# LBT Observing Log for 2024 07 05

Observers: Justin Rupert Partner Observer: Marshall Johnson (remote) Telescope Operator: David Gonzalez Huerta

## Plan:

PEPSIPOL checkout followed by PEPSIPOL/PFU science. T CrB HD 166620 Followed by other OSU\_WMBStokesV targets: HD 178428 HD 197076

### Summary:

HotSpot Alignment to WFS Rotation Center Alignment <u>SX (UT 05:05-06:26)</u> <u>UM\_TCrB</u> <u>T CrB (UT 06:29-08:40)</u> <u>Standard</u> <u>HD 142053 (UT 08:41-08:54)</u> <u>OSU\_WMBStokesV</u> <u>HD 166620 (UT 08:56-11:10)</u> <u>HD 212754 (UT 11:10-11:45)</u>

#### Issues:

IT #8343

## Weather:

Clouds delayed opening by a couple hours. Aside from a few small clouds here and there, weather conditions were good. Seeing was suboptimal most of the night.

# Overview (times are given in UT):

02:39 UT Staying closed to start. Clouds formed overhead and the summit received a little rain in the late afternoon.

03:33 UT 18-degree twilight.

04:22 UT Opening. Only a few small clouds to the north.

HotSpot Alignment to WFS

04:33 UT Active preset to TCrB. Pointing and collimation check.

04:36 UT Pointing is pretty rough. Didn't see it on DX. The star is also way out of focus on SX. Choosing different target.

04:41 UT Target is pointed and focused on SX. David is working on DX now.
04:53 UT Still working on DX...
04:56 UT Got it on DX.
04:58 UT Checking pointing on another target. Looks good.
05:00 UT Collimation check.
05:02 UT DX Hotspot alignment looks pretty good.

#### **Rotation Center Alignment**

#### SX (UT 05:05-06:26)

05:05 UT Sent an active preset. When I stopped guiding through the GCS GUI on the left side, the preset was canceled. Tried again and David stopped sending centroids to PCS. Still canceled the preset. John Hill says this is ok, so we're moving on.



SX Rotation Center: 134, 98 X2 = 268,196 DETSEC= 283, 235 Hot Spot (x,y) = 276,215 Difference = 7, 20 In arcsec = 0.35, 1 In mm = 0.21, 0.6 RAD = 14.28 ROT = 600

05:54 UT Resending preset to check rotation.

06:00 UT Didn't seem to offset when I took the follow-up guide image:



Taking another. This doesn't seem very circular. And is a smaller radius than before with the same offset value:



#### Trying again. Better:



SX Rotation Center: 132, 89 X2 = 264, 178 DETSEC= 279, 217 Hot Spot (x,y) = 276,215 Difference = 3, 2

Great!

06:16 UT Moving on to DX.

06:25 UT IIya needs to take off briefly, so we've decided to postpone DX Rotation Center Alignment until after this first science target. Pointing check.

UM\_TCrB

T CrB (UT 06:29-08:40)

06:29 UT Preset.

06:33 UT Starting science. Seeing is 1.0" on DIMM and guiders.

06:50 UT Seeing bouncing around between 1" and 1.7" on DIMM. 07:55 UT Seeing ~1" on DIMM.

08:13 UT Lost preset on the right side (IT #8343). Resending preset.

Standard

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HD 142053 (UT 08:41-08:54)
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08:41 UT Preset.

08:42 UT Starting science. Seeing is 0.8" on DIMM, guiders reading ~2". Shortening exposure time because we're close to the elevation limit.

08:50 UT Sparse clouds passing through.

OSU\_WMBStokesV

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HD 166620 (UT 08:56-11:10)
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08:56 UT Preset.
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08:57 UT Preset failed on SX. Resending.

09:00 UT Starting science. Seeing is 1.7" on DIMM, 1.3" on SX guider, 1.5" on DX.

10:04 UT Seeing bouncing between 1.5" and 2" on DIMM.

10:26 UT Seeing bouncing between 1" and 1.5" on DIMM.

10:35 UT 18-degree twilight.

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HD 212754 (UT 11:10-11:45)
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11:10 UT Preset.

11:14 UT Starting science. Seeing is 1.4" on guiders.

11:38 UT SX seems to be losing the collimation battle:



11:45 UT Closing.

