OSURC night log UT 26 December 2022

Observer: Dave Thompson
Lead partner observer: Donald Terndrup*
Telescope operator: Josh Williams

* = from home

Summary:

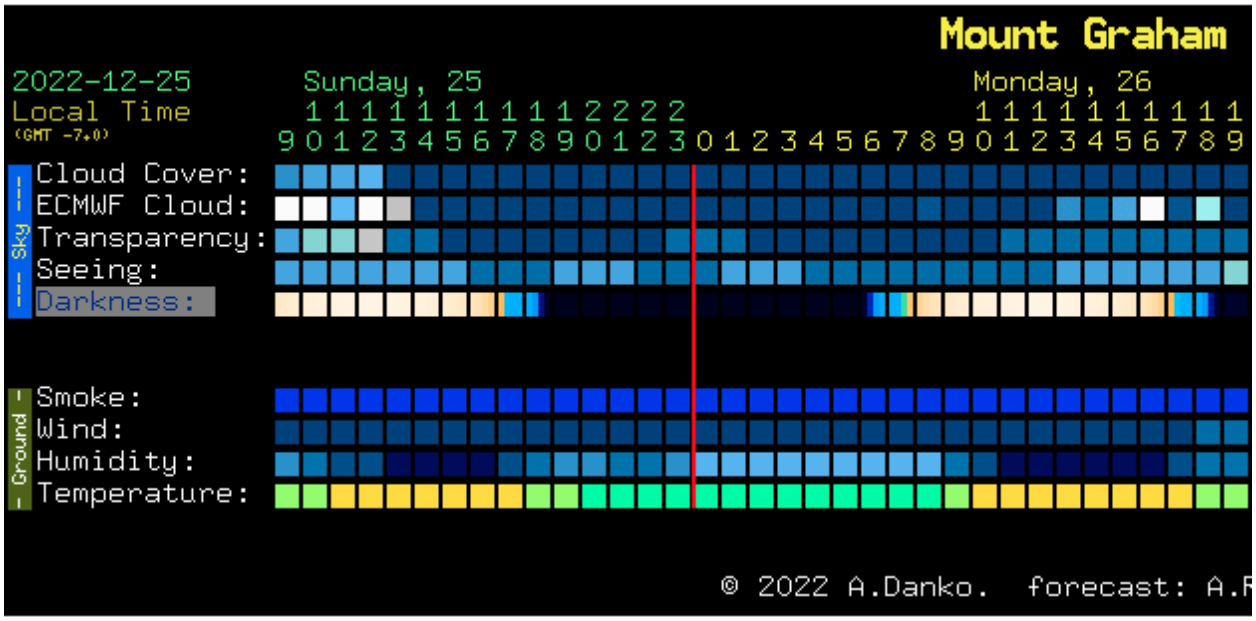
Program	**Status**
UM_Nova_MODS/V1405cas	Done
BD+28 4211	Done
UVa_BCD_MODS/J0139+1542	Done
ND_M33/hm33-A	Done (faint!)
ND_M33/hm33-B	Done
OSU_XMDs_MODS/Mrk71	Done
OSU_XMDs_MODS/HS0811	Done
OSU_XMDs_MODS/KKH46	Done
OSU_XMDs_MODS/LEDA279	Done
OSU_ASASSN/NGC5273	Done
UVa_FRAGN/J1204+19	Done
UVa_FRAGN/J1208+47	Done (end in twilight)

See Dave Thompson's technical notes below.

