

## **February 14, 2006 Palomar LGS IPT Meeting Minutes**

A. Bouchez, 2/14/06

Caltech: Bouchez, Roberts, Petrie, Pickles, Cromer, Velur

Chicago: Kibblewhite

Palomar: Thicksten, Doyle, Henning

### **Announcements**

We received LLT primary quote from Argus Intl. Following up with references. Ed has 2 spare 24"x4" blanks, which could be cut down if needed. 24" figured mirror is too large for current cell.

### **LGS engineering run debriefing.**

- Software problems identified in LGS/DNGS observing modes. S/W group is aware.
- Need more engineering plans. Those written were useful.
- ASCAM has a hardware problem. John H. checked that camera is powered this morning. Alan will need to follow up with John.
- Different number of detections in IRCAM and RADAR was due to narrower FOV of RADAR. Planes were faint – 1-pt calibration may not have been done. Communication issues need to be worked out in order to be able to do this remotely.
- More automation of LGS functions is needed for future engineering.
- Database access problems were major issue. Known problem, but needs to be resolved. Thought to be a S/W issue. Exacerbated by the way we are using DB for real-time status display.
- LOWFS needs more testing: Acquisition problems (white light on Sat night) not understood. Tests in lab needed.
- During good seeing, DIMM was showing 1" while 200" had 0.45" in V.
- MGSU cameras saw a lot of noise on last night. There were temperature control problems with one camera, but noise in others is unexplained. Could be stray light (but LOWFS unaffected), or MGSU electronics.
- MGSU future unknown. Will have to make a decision following analysis of data in hand.
- In retrospect, in-person software team support would have been useful for LGS tests. Remote VNC is a possibility, but support should be arranged ahead of time.

### **Discussion of tasks for next 2 months.**

- If we can stabilize the beam better on the LLT, a decent 10" patch of the current primary might be used.
- Adding piezo mirror to laser bench for beam stabilization sounds OK to Ed.

Caltech Optical Observatories  
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- FAA validation should be high priority. Possible strategies are 1) Get data from FAA of plane positions, track with P200 2) predict plane positions from ASCAM, track with P200 3) Mount IRCAM and RADAR on a different platform, acquire visually or using ACAM.
- Work estimate for mounting IRCAM/RADAR on different platform would be 1-4 weeks of manpower. Depends mostly on complexity and control of platform.

**Priorities before April run (not necessarily in order)**

1. Order new full-sized LLT mirror.
2. Plan FAA validation.
3. BTO bandwidth upgrade.
4. New focus mechanism for LLT
5. Undersize mirror, and adaptor, for LLT primary.
6. AO software work to on LGS observing modes.
7. Laser power upgrade.

Need Palomar staff support for:

- FAA validation campaign (planning and execution)
- LLT changes (Hal)
- Laser power upgrade (work on downstairs lab)

**Laser upgrade schedule**

- Viswa testing power supplies on campus over next week. Will be on vacation 2/23 - 3/15.
- Ed will come out to Palomar on 3/15 to assure that laser is running well for April run. Viswa may help out.
- Gain heads and plumbing of new laser will be assembled in Chicago in April. Viswa will go out to help. Chillers, power supplies, and other components need to be shipped.
- Laser components would then be shipped to Palomar for assembly in downstairs lab in May/June. Mark 1 laser should remain unaffected by upgrade work until after June run.
- Mark 2 laser will be installed in Coude lab between June and July runs, but depends on progress.
- Viswa will provide a detailed schedule including work for Palomar staff before departure.