

LBT Observing Log: 2026 Jan 30 UT

Observers: Jenny Power

Partner Observer: Tawny Sit, Raquel Fores, Evan Jennerjahn

Telescope Operator: Riccardo Ansaldi

Plan:

Start with LUCI

UM_Warhol/Warhol (only 6exp)

Switch to PEPSI

~~OSU_BHBinaries/3191963314353757952~~

~~UVa_Multistar/TIC260056937 (anytime between 4-7 UT)~~

~~UVa_Multistar/HIP18902~~

~~LUCI for the Warhol telluric (oops), then back to PEPSI until 2025 adje up...~~

~~OSU_BHBinaries/1131469865246381184~~

~~OSU_BHBinaries/1077238996826703232~~

~~OSU_BHBinaries/1052480297071583232~~

~~OSU_BHBinaries/3856546487648110336~~

~~OSU_BHBinaries/3832116129552587008 - skip~~

Back to LUCI around 8 UT

OSU_lowZSNe/2025 adje

Back to PEPSI

~~UM_TCrB/TCrB - up after 10:30 UT~~

~~UM_TCrB/HR5501~~

~~OSU_BHBinaries/1566339427134101760~~

Summary:

PEPSI Log:

<https://drive.google.com/file/d/13shfg67KI3ZK20FTtsCBFczwmzYdBTffU/view?usp=sharing>

[UM_Warhol - Warhol Arc \(incomplete, 2:01-3:46\)](#)

[Reconfig](#)

[OSU_BHBinaries/3191963314353757952 \(4:08-4:16\)](#)

[UVa_Multistar/TIC260056937 \(4:16-4:25\)](#)

[UVa_Multistar/HIP18902 \(4:25-4:32\)](#)

[Reconfig](#)

[UM_Warhol - Telluric \(5:01-5:18\)](#)

[Reconfig](#)

[OSU_BHBinaries/1131469865246381184 \(5:33-6:07\)](#)

[OSU_BHBinaries/1052480297071583232 \(6:07-7:07\)](#)

[OSU_BHBinaries/1077238996826703232 \(7:07-7:40\)](#)

[OSU_BHBinaries/3856546487648110336 \(7:40-8:05\)](#)

[Reconfig](#)

[OSU_lowZSNe/Telluric \(8:23-8:58\)](#)

[OSU_lowZSNe/2025adje \(8:58-10:32\)](#)

[Reconfig](#)

[UM_TCrB - TCrB \(10:49-12:17\)](#)

[UM_TCrB - HR5501\(12:17-12:48\)](#)

[OSU_BHBinaries/1566339427134101760 \(12:48-twilight\)](#)

[Calibrations:](#)

Issues:

LUCI1 detector focus issues. Several exposures appeared out of focus. It struggled to move in the positive direction reliably.

Weather:

Clouds for the first few hours giving way to mostly clear skies the rest of the night. Seeing ~ 1.2-1.4" most of the night, with a period below 1" in the middle of the night. Seeing worse to start.

Overview:

00:00 UT We will start with LUCI tonight for Warhol observation. Powering up WFS for LUCI ESM.

00:40 UT SX WFS Master diagnostics keeps going down. Powering off and cycling processes. Flames on OCAM this time. Cycled BCU2K. And rebinned. Up and running now.

00:56 sunset

01:01 UT Field stops tuned up

01:07 opening shutters

01:18 Pointing check. Star not found on SX. Riccardo had preemptively put in the offset found yesterday with PEPSi after the swingarm work.



01:33 UT There are clouds so we are going to try something unambiguously bright...Capella. Found it! Large change in IE, the CA matched what Riccardo had expected based on PEPSi yesterday.

01:45 12 degree evening twilight

01:48 UT Collimating near source now. Seeing 1-1.15" on the guider.

UM_Warhol - Warhol Arc (incomplete, 2:01-3:46)

Preset sent. MOS panic. Strain gauges on LUCI2 on. Checked and zeroed. LUCI1 rotator out of range. Had Riccardo move the rotator 360.

02:01 UT Resending preset. The clouds are going to make this challenging. The guide star and AO ref are barely visible.

02:08 UT Looks like we lost the source on the SX side. Clouds.