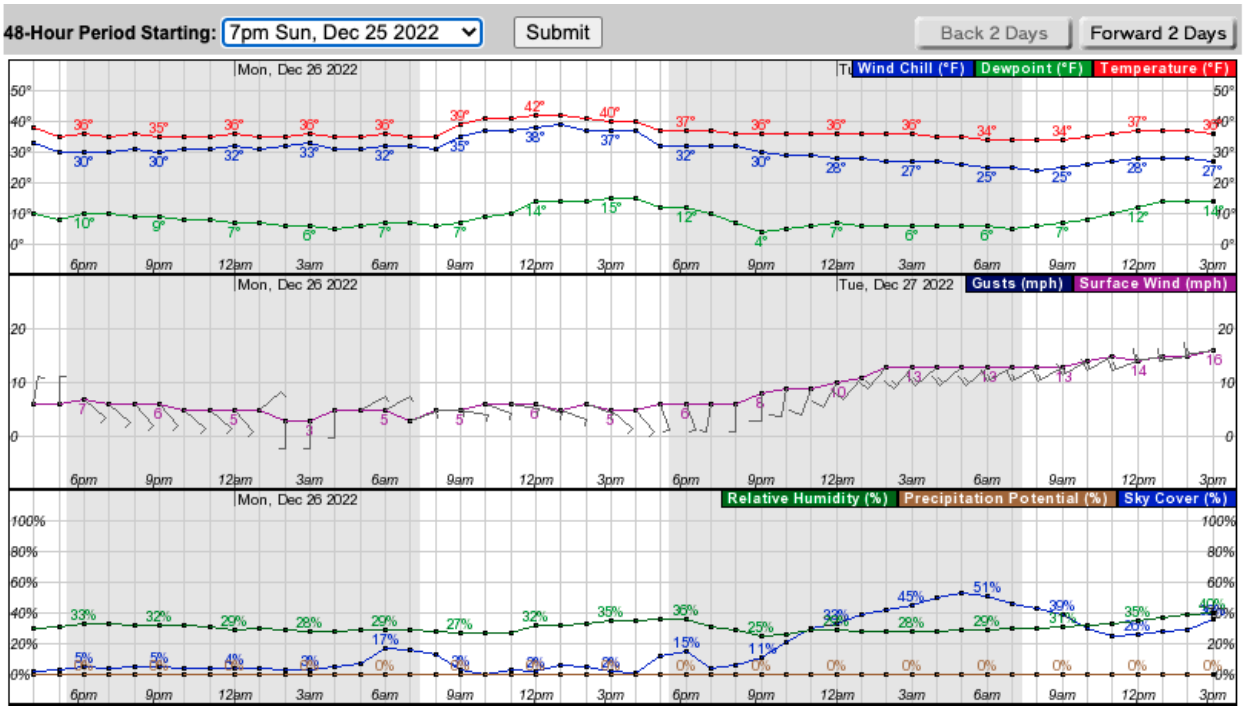
Plan: Start with MODS binocular mode

Weather conditions at start of night: clear, supposed to be good all night. Later: cirrus rolled in, then conditions improved after midnight.

Clear sky chart:



NOAA forecast is for clear skies. Hourly forecast:



UT 00:30. Opening. Plan to start with UM_Nova_MODS/V1405cas
UT 00:50. Acquiring target

Collimation star: 0.7-0.9” left, about same on right

01:14 Acquiring. Average guider FWHM 0.8”.

Images:
mods1b.20221226.0003 through 0012
mods1r.20221226.0006 through 0015
mods2b.20221226.0003 through 0012
mods2r.20221226.0006 through 0017

Midway through series: seeing 1” with a touch of cirrus.

BD+28 4211

01:47 Acquiring standard star
01:56 Starting exposures

Images:
mods 1b 13-15
mods 1r 18-20
mods 2b 13-15
mods 2r 20-22

UVa_UVa_BCD_MODS/J0139+1542

UT 02:11 Acquiring target
UT 02:25 Reacquiring because of problem with MODS2 IMCS lock. Starting with MODS1 while getting MODS2 is settled. Starting MODS2 at UT 02:39.

