C19 Observer: Andrew Cardwell (From obs1, x2go session 50). Partner Observer(s): Mark Whittle (UVa), Anusha Pai (OSU) Telescope Operator: Josh Williams.

Plan: Start with PEPSI: UM_V1405 (58Aql standard first). Then three OSU_BHBinary targets. Then LUCI-Longslit: OSU_XMDs.

Summary: After a productive first half of the night using PEPSI and LUCI we were shut down by high humidity, and later ice.

Issues:

Weather:

Overview (times are given in UT):

23:41 Setting up LUCI for potential use tonight. LUCI field stops aligned.

00:24 Enclosure open.

00:25 Sunset.

00:54 Initial pointing corrections made, moving on to a collimation star.

01:00 Issues with PCS again...

01:01 Collimated. Preset to 58 Aql, PEPSI.

01:03 GS acquired on both sides with no issues!

01:05 Starting science. Guiders report 0.7"

01:14 Preset to V1405 Cas.

01:15 12 degree twilight.

01:21 Starting science.

01:44 18 degree twilight.

01:55 S/N on this target is relatively low, about 64 in red and 12 in blue, we are taking another 30 min exposure. Readme anticipated S/N 156 (red) and 109 (blue), so considerably less. PI allocates 1.25 hours max, so did a second exposure of 30 mins.



Red (CD3)



02:20 Guiding appears to be struggling on SX. DIMM reports 1" seeing.

02:27 Finished here. Clearing the optics before we move to the next target.

02:37 Preset to 2MASS J19375484+2947371.

02:40 Starting science.

02:42 Stopping. This was set up with the 200 rather than 300. Exp time was also wrong, 16:40 rather than 26:40.

02:45 Starting science.

02:49 DIMM reports 0.9".

03:15 Target has S/N of 96 in red and 75 in blue.

03:16 Preset to 2MASS J00153291+2841198.

03:20 Starting science.

03:33 When I updated the exp times the updated time did not take for red. Likely I simply forgot to hit enter. Stopped the current blue exp (red had already finished) and running a 15 min exposure on both sides. The first exposures had S/N of 127 in red and 63 in blue.

03:51 Preset to Gaia DR3 2701853291852006528.

03:55 Starting science.

04:16 Reconfiguring to LUCI bino. Last spectra had S/N of 178 in red and 118 in blue.

04:34 Preset to IRAS 00259+5625, UVa NIR Jets. LUCI imaging, science data are luci{1|2].20221113.0004-0006. GS updated to be both brighter and further from the edge of the patrol field.

04:39 IQ 0f 0.5" measured on both sides in the initial exposures.

04:42 Script failed on the 4th step, we had a fire alarm at the summit which brought the primaries and rotators down. The mountain staff are recovering the situation.

05:08 Recovered. Re-collimating on a bright source.

05:13 Sending the science preset again, restarting from the beginning. Luci[1|2].20221113.0007-0058. 47 mins lost due to the fire alarm event.

05:20 IQ is still 0.5". Good!

05:33 Starting Br_gam and H2 imaging. IQ is now 0.6".

05:48 IQ is now 0.5" to 0.55".

05:59 Filter change to J on luci1, and H on luci2.

06:10 IQ of 0.6" on both sides.

06:14 Filter change to P_beta on luci1 and Fell on luci2.

06:20 IQ is about 0.5" again.

06:37 Preset to Shoc113, OSU_XMDs. LUCI LS. Acquisition will begin with luci[1|2].0059.

06:57 The spectra are set up as 1x[1x600.0] which is absolutely not right* [see below]. We are discussing alternatives and calling in some outside expertise. (Many thanks to Dave Thompson!) I've remade the script to run 15 offset positions of 240s. Same total shutter open time.

Note from RWP: 1x600s at 6 dither positions in an ABBAAB pattern is what we've been doing for the past 3 years on this program (except for brighter targets which we use DIT=300s).

07:05 Resuming

07:13 Starting science. Luci[1|2].0063-0073.

07:34 Humidity has risen to 91%. DIMM reports 0.9".

07:52 Humidity is now 94.1% 95% is the shutdown limit. In addition, cloud has arrived.



07:58 94.9% humidity.

08:00 93% humidity. It's teetering on the edge.

08:02 Closing. 95.8%. 11 of 15 steps observed, the last one or two were likely negatively impacted by cloud.

09:20 100% humidity, fully clouded out.

10:15 Conditions are unchanged. Running up MODS to take calibrations.

10:17 Running simSnap.

10:25 simSnap looks good. Running a full 1x1 mods bias sequence. Mods[1|2][b|r].20221113.0003-0022.

11:16 Conditions have not improved, the allsky camera is now iced over.



11:23 We have called the night. With the ice currently on the enclosure we have no chance of opening again tonight, even if the humidity does drop. Taking bino K imaging flats for the UVa_Jets program. Luci[1]2].0074-0083.

11:28 Taking MODS dual grating arcs. Mods[1|2][b|r].20221113.0023-0025.

11:29 Taking fraternal flats on luci, Br_gam on luci1 and H2 on luci2. Luci[1|2].0084-0093.

11:34 Taking fraternal flats on luci, J on luci1 and H on luci2. Luci[1|2].0094-0103.

11:38 Taking fraternal flats on luci, P_beta on luci1 and FeII on luci2. Luci[1|2].0104-0113.

11:39 MODS dual grating 0.6" slit flats. Mods[1|2][b|r].0026-0031.

11:42 Taking LUCI flats and arcs for Shoc113. Luci[1|2].0114-0131.

11:45 luci1 camera wheel error moving from N3.75 to N1.8. Recovered and IT 8183 updated.

12:02 Putting MODS to sleep.

12:20 LUCI is safed. End of night.

12:23 18 degree twilight.

12:52 12 degree twilight.

13:42 Sunrise.