

Caltech Optical Observatories / NASA Jet Propulsion Laboratory
Palomar Adaptive Optics

Palomar LGSAO Engineering Summary 07/27/07 UT

Afternoon:

- Laser 7.0W, stable.
- BTO and LLT aligned and tested.
- Measured BTO transmission: 71% from laser shutter to LLT focus.
- Sky partly cloudy, clearing.

Night log:

2000 Opening dome for NGS checkout.
2010 Starting AO checkout on SAO 064736
2011 Telemetry crash on startup, NGS mode. Restarting AO.
2016 Telemetry crash while taking first HOWFS background, NGS mode. Restarting AO.
2017 Jenny calling in quick-look report.
2032 K strehl ~80%, TT only FWHM=0.45" (V seeing = 0.63")
2035 AO checkout complete. Handing over to science for 15 min.
2100 Projecting at zenith
2108 Laser focused. FWHM=15x14 pix, 75 cts @ 2s.
Saving 1185509294, 9316. Background: 9342.
2115 Adjusting RADAR sensitivity to reduce false positives.
2120 Found WFS_Z stage inoperable. Jenny restarting controller.
2125 LGS on HOWFS: 140 cts @ 100 Hz.
2129 Moving to first science target.
2135 Telemetry crash while taking HOWFS background, NGS mode.
2250 Finally completed target acquisition. 2 hr of aircraft, clouds, motor reset problems, incorrect telescope pointing, and operator errors...
2300 Correction looks good given thickening high clouds. ~200 cts @ 100 Hz on HOWFS; correction reasonably good.
2328 Moving to new target, in clearer region of sky.
2335 Switching to NGS backup program due to thickening clouds.
0050 Switching back to LGS science program as clouds are thinning. Moving to second target.
0105 Acquisition complete.
Performance appears good; 200 cts @ 150 Hz.
0135 Shuttered by meteor in ASCAM. Tried 200 Hz framerate on recovery, but every other HOWFS frame had 1 pulse (80 cts). Returned to 150 Hz.
0149 Shuttered due to clouds.
0153 Moving to new target. Not observable due to clouds.
0210 Moving to new target.
0212 Telemetry crash while taking HOWFS background, NGS mode. Restarting AO.
0328 Moving to new target.
0402 AO telemetry crash mid-observation. Symptom: Closed UTT loop while in LGS mode. Restarting AO.
0420 Back on target.
0430 Aborting due to clouds.
0435 Telemetry crash. Restarting AO. Calling night for laser.

0445 Calling night for clouds.