

January 24, 2006 Palomar LGS IPT Meeting Minutes

A. Bouchez, 1/24/06

Caltech: Bouchez, Cromer, Morrisett, Petrie, Pickles, Roberts, Shelton, Troy.

Palomar: Henning, Thicksten.

Chicago: Kibblewhite.

1. Planning for the February 9-11, 2006 engineering run

Proposed experiments:

1. LOWFS
 - a. Determine pupil motion vs. telescope angle (day)
 - b. Test acquisition scripts (day, night)
 - c. Measure LOWFS sensitivity (night)
 - d. Take open-loop focus data (night)
2. UTT/DTT functionality (day, night)
3. HOWFS range gating (day)
4. BTO
 - a. Demo open-loop control (day)
 - b. Calibrate open-loop motor positions (day)
5. Test full safety system (cameras+radar, night)
6. Test flat-maps (contingent on Chris' availability)

Required preparation:

1. LOWFS/MGSU: Jenny and Viswa to Palomar Monday-???
 - a. Reinstall missing MGSU prism.
 - b. Install LOWFS w/ low-speed motors.
 - c. Adjust preloads (LOWFS first, other cameras if time permits)
 - d. Document mechanical conflicts.
2. Swap TT DAC card on first afternoon of engineering run.
3. Range gating external trigger connector needs to be fixed (send to JPL next wk?)

It looks like we will require only 1 of 3 engineering nights for the above tests, ideally the first two half-nights. The MGSU project will be offered the remaining 2 nights, but additional work on the MGSU may be needed to successfully utilize this. A meeting on future MGSU observations is planned for Fri. 1/26.

2. Update on LLT replacement progress

We placed an order for a new 20" pyrex f/1.9 primary with Galaxy Optics in December, but they recently informed us they could not deliver the mirror, so we're back to searching for a vendor. We have received 2 quotes for mirror figuring (OMI and UCO/Lick), and several quotes on Zerodur/ULE mirror blanks. However, their prices are well above our current budget. Viswa is canvassing Photonics West today.

The current plan is to order a 20-inch diameter f/1.9 primary (~6 mo. lead time), as well as an off-the-shelf undersized primary (~10" diam, few week lead time) with the same focal length, and install the undersized primary in time for the April LGS engineering run. We hope to complete the necessary telescope modifications (focusing secondary, primary mirror support) by then.

3. Topical LGS meetings and reviews

Mitch and I identified the need for more group involvement and review in design decisions regarding the LGS, AO, and laser systems. We are therefore proposing that the following internal planning sessions and reviews be scheduled in the next couple of months. The goal is to encourage sound design by enlisting the participation of the broad expertise available in our group. I've identified a lead/chairperson for each of the following, and it is up to the lead to schedule the meeting and encourage appropriate preparation.

1. LGS stimulus requirements definition (Roberts)
2. Laser automation requirements definition (Velur)
3. LOWFS focus control design review (Shelton)
4. MGSU & LOWFS mechanical design (Velur; 2/21, 9-11am, 012 Rob.)
5. BTO bandwidth improvement design review (Shelton)
6. Laser upgrade requirements definition (Bouchez)
7. HOWFS LGS performance optimization brainstorming mtg. (Troy)
8. ASCAM & IRCAM software review (Bouchez; 2/24, 9-11am, 012 Rob.)

Meeting adjourned at 10am