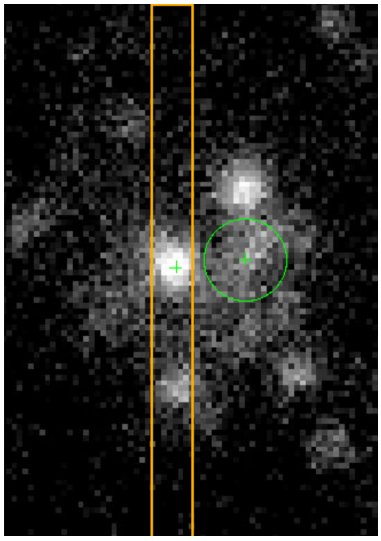
Some cirrus. Seeing about 1”.

Images:
mods 1b 16-19
mods 1r 24-27
mods 2b 16-19
mods 2r 29-32

ND_M33/hm33-A

UT 03:49: Acquiring. Seeing 0.7 - 0.9 arcsec.

Aligned to two brighter spots parallel to slit:



UT 4:05: Start observing.

Images:
mods 1b 20-21
mods 1r 31-32
mods 2b 20-21
mods 2r 36-37

Objects are very faint!

ND_M33/hm33-B

UT 04:50 Acquisition - center on brightest knot.
04:58 Integrating

Images:
mods 1b 22-23
mods 1r 36-37
mods 2b 22-23

mods 2r 41-42

OSU_XMDs_MODS/Mrk71

05:45 acquiring with UT 06:00 script
05:56 starting spectroscopy

A little clearer, perhaps.

Images:
mods 1b 24-29
mods 1r 41-46
mods 2b 24-29
mods 2r 46-51

OSU_XMDs_MODS/HS0811

UT 06:45 - Acquiring object
06:54 - starting spectroscopy

Images:
mods 1b 30-32
mods 1r 50-52
mods 2b 30-32
mods 2r 55-57

OSU_XMDs_MODS/KKH46

UT 8:05 acquisition
08:20 starting spectra. First images on MODS 2r did not look right. Restart the sequence after tweaking setup.

Images:
mods 1b 33-36
mods 1r 56-59
mods 2b 35-37
mods 2r 62-65

DIMM seeing 1.3 and jumpy. Guider seeing still 0.8-0.9”. Clearer, not much cirrus.

OSU_XMDs_MODS/LEDA279

UT 09:55 - moving to target

Images:
mods 1b 37-39
mods 1r 64-66
mods 2b 38-40
mods 2r 69-71

OSU/ASAS-SN NGC5273

Acquire at UT 11:20

Images:
mods 1b 40-45
mods 1r 70-75
mods 2b 41-46
mods 2r 75-80

UVa_FRAGN/J1204+19

Start spectra at UT 12:11

Images:
mods 1b 46-48
mods 1r 79-81
mods 2b 47-49
mods 2r 84-86

UVa_FRAGN/J1208+47

Setting up at UT 12:50

Images:
mods 1b 49-51
mods 1r 85-87
mods 2b 50-52
mods 2r 90-92

This sequence ends close to 12-degree twilight.

—--- end of observing

Thompson’s technical notes follow.

MODS wake up and checkout

mods1 status mods2 status
mods1 start gui mods2 start gui
modsDisp

modsWake bino
modsSimSnap bino
  done, looks normal

# 05:20 MST From Josh: OPEN
Tam=4.1 Tch=5.0 Tgl(ref):SX=2.3(2.0),DX=2.4(2.0) Hum=24.7%
Wind=9.9@16°.
Particle counts look good. Clear skies. binoMODS for O/RC.

Put MODS in Observing mode
Home AGws

Start of night
==
UM_Nova_MODS/V1405cas 23:24:47.732 61:11:14.80
cd /home/osurc/OBs/UM_Nova_MODS
more UM_Nova_MODS.readme
evince v1405cas_mdm24_sdssr_3x3arcmin.pdf &

01:07:22 acqBinoMODS v1405cas.acq
  modsAlign -y 11 mods1r.20221226.0003.fits
mods1r.20221226.0004.fits
  offsetxy -0.667 11.745 rel
  modsAlign -y 9 mods2r.20221226.0003.fits
mods2r.20221226.0004.fits
  offsetxy 3.803 8.832 rel
  dX -0.17" manual
01:17:21 execBinoMODS v1405cas.obs
  10x30.0s spectra
  MODS2b slightly behind other channels
  MODS1r also had readout delays
  Two extra exposures taken with MODS2r while waiting for MODS2b

