are up, field stop positions are good.

00:40 Sunset. Opening up.

UM_Warhol

01:18 Preset to HIP13917, telluric.

01:32 12 degree twilight.

01:34 Experimenting with moving the LUCI1 slit laterally in steps of 0.05" to optimise acquisition. The 0.25" slit does not make this clear by visual inspection alone.

01:35 Starting science. Sewing is good. DIMM reports 1" or less, guiders report 0.75". Luci[1|2].20230117.0029-0040.

02:00 We ran through the telluric script several times. The main target is not above 30 degrees until 02:32. Preset to a test target to check AO functionality.

02:02 18 degree twilight.

02:32 The seeing is varying on very short timescales and has been as high as 2.7" on the DIMM. Currently it does not look like ESM would provide anything better than we could get seeing limited on a better night.

02:45 The seeing is poor and highly variable. The turbulence appears to be high, ESm is giving us no appreciable correction. We are giving up on this program and **reconfiguring to PEPSI**.

02:59 Don contacted the PI. He did finally call us back and confirmed that delivered correction of 0.5" is required.

03:01 Will set up on ND_ChemPec

ND_ChemPec: LAMOST J0158

03:24 Preset to LAMOST J0158.

03:27 Starting science.

04:05 DIMM reports 1.3". Clear conditions.

04:33 PSF issues again, target lost on SX. Sending the preset again. DIMM reports 0.9".

04:36 Recovered.

05:09 DIMM reports 1".

OSU_BHB

05:30 Preset to 2MASS J04453646+3311351.

05:31 No GS found on DX. Correcting.

05:33 Sending preset again.

05:36 Starting science.

05:55 Preset to **2MASS J05354189+7510203**.

05:57 Reflection picked up rather than star on DX. Correcting.

06:00 Corrected, but now we have an SX PSF issue.

06:09 Starting science. DIMM reports 0.7".

06:28 Preset to **2MASS J05451844+3931084**.

06:30 No GS on DX, wrong GS acquired on SX. Correcting.

06:34 Returning to target, starting science.

06:46 Preset to 2MASS J08084707+3453258.

06:50 Starting science.

06:53 **Handing over to LBTB for the remainder of the night**. We were able to hand over later than initially planned.

12:55 18 degree twilight.

13:25 12 degree twilight.

14:17 Sunrise.