02:18 UT SX is struggling. I'm going to resend one more time, but adjust the flux for the clouds (typically check flux is ignored in ESM presets).

luci1/2.20260130.0012-18

Long Slit Result				Long Slit Result			
X-shift:	<input type="text" value="-0.3298"/>	as	<input type="text" value="-2.8000"/>	X-shift:	<input type="text" value="-1.4137"/>	as	<input type="text" value="-11.8800"/> px
Y-shift:	<input type="text" value="-0.6255"/>	as	<input type="text" value="-5.3100"/>	Y-shift:	<input type="text" value="-0.1440"/>	as	<input type="text" value="-1.2100"/> px
Angle:	<input type="text" value="0.0000"/>	deg		Angle:	<input type="text" value="0.0000"/>	deg	
<input type="button" value="reset LS"/>	<input type="button" value="calculate"/>	<input type="button" value="send"/>		<input type="button" value="reset LS"/>	<input type="button" value="calculate"/>	<input type="button" value="send"/>	

02:38 UT Loop opened on the SX side during the first exposure. Seeing is poor, ~1.6"03:01 UT

02:14 18 degree evening twilight, LMST at evening twilight: 03:01 UT 3 32

luci1/2.20260130.0012-18

03:02 UT The star is lost on the left side. It's just washed out. Clouds and reflected light from the moon? Left has moved to seeing limited only on the last exp. Failing offsets now on the right after the right also opened.

03:17 UT Resending preset. There was thicker cloud and we opened on the right as well, losing the preset on the right and left. Failing offsets in preset..

03:32 UT Poor seeing and clouds, 1.6+".

We were just about done the reacquisition and lost the ESM star again.

Reconfig

03:46 UT We are going to reconfigure to PEPSI. We are fighting clouds, poor seeing, and low elevation. Conditions are not optimal for this program and ESM is not working well enough to keep the faint star.

OSU_BHBinaries/3191963314353757952 (4:08-4:16)

04:08 UT Sending preset to target. Clouds are dissipating.

04:10 UT Seeing 0.9-1.05" on the guider. Clouds are moving out, just as the forecast predicted. Seeing seems to be improving too.

UVa_Multistar/TIC260056937 (4:16-4:25)

04:16 UT Preset to target. Big slew. Seeing 0.8-0.91"

04:21 UT Starting science. Thin cirrus now.

UVa_Multistar/HIP18902 (4:25-4:32)

04:25 UT preset to target

04:28 UT Starting science. Seeing has really improved, 0.65-0.69" seeing now. Thin cirrus.

Reconfig

04:32 UT We realized that the telluric was never obtained for the LUCI target. Quickly obtaining. Reauthorize LUCI. This works well so that we can get the telluric at the same airmass as target.

04:39 UT Pointing is off on the left. IE had a very large shift

UM_Warhol - Telluric (5:01-5:18)

05:01 UT Preset to Telluric, seeing as 0.8" on the guiders.

Long Slit Result			
X-shift:	<input type="text" value="-9.4970"/>	as	<input type="text" value="-80.6200"/> px
Y-shift:	<input type="text" value="-6.0832"/>	as	<input type="text" value="-51.6400"/> px
Angle:	<input type="text" value="0.0000"/>	deg	
reset LS		calculate	send

Long Slit Result			
X-shift:	<input type="text" value="-11.3669"/>	as	<input type="text" value="-95.5200"/> px
Y-shift:	<input type="text" value="-1.2971"/>	as	<input type="text" value="-10.9000"/> px
Angle:	<input type="text" value="0.0000"/>	deg	
reset LS		calculate	send

05:07 UT Starting science, luci1/2.20260130.0024-

Reconfig

5:18 UT Reauthorizing PEPSI again

5:22 Pointing and collimation

OSU_BHBinaries/1131469865246381184 (5:33-6:07)

05:33 UT Sending preset

05:39 UT Starting science. Seeing 0.7-0.8" on the guiders.

OSU_BHBinaries/1052480297071583232 (6:07-7:07)

06:07 UT Preset to target. I slewed to the wrong target

06:10 UT Slewing back

06:23 UT Target was very faint and took a bit to collimate. Ended up using beamsplitter4

06:28 UT Beamsplitter 4 moved out for some reason just after starting science. I moved BS2 back in and its stable.

OSU_BHBinaries/1077238996826703232 (7:07-7:40)

07:07 Preset to target. GCS hung for a moment before kicking into gear. BS2 in place. DIMM reporting 1.17" guiders reporting 1.02-1.09". Clear

07:19 UT WFSing is taking forever. I've asked Riccardo to force 90s (no ramping on WFS).

07:22 UT Finally starting science. DIMM reporting 1.24" clear

OSU_BHBinaries/3856546487648110336 (7:40-8:05)

07:40 Preset to target. Swinging to the south.

07:45 UT Starting science. Seeing is 1.19" on the DIMM. 0.9- 0.98" on the guiders. Clear

Reconfig

08:05 UT Reconfiguring for LUCI.

08:11 UT Pointing was good this time.

08:16 UT Seeing 1.3-1.4" on the guider during collimation check. Seeing is deteriorating. Clear skies though...

Ran LUC11 detector focus back and forth from positive and negative limit to help reoptimize the focus. Retinit before sending preset.

