

Palomar LGSAO Engineering Summary 05/27/2007 UT

Afternoon:

~04:00 Barriers installed and interlocks tested

~05:25 start BTO alignment and verification.

~05:50 BTO alignment completed

08:00 Laser 5.0 W

08:00 Open dome

08:00 Space Command called for quick look report, no email received, but verbal notification of no closures.

08:10 Start NGS checkout, Strehl 70%, K-band seeing w/TT locked=0.2", V=0.5"

08:18 Done with NGS checkout

8:40 Getting ready for Laser checkout at Zenith

8:50 ready, waiting for approved propagation window to start

8:55 popagate laser at Zenith

Bto focus FWHM

11890 16.5x15.5, 15.9x14.1

11860 15.7x 13.5pix

11830 19.6x12.7

BTO focus 11870

acq1180238389 16.5x15.1

9:01 Done, going to 10th mag star to check out system

Targetm2534-0476-1

Cass ring = 300 deg (nominal 335.6)

Laser on reflecting spot LLT = 76, 7

Close UTT and DM, 250-300 counts, 50Hz

09:14 loops closed

7 pixels FWHM, 10-20% Strehl

Seeing ~30 sec open, .65 in V

Try 100Hz LGS, 100Hz 15-25 Strehl

09:25 going to first science target

Cass ring = 245.8

To close to moon

09:34 go to new first target

Cass ring angle 335.6

Can't project laser, can't see red laser

Go to Zenith Red laser is good

Go to Dec = 60, can lock on red, but gone at 63.2

Go to dec = 60, and set to 63.3 at Dec = 63.2 lost the red laser

Need to fix Conclusions something is blocking the beam at DEC = 63.2 at meridian

Lost 10:20 Dec = 63.2 lost red laser

10:13 trying 3rd object which is first science target

10:21 projecting laser, but can't see a spot checking Na lock, Renu corrected laser lock

LLT = 118, 19

10:30 locked on laser

Laser keeps shuttering, due to the moon in the all sky camera

Need to fix: we are two hours away from moon, but bleed on all sky camera causing problems

10:35 start lasing and science integration, 150 counts, 10-18% Strehl, air mass 1.2

10:55 going to 2nd science target

Cass ring = 155.8

LLT = 116, 33

11:11 locked on star start science integration.

11:24 go to 3rd science target

Skip 7th mag star as it is only 15 min in HA away

11:31 locked and starting integration

100Hz – 150 counts LGS

50 Hz mv=15.9 100 counts

~11:40 Laser lost laser lock, laser drifted off of Na line

Jenny tuned laser back

Llt 116, 12

~11:50 back on

12:10 going to 4th science target

Llt = 125, 14

100Hz, 100 counts on laser

Go to 50hz 200counts

12:27 done, starting science integration

12:50 going to 5th science target

Can't see Red laser Dec ~0 on Q1

Go to Zenith, red laser locks without problem

Look at telescope red laser seems to be hitting cable wrap at top of trolley track and can see some red light on outside of M3 mirror enclosure.

~2:00-3:00 NGS

Look at red beam alignment in Coude, beam not aligned along polar axis. M1_X was off by 3000 counts.

3:00-3:30 more debugging

Telescope at ~-7 Dec, can see red laser, but still hitting on telescope. With dome close attempt to propagate. Red and yellow beams appear to not be co-aligned. Not enough time to co-align them and do science.

3:30 Call it a LGS night and switch to NGS

Called quick-look report into space command