Night Log for UT 20230429

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Service Observer: Andrew Cardwell

Telescope Operator: Josh Williams

Plan:

- Start with LUCI First program UM_XMDs_LUCI/UGC5541:
  - Telluric star HIP53735
  - Then region in UGC5541
- Move to program OSU_XMDs with the goal of obtaining LUCI spectra of priority-1 targets. These are HII regions which have MODS spectra from a previous run.
  - Calibration GD153
  - Target SHOC357
  - Telluric HIP56736 for SHOC357
  - KUG1138
  - Telluric HIP55627 for KUG1138
  - SDSSJ1418
  - Telluric HIP68767 for SDSSJ1418
- Back to UM_XMDs_LUCI
  - SBS1420
  - Telluric HIP71172 for SBS1420
- Squeeze in one object in UVA_BCD_LUCI
  - Telluric BD+40 2857
  - Galaxy J1608

Summary:

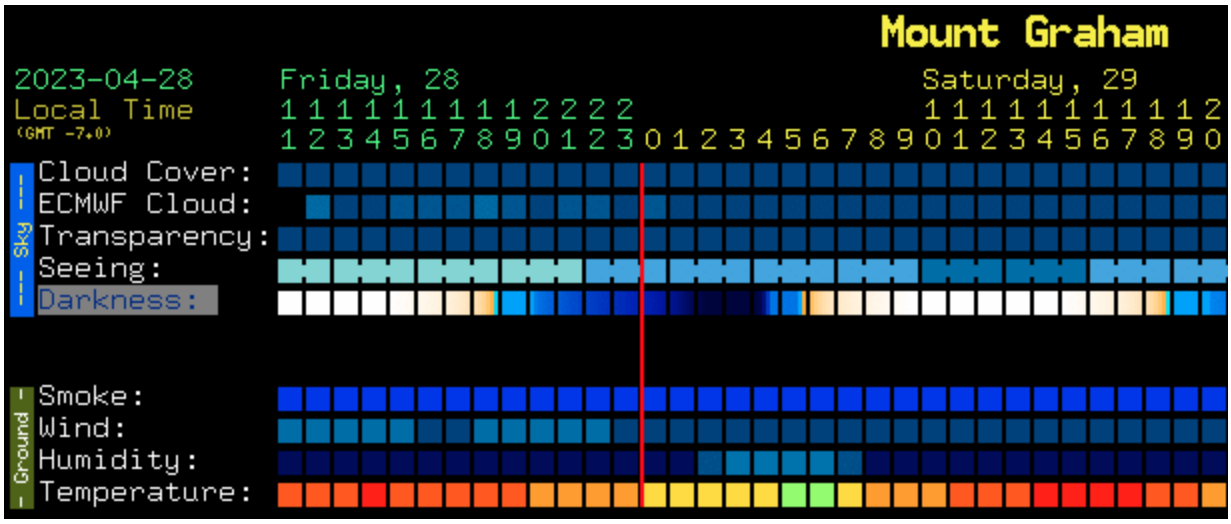
A very productive night! A few minor technical issues, but nothing that cost us serious time loss. Clear and good seeing throughout. Data looked excellent all night!

Issues:

LUCI2 FW1 error, LUCI1 camera wheel error, AGw1 did not start WFSing.

Weather forecast at sunset (NWS): Clear, with a low around 37. Breezy, with a north northwest wind 13 to 22 mph becoming east after midnight.

Clear sky chart:



Overview:

(aa times are given in UT)

00:35 Bringing up LUCI.

00:50 LUCI field stops adjusted. Turning on LBCs.

00:59 Bringing up MODS GUIs, waking MODS.

01:01 Running simSnap.

01:05 Taking 2 bias checkout sequence on LBCs.

01:07 Taking full bias sequence on LBCs.

01:09 Taking full bias sequence on MODS.

01:45 Taking some slitless flats with MODS.

01:57 Aborting slitless flats, it’s time to open the enclosure.

02:03 Sunset

02:05 Enclosure is open.

02:20 Pointing correction and initial collimation.

02:29 Preset to **UM_XMDs_LUCI HIP53735**, telluric for **UGC5541**. It may still be too bright.

02:30 Error on LUCI2 FW2.

02:36 Low level inits are not clearing the issue. Calling Dave T.

02:45 We seem to be back in action.

02:49 Starting science. Luci[1|2].20230429.0008-0009.

02:52 Preset to **UM_XMDs_LUCI UGC5541**. Seeing getting worse.

02:56 12 degree twilight.

02:58 Guiders are reporting 1.5”, but we could just detect our target of interest.

03:02 DIMM reports 1.9”, guiders 1.4”. The seeing appears to be varying rapidly.

