

October 17, 2006 Palomar LGS IPT Meeting Notes

A. Bouchez 10/17/06

Caltech: Bouchez, Cameron, Cromer, Pickles, Roberts, Shelton, Troy
Palomar: Henning, Tripathi
Chicago: Kibblewhite

1. LGS performance goals for FY07

Reviewed suggested LGS performance goals for FY07. Several were scaled back, and one added, leaving us with the following list, which will be converted to an OIR project scope statement by AB.

AO Performance

1. $S_K = 0.40$ in a 30s integration, with on-axis $R=10.0$ NGS ($r_0=10$ cm, zenith)
2. $S_K = 0.20$ in a 30s integration, with on-axis $R=17.0$ NGS ($r_0=10$ cm, zenith)
3. LOWFS patrol range $>60''$ radius at one PA, $>30''$ at all PA.
4. Science object positioning and stability on PHARO is equal or better than in NGS.

Efficiency

5. Acquisition of an $R=17.0$ star with the LOWFS should take < 15 min.
6. LGS overhead at start of night should be < 1 hr of dark time.
7. Downtime due to failures that prevent LGS operation should average $< 25\%$ of available time.

Automation

8. Software interfaces and automation of all subsystems to allow operation by 5 personnel (+spotters) and an observer on a science night:
 - 1 night assistant
 - 1 laser operator/lead
 - 1 AO operator
 - 1 laser safety officer
 - 1 laser engineer
9. Laser automation to the following level:
 - Output power remains constant to 10% over night.
 - Night time operation and monitoring functions are performed from data room (+ remotely)
 - Diagnostic information is logged and saved.
10. Make progress towards a fully automated aircraft safety system.

2. New meeting format

Jenny and Antonin decided to modify the group meeting format as follows:

- Monthly LGS project meetings, to which everyone is invited. These will be co-chaired by AB and JR, and will include a half-hour talk on a topic of interest to the group. The first project meeting will be held the week of November 6.
- Weekly or bi-weekly subsystem meetings, to be chaired by the subsystem leads:
 - Laser guide star facility: Bouchez lead. First meeting Tue. 10/24.
 - Safety systems: Bouchez lead. (biweekly)
 - AO optomechanics: Roberts lead.
 - AO software: Trinh lead.

3. LGS tasks for next 2 months.

Unprioritized list of tasks:

- Put LLT in Coude room to calibrate diagnostics and test laser.
 - Planning: how to get LLT into Coude lab?
- Find a new space to work on LLT.

Caltech Optical Observatories
Palomar Adaptive Optics

- AO lab cleanup.
 - Next Mon/Tue: Remove old junk, move in new cabinets, workbench.
- Coude lab cleanliness.
 - Room (heat & dust)
 - Laser (hermetic & temp control)
 - Curtains.
- Replace NLX (1.32:LIO3, 1.06:KTP) - Renu needs specs.
- Replacement diodes (pricing...)
- Write laser procedures.
- Na wavelength lock.
- Confirm linearity & calibration on photodiodes.
- Installation of new gain modules in mid-Nov or after Dec. run. (finish teaching on Dec 1)
- LOWFS/Acq redesign.
- Chopper cleanup, cover, cabling
- AO software.
- Safety: Test ASCAM & IRCAM.

Ed is able to come out to Palomar anytime after classes end on 1 Dec., and will be able to support the next run.

Meeting adjourned 09:55.