Bit of cirrus visible on all-sky camera

>>> Also a spectrophotometric standard star from our list.
cd /home/osurc/OBs/MODSPhotCal
01:47:37 acqBinoMODS bd284211.acq
  modsAlign -r mods1r.20221226.0016.fits
  offsetxy -1.303 12.157 rel
  0.7" dX added manually
  modsAlign -r mods2r.20221226.0018.fits
  offsetxy 3.191 8.768 rel
  0.7" dX added manually
  AIRMASS 1.28
01:56:27 execBinoMODS bd284211_dg.obs

##
cd /home/osurc/OBs/UVa_BCD_MODS
eog J0139.jpeg &
eog J0139SDSS.jpg &

02:08:20 acqBinoMODS J0139.acq
  120s each for source and slit images!
  modsAlign -y 11 mods1r.20221226.0021.fits
mods1r.20221226.0022.fits
  offsetxy -0.532 10.624 rel
  modsAlign -y 9 mods2r.20221226.0023.fits
mods2r.20221226.0024.fits
  offsetxy 3.711 8.220 rel

IMCS failure (mods2r 0025 is trailed on the detector ... re-acquire
  - could have manually re-done IMCS lock followed by re-taking the
through
  slit image. That would have saved quite some time.

acqMODS --mods2 J0139.acq

modsAlign -y 9 mods2r.20221226.0026.fits
mods2r.20221226.0027.fits
offsetxy 3.758 8.152 rel

#execBinoMODS J0139.obs
execMODS --mods1 J0139.obs

execMODS --mods2 J0139.obs
02:38:42 spec running on both sides

ND/M33 targets.
cd /home/osurc/OBs/ND_M33
more ND_M33.readme

eog hm33-A_finder.png &
eog hm33-A_guidestar.png &
03:47:32 acqBinoMODS hm33-A.acq
modsAlign -y 11 mods1r.20221226.0028.fits
mods1r.20221226.0029.fits
offsetxy 0.843 10.915 rel
modsAlign -y 9 mods2r.20221226.0033.fits
mods2r.20221226.0034.fits
offsetxy 4.959 8.744 rel
Put the two brighter spots that aligned with the slit
03:59:17 execBinoMODS hm33-A.obs

eog hm33-B_finder.png &
eog hm33-B_guidestar.png &
acqBinoMODS hm33-B.acq
modsAlign -y 11 mods1r.20221226.0033.fits
mods1r.20221226.0034.fits

offsetxy -0.033 11.202 rel
modsAlign -y 9 mods2r.20221226.0038.fits
mods2r.20221226.0039.fits
offsetxy 4.598 8.043 rel
Aligned to brightest blob near center of cluster
execBinoMODS hm33-B.obs

OSU_XMDs Mrk71
cd /home/osurc/OBs/OSU_XMDs_MODS
eog Mrk71_finder.png &
05:42:55 acqBinoMODS Mrk71_UT0600.acq
modsAlign -y 11 mods1r.20221226.0038.fits
mods1r.20221226.0039.fits
offsetxy -2.049 9.936 rel
dX -0.15" sent manually
modsAlign -y 9 mods2r.20221226.0043.fits
mods2r.20221226.0044.fits
offsetxy 1.898 7.875 rel
05:56:21 execBinoMODS Mrk71.obs
mods1b was the laggard this time...2 min behind other channels

ran 'blue fitsflush' on MODS1 but it did not seem to catch 0029. The file
exists on /lbt/data/new and is the same size as other spectra.