03:05 Acquisition confirmed, starting science. luci[1|2].0014-0019.

03:15 Guiders now reporting around 1”, 1.4” on the DIMM.

03:28 18 degree twilight.

03:29 Seeing continue to improve, 0.9” from the guiders and 1.2” from the DIMM. Clear emission lines in the first set of pair subtracted spectra.

03:45 1.3” from the DIMM, 1” from the guiders.

04:08 Preset to **OSU_XMDs GD153**, standard star. Acquisition begins with luci[1|2].0020.

04:21 Manual corrections required for LUCI2.

04:23 After 3 rounds of manual correction on LUCI2 acquisition is confirmed on both sides. Starting science. Luci[1|2].0026-0031. DIMM and guiders all report 0.9”.

04:39 Preset to **OSU_XMDs SHOC 357**. Acquisition begins with luci[1|2].0032.

04:50 Acquisition confirmed, starting science. Guiders report 0.9”, no current DIMM value. Luci[1|2].0036-0041. Sky appears to be clear.

05:12 Strong emission lines are clearly seen in the initial pair subtracted spectra. Guiders report 0.9”.

05:39 Guiders report 0.9”.

05:54 Preset to telluric, **OSU_XMDs HIP56736**. Acquisition begins with luci[1|2].0042.

06:00 Acquisition confirmed, starting science. Luci[1|2].0045-0046.

06:01 Preset to **OSU_XMDs KUG1138**. Acquisition begins with luci[1|2].0047.

06:16 Acquisition confirmed, starting science. Guiders report 0.7”. Luci[1|2].0051-56.

06:28 Clear emission lines in the very first spectra, even without subtraction. Guiders report 0.9”, DIMM 1.1”.

06:43 On luci2 some of the emission lines have peaks over 50k ADU in the pair subtracted spectra, which puts them in the non-linear regime for this detector. This can be corrected out, but requires additional data reduction steps.

07:05 1” from the guiders.

07:20 Preset to **OSU_XMDs HIP55627**. Acquisition begins with luci[1|2].0057.

07:25 Acquisition confirmed, starting science. luci[1|2].0060-0061.

07:27 Preset to **OSU_XMDs SDSSJ1418**. Acquisition begins with luci[1|2].0062.

07:36 Guiders and DIMM report 1”.

07:39 Acquisition is perfect on LUCI1, but appears to be quite off on LUCI2. Applying a manual correction.

07:44 Starting science. LUCI2 needed a correction of 0.3” in +x. Science exposures are luci[1|2].0068-0073.

08:07 Spectra look good, clear emission lines in single exposures. Guiders report 0.7”, DIMM 1”.

08:30 Guiders and DIMM report 0.7”.

08:48 DIMM was reporting 0.75” at the end of the last target.

08:51 My mistake! Preset to **OSU_XMDs HIP68767**, telluric for **SDSSJ1418**. Acquisition begins with luci[1|2].0074.

08:59 Starting science, luci[1|2].0077-0078.

09:00 Camera error on luci1.

09:01 It was in its negative limit. I moved it by +10 steps, sent in init from the luci1 camera GUI, and executed the step again. IT 8183 updated.

09:04 Preset to **UM_XMDs_LUCI SBS1420**. Acquisition begins with luci[1|2].0080.

09:15 Starting science. Luci[1|2].0084-0089.

09:37 Very clear emission lines in the first pair subtracted spectra. Guiders report 0.7”, DIMM 0.95”.

10:18 Preset to **UM_XMDs_LUCI HIP71172**, telluric for **SBS1420**. Acquisition begins with luci[1|2].0090.

10:24 Starting science. luci[1|2].0093-0094.

10:27 Preset to **BD+40 2857**, telluric for **UVA_BCD_LUCI J1608**. Acquisition begins with luci[1|2].0095.

10:33 The SX (LUCI1) guider is taking a long time to start WFSing.

10:38 After some adventures, we have sent the preset again.

10:44 Starting science. Luci[1|2].098-0099.

10:47 Preset to **UVa_BCD_LUCI J1608**.

10:57 Starting science, guiders report 0.7”. luci[1|2].0104-0109.

11:05 18 degree twilight.

11:13 Clear emission lines in the target.

11:16 Guiders report 0.7”.

11:25 End of observations. I have confirmed that all three programs we have run tonight, UM_XMDs_LUCI, OSU_XMDs_LUCI, and UVA_BCD_LUCI, have the same setup and can use the same calibs.
11:37 **Starting calibrations**. luci[1|2].0110-0127.

11:38 12 degree twilight.

11:43 Putting MODS to sleep, powering off LBCs

11:59 Calibrations are complete. Safing LUCIs.

12:30 Sunrise.