July 5, 2006 Palomar LGS IPT Meeting Notes

Caltech: Bouchez, Cromer, Dekany, Moore, Petrie, Roberts, Shelton, Troy
Palomar: Doyle, Henning
Chicago: Kibblewhite

1. Announcements

- No word yet on PALM-3000 MRI proposal. We should be hearing from them any day.
- There has been an instrument swith in the Palomar schedule, and AO science run begins tonight rather than the 8th.

2. July engineering run priorities

- Test new 18" LLT mirrorLGS performance optimization.
- Understand contributors to error budget.
- Demonstrate improved laser bandwidth, wavelength control, & diagnostics.

3. LGS tasks for July engineering run

CSFL

If etalons are available, test laser as is and install spectrum analyzer on 589nm beam. Replace etalons, measure power and bandwidth improvements. Ed arrives at Palomar 7/6. Alternative: optimize IR lasers in turn (requires rebuilding spectrum analyzer for IR). Total power may change due to improved mode locking. There may be a trade-off between power and spectral bandwidth.

On-sky measurements needed to evaluate effectiveness of new etalon? Still planning to install thermal control inside ThorLabs piezo-actuated stage.

Implementation of servo system: Requires ordering a thermal controller (Omega?) Thermocouples? Did we order the TE coolers? Check on order status.

Top priority for this run is temperature control.

LLT mirror

18" mirror meets specs, has been shipped to L&L for coating. Coating going on 7/5. Parts for mirror cell are in Caltech shops, will be done tomorrow afternoon (need to check). Plan on going to Palomar to install on Friday (7/7).

Star test may be needed to zero out coma using secondary centration. If launch telescope is ready ahead of time, could be installed over the weekend (Palomar available).

Chopper

Has not been tested in place, and no cover yet made. Installation should not be a problem. Could test for vibration Tues. daytime. Need to program 3rd channel on delay generator to drive chopper. Also takes open/closed input on serial line (needs to be run from Cass cage to control room). Open/closed logic tested and working. Will be installed Tuesday morning. Will remove chopper on morning after last night (cables can stay).

Biggest concern is making a cover in time. Cannot use old HOWFS cover anymore, so need to shield HOWFS from both internal LED and external sources.

AO Instrument interfaces

SWIFT and P1640 interfaces. P1640 fits in PHARO footprint, but SWIFT far larger. Anna working on Zemax and SolidWorks files for AO bench. Found that SSM

mounts flex substantially with changing AO bench orientation. OAP mounts also seen to flex (but are in common path).

AO real-time software

New build in which all DM commands will no longer go over VME backplane, will be released today. Rick/Jeff to test during day tomorrow, and use for science as soon as possible. Until then, observers stuck with 10s delay when loops open/closed. *Contact Stan today to inform (AB).*

Separate test build implements 3 ways to perform denominator-free centroiding. Need to reboot DSPs to switch between methods.

AO user interface

No changes to TAO for this run.

New IDL software: Implement bias/background subtraction in ACQVIEW, and one-click centering of LGS behind reflective spot using UTT mirror.

Aircraft cameras

Both problems with camera software solved. Client-GUI communication seems to be working properly, but may not be transferring video successfully.

Need to consider how to test boresighting of RADAR.

AO acquisition camera

Do we have time to install fiber optic connection to eliminate video noise? JH working on this. Camera insulation and realignment could be second priority on Tuesday.

LGS operations plan

Mitch commented on lack of resources for delivering a facility-class instrument. We will discuss the plan in more detail during run and send feedback to Andrew immediately after.

4. Personnel schedule

	Thu 7/6	Fri 7/7	Sat 7/8	Sun 7/9	Mon 7/10	Tue 7/11	Wed 7/12	Thu 7/13
Angione					X	X	X	X
Bouchez		X				X	X	X
Cromer					X	X	X	X
Dekany						X	X	X
Guiwitz								
Kibblewhite	X	X	X	X	X	X	X	X
Moore						X		
Petrie		X				X	?	
Roberts						X	X	X
Shelton					?	X	X	X
Trinh								
Velur	X	X	X	X	X	X	X	X