OSU_lowZSNe/Telluric (8:23-8:58)

08:23 UT Sending preset to telluric HD116405. SX moved on saying collimated with 0 WFS error

Long Slit Result			
X-shift:	<input type="text" value="-10.4182"/>	as	<input type="text" value="-88.4400"/> px
Y-shift:	<input type="text" value="-0.8046"/>	as	<input type="text" value="-6.8300"/> px
Angle:	<input type="text" value="0.0000"/>	deg	
<input type="button" value="reset LS"/>		<input type="button" value="calculate"/>	<input type="button" value="send"/>

Long Slit Result			
X-shift:	<input type="text" value="-11.9071"/>	as	<input type="text" value="-100.0600"/> px
Y-shift:	<input type="text" value="-0.5676"/>	as	<input type="text" value="-4.7700"/> px
Angle:	<input type="text" value="0.0000"/>	deg	
<input type="button" value="reset LS"/>		<input type="button" value="calculate"/>	<input type="button" value="send"/>

08:31 UT Starting science

LUC11 failed instrument configuration, failing to reach detector focus position.

luci1/2.20260131 luci1 is out of focus. Repeating.

The detector focus on LUC11 still does not look good. I'm running it again up and down and repeating.

08:52 UT luci1.20260130.0041- luci2.20260130.0040- Seeing 1.4 on SX and 1.1 on DX

OSU_lowZSNe/2025adje (8:58-10:32)

08:58 UT Slewing to science.

Long Slit Result			
X-shift:	<input type="text" value="-10.4182"/>	as	<input type="text" value="-88.4400"/> px
Y-shift:	<input type="text" value="-0.8046"/>	as	<input type="text" value="-6.8300"/> px
Angle:	<input type="text" value="0.0000"/>	deg	
<input type="button" value="reset LS"/>		<input type="button" value="calculate"/>	<input type="button" value="send"/>

Long Slit Result			
X-shift:	<input type="text" value="-11.9071"/>	as	<input type="text" value="-100.0600"/> px
Y-shift:	<input type="text" value="-0.5676"/>	as	<input type="text" value="-4.7700"/> px
Angle:	<input type="text" value="0.0000"/>	deg	
<input type="button" value="reset LS"/>		<input type="button" value="calculate"/>	<input type="button" value="send"/>

Science, seeing is 1.09 on DX and 1.19 on SX

Luci1.2060130.0055

Luci2.20260130.0056

LUC11 looks out of focus again

Luci1.2060130.0056 is junk verifying detector focus.

Ran the detector focus back and forth. Still out of focus. Ran the detector back and would reliably hit the negative limit, but noticed the number of steps was smaller than the steps I took to move positive. I was not triggering the positive limit but I believe this may be flakey on luci1. I did enough steps that I should have reached it, but didn't. Increment +/-700 steps in steps of 100 and 50 up and down.

Eventually init and reconfig to 389 (showed 389 on detector focus tab of MCU) seemed to provide an in focus image. We are moving forward but the detector focus does not seem to be moving reliably in the positive direction.

Luci1.2060130.0058-61, Luci1.2060130.0056-60 zJspec

10:16 UT Seeing is 1.34-1.42" on the guiders.

Luci1.2060130.0062-65, Luci1.2060130.0061-64 HKspec

Reconfig

10:32 Begin reconfig to PEPSI

UM_TCrB - TCrB (10:49-12:17)

10:49 Preset to science

10:51 Starting science. Seeing 1.18-1.29" on the guiders, 1.17" on the DIMM. Clear.

11:23 UT SNR is lower than desired in CD2, sitting just below 100. We will repeat that. Will check others as we read out.

11:58 UT CD 3 & 5 SNR were fine, but CD1 was low, around 58 (not surprising). CD6 had an excellent SNR We only have time to repeat 1 set and have opted to repeat CD 2 & 4. The blue end of CD2 was particularly low SNR and this will ensure that we meet the SNR requirements for that.

Seeing has improved to 0.85-0.95" on the guiders. Clear

Much better SNR on second pass of CD2 & 4. Better seeing helped.

UM_TCrB - HR5501(12:17-12:48)

12:17 UT Preset to HR5501.

Seeing is 1.2-1.4 on the guiders. Clear.

12:43 Moonset, illumination fraction 0.905

OSU_BHBinaries/1566339427134101760 (12:48-twilight)

12:48 UT preset to target, pointing check

12:51 18 degree evening twilight, LMST at morning twilight: 14 10

12:59 UT GCS taking for ever again to collimate

13:07 Collimated, starting science

13:19 the SNR was low so taking a second exp. That will wrap things up for the night. Seeing 1.4" on the DIMM.

13:20 12 degree evening twilight

14:10 Sunrise

Calibrations:

OSU_lowZSNe

1.0" LS G200 N1.8 HKspec

1.0" LS G200 N1.8 zJspec

UM_Warhol

- 0.25" LS G210 N375 J @1.285 luci1.20260131.179- luci2.20260131.191-
- Darks luci1/2.20260131.0021-40

OSU_lowZSNe

- Darks luci1/2.20260131.0006-10