OSU_XMDs HSO811
cd /home/osurc/OBs/OSU_XMDs_MODS
eog HS0811_finder.jpg &
acqBinoMODS HS0811_UT0700.acq
modsAlign -y 11 mods1r.20221226.0047.fits
mods1r.20221226.0048.fits
offsetxy -1.250 10.323 rel

modsAlign -y 9 mods2r.20221226.0052.fits
mods2r.20221226.0053.fits
offsetxy 3.307 7.331 rel
execBinoMODS HS0811.obsq
MODS2 error setting 'PARTNER OSURC', retry worked

eog KKH46_SDSS.jpg &
08:04:30 acqBinoMODS KKH46_UT0800.acq
modsAlign -y 11 mods1r.20221226.0053.fits
mods1r.20221226.0054.fits
offsetxy -0.747 10.492 rel
modsAlign -y 9 mods2r.20221226.0058.fits
mods2r.20221226.0059.fits
offsetxy 3.779 7.605 rel
08:20:46 execBinoMODS KKH46.obs
instconfig dual grating
DONE: INSTCONFIG completed with 1 faults
[2022-12-26T08:21:02] M2.IE> ERROR: RCAMFOC
RCAMFOC=BUSY
@861um after 'update' on GUI, same as other spectra from prev.
objects

First M2red spectrum looked odd (0061) with a spectrum only
covering ~1/4
of the detector. Also modsDisp crashed. Stopped the second
spectra,
re-executed instconfig and imcslock manually then sent 'dgo' to
start
the spectroscopy over.

Poking around while integrating:
isisCmd --mods2 m2.ie Rgrtilt2

*** ERROR: RGRTILT2 RGRTILT2=TIMEOUT cannot read from 192.168.139.201:8008
NOT A PROBLEM ... there is no Rgrat2 (IT#5599)

Triggered one extra exposure on MODS1 r/b so MODS1 won't be idle while MODS2
does the 3 exposures.

Bright core of emission lines are offset from the continuum

LEDA 279
eog LEDA279_finder.jpg &
09:55:39 acqBinoMODS LEDA279_UT1000.acq
IMCS not stable for mods1r slit image (0060), image OK. Moved slitmask
in and took another mods1r image manually

modsAlign -y 11 mods1r.20221226.0062.fits mods1r.20221226.0061.fits
offsetxy -0.288 10.720 rel
modsAlign -y 9 mods2r.20221226.0066.fits mods2r.20221226.0067.fits
offsetxy 4.233 8.090 rel
10:08:35 execBinoMODS LEDA279.obs

NGC 5273
cd /home/osurc/OBs/OSU_ASASSN
eog NGC5273_finder.png &
acqBinoMODS NGC5273.acq
modsAlign -y 11 mods1r.20221226.0067.fits mods1r.20221226.0068.fits
offsetxy -1.182 9.653 rel

modsAlign -y 9 mods2r.20221226.0072.fits
mods2r.20221226.0073.fits
offsetxy 3.150 7.334 rel
+0.2" dX
execBinoMODS NGC5273.obs

UVa_FRAGN 1204+19
cd /home/osurc/OBs/UVa_FRAGN
eog J1204+19_finder.jpeg &

11:57:59 acqBinoMODS J1204+19.acq

modsAlign -y 11 mods1r.20221226.0076.fits
mods1r.20221226.0077.fits
offsetxy -0.948 10.467 rel
modsAlign -y 9 mods2r.20221226.0081.fits
mods2r.20221226.0082.fits
offsetxy 3.278 8.345 rel

12:12:26 execBinoMODS J1204+19.obs
0.75" FWHM on both guiders

UVa_FRAGN 1208+47
cd /home/osurc/OBs/UVa_FRAGN
eog J1208+47_finder.jpeg &

acqBinoMODS J1208+47.acq
modsAlign -y 11 mods1r.20221226.0082.fits
mods1r.20221226.0083.fits
offsetxy -0.780 9.903 rel

modsAlign -y 9 mods2r.20221226.0087.fits
mods2r.20221226.0088.fits
offsetxy 3.308 8.235 rel
execBinoMODS J1208+47.obs

End of night - Calibrations
==
Postponed for the coming bad weather

mods bino dual grating
1.2" 0.8" 1.0"