Caltech Optical Observatories / NASA Jet Propulsion Laboratory Palomar Adaptive Optics

Palomar LGSAO Engineering Summary 04/27/07 UT Afternoon: - Laser 5.4W, stable. - BTO aligned and tested. Night log: 1930 AO telemetry crash. Lost 10 min. 1940 Performing AO checkout on SAO 61425. 2000 Ready for laser projection. 2025:03 Projecting at zenith. FWHM = [22, 18]2051 Acquired LGS on HOWFS: 100-180 cts at 50 Hz. FWHM=3.2". 2054 Moving to target 1 2115 2 radar false-positives. Increasing threshold... 2135 Giving up on target due to poor AO performance. 2135 Moving to target 2 - Cass ring angle 2158 AO telemetry crash. Lost 10 min. 2159 Testing PHARO dithers with CR ANGLE = 65.8 Successful, but first step of dither pattern missed. 2215 Unable to lock UTT loop due to reconstructor generation problems. Giving up and moving to target 3. 2228 AO telemetry crash. Lost 10 min. 2250 Locked on Target 3. za=25deg, 90 cts @ 100Hz, NGS=14.4 @ 16": FWHM ~0.25" 2320 Moving to target 4 2335 Acquisition complete. za=20 deg, 100cts @ 100 Hz, NGS=12.4 @ 45": FWHM ~0.20" Some oscillations in chopper, allowing raleigh through. 0028 Moving to target 5 0036 Moving to new target. 0050 Acquisition complete. za=25 deg, 130 cts @ 100 Hz, NGS=15.9 & 16": FWHM~0.25" 0136 Moving to target 6 0200 Acquisition complete. NGS far fainter than expected. Had to go to NGS to find it. Too faint. 0204 Moving to target 7 za=0 deg, 150 cts @ 100 Hz, NGS=15.0 @ 45": FWHM=0.25" 0219 Acquisition complete. 0301 Moving to target 8 0316 Acquisition complete. za=10 deg, 80 cts @ 50 Hz (!), NGS=12.5, FWHM=terrible. 0335 Moving to target 9. Checking laser. Power=4.5W, Na lock is good. 0340 AO telemetry crash. Lost 10 min. 0400 Acquisition complete. za=30, 160 cts @ 100 Hz (better seeing?), NGS=14 0415 Lost North spotter. Radio problems. Lost 10 min, then moved to new target. 0426 Moving to target 10. 0440 Scrubbing laser operations due to terrible seeing (>2"?). HOWFS seeing 30 cts @ 50 Hz...