

February 28, 2006 Palomar LGS IPT Meeting Minutes

A. Bouchez, 03/01/06

Caltech: Bouchez, Cromer, Morrisett, Petrie, Pickles, Roberts, Shelton, Troy.
Palomar: Doyle, Henning, Thicksten.

1. Announcements

LLT Primary Procurement

A 10" f/3.75 mirror has been ordered from R. Royce (Northford, CT). Expected delivery at Palomar is 3 April. This leaves 1 week to install and align it before the earliest opportunity for installing LLT on the telescope (10 April).

E. Kibblewhite is shipping a 24" diameter x 3" thick Zerodur blank to Caltech. PG&O (Santa Anna, CA) will machine this to 20" diameter (2-3 wks). Either Argus (Scotts Valley, CA) or Precision Aspheres (Fremont, CA) will then figure and coat our 20" f/1.9 mirror. We are still waiting for a quote from Xinetics on a passive 20" SiC primary, and one with built-in actuation.

2. Priorities for 13-15 April, 2006 LGS engineering run

1. Close HOWFS loop on LGS at zenith.

Requirements

- a. Improved laser stability on LLT primary (and sky).
- b. New LLT focus mechanism and software control.
- c. Improved LLT optical quality (10" f/3.75 LLT primary and support system).
- d. Verify HOWFS timing module performance.
- e. Laser performance in Coude lab verified by E. Kibblewhite.

2. Off-zenith LGS science demonstration.

Requirements

- a. Off-zenith BTO control.
- b. DAC upgrade (required to close UTT and DTT loops simultaneously)
- c. Fix TT offload error.
- d. Implement LGS focus control loop.
- e. Improve LGS automation scripts.

3. Begin aircraft safety system validation.

Goals

- a. Verify improved aircraft-cloud discrimination.
- b. Record spotter vs. ASCAM detection statistics.
- c. Test ASCAM trajectory prediction.
- d. Verify RADAR sensitivity and boresighting.

4. CSFL-3 upgrade remains a high priority, but a parallel effort.

Near-term priorities

- a. Finalize Palomar laser and Coude lab upgrade plans.
- b. Test diode drivers (at Caltech).
- c. Begin gain module and coolant line assembly (at U. Chicago).

3. Tasks in support of LGS priorities

JPL AO To-do list (posted 2/27/06 by M. Troy)

1. Fix problem with offloading to telescope with LOWFS/HOWFS both on TT/JA?
2. Document how offloading loops currently work- MT
3. BTO T/T Upgrade – CS

Caltech Optical Observatories
Palomar Adaptive Optics

4. Verify LGS timing module operational at Palomar – CS
5. Control of new LLT focus motors – JA
6. BTO off-zenith pointing – AB
7. Finish DAC upgrade – TT
8. Focus offloading – CS/MT
9. LOWFS Characterization – JR
10. LGS automation scripts: LOWFS ACQ - AB

Additional CIT items from this meeting:

1. Complete LLT primary procurement. Check mirror pedigree. - AB
2. Check FAA approval for April run. - AB
3. Create plan for Palomar laser lab improvements – AB
4. Order a new laser for BTO tests, determine test schedule - AB
5. New LLT focus mechanism - HP
6. 10" LLT primary adapter – HP
7. Aircraft camera task list – AM
8. Aircraft camera validation plan – AB
9. CSFL-3 upgrade tasks – EK/VV

Meeting adjourned at 9:50am.