Palomar LGSAO Engineering Summary 12/08/06 UT

Night log:
1730 AO checkout test plan performed by JH and RB.
    Seeing = 1.0" in K.
1800 Preparing for laser propagation at zenith at 18:30.
    Laser power = 7.5 W.
1831 Propagating at zenith, laser came in 30" to N.
1833 10 During acquisition, safety trigger shuttered beam
    (determined to be due to be Coude room door).
1833 52 Propagating again, begin iterative llt and acq focus
    loops
1853 BTO tripped safety system (motor positions look good...?)
1857 Checked BTO w/ red laser; propagating again.
1900 BTO tripped twice while adjusting laser focus. Moving on
    (leaving laser_focus=9000) but next time try with BTO HS=1.
1910 Checking on frequency dither lock - apparent problems
    locking on Na line. Turned off dither lock and calling Chris
    for support.
1925 Laser tuned (sort of) images: "laser_6", "laser_7" (2s)
    Best FWHM=22.0 pix = 3.6".
1905 Landolt 92-235 (V=10.60) "landolt92-235_1","_2" (10s)
1936 Starting LGS acquisition test plan. Star=SAO55688 (V=6.8).
    Seeing = 1.0" at K.
1950 Acquiring LGS target TYC 2332-0404-1.
    Trouble locking loop on LOWFS. Always works 2nd time.
    UTT loop ran away first time.
2020 LGS acquisition complete.
2025 Debugging frequency dither loop. Now seems to be stable.
2030 Starting bright guidestar performance test.
    Sky frames: ph0016-ph0018, 10s Ks.
2130 Aborting performance optimization test to refocus LLT.
2215 Removing cover from laser in a desperate attempt to minimize
    LGS size. FWHM=17.0 pixels....no better.
2225 Moving to new V=10.0 NGS. TYC 2394-2011-1.
2245 Trying to understand poor NGS performance: ~10% K Strehl on
    V=6.1 star (with dichroic).
    30s integ, w/ TT: 0.87", without TT: 1.2".
    White light strehl = 81%.
2320 Continuing with acquisition of TYC 2394-2011-1.
0015 Closed due to bad seeing.
0215 Opening to check seeing.
    Strehl at 200Hz on V=6.0 star is ~4%.
    TT on: FWHM = 55pix = 1.4". Closing again.
0330 Opening to check seeing.
    Strehl at 200Hz on V=6.6 star is ~5%.
    TT on: FWHM = 44pix = 1.15". Calling night for laser.
0340 Installing NGS reflecive spot; Shutting down BTO.
0415 Checking out NGS system: ~25% K strehl on V=8 star.
0436 Calling night.