

April 10, 2006 LGS Facility IPT Meeting Minutes

A. Bouchez 4/10/07

Caltech: Bouchez, Moore, Petrie, Shelton
JPL: Angione
Palomar: Sweet, Tripathi
Chicago: Kibblewhite

1. Laser

AOM oscillator which failed on Friday night was inherited from MIT-LL laser and probably 15 yr old. Oscillator produces ~500 mW signal, which a preamp then raises to ~3 W. Target frequency is 49.8 MHz. Could probably replace with a cheap digital frequency synthesizer + preamp. Action items:

- Renu has returned device to IntraAction for evaluation and/or repair.
- Ed will check whether any similar oscillator is available at U. Chicago.
- Chris will check whether one is available for loan at JPL.

Laser 589nm power was ~4.5 throughout most of run despite good IR laser power (1.06 μm = 16W, 1.32 μm = 12 W). Ed still concerned that it could be due to polarization mismatch. Action items:

- Ed will assemble and send a second Brewster plate assembly to Palomar.
- Renu should perform a full realignment and optimization of the laser.
- Renu (possibly with Chris's help) should test the polarization states of both IR lasers.
- Chris will coordinate with Renu regarding spending a day at Palomar next week for polarization testing.

Ed is still planning to come to Palomar after the next observing run. He will let us know dates as soon as available.

2. Safety systems

The following changes to the laser safety system were agreed on by all parties (from 4/9/07 email by J. Cromer):

On the lighted sign outside the Coude door:

- Red will be connected to the power supplies (OR'd).
- Yellow will be connected to the large chiller.
- Green will remain unchanged.

Alarm Zone 8 changes:

- All zone 8 interlocks, except the BTO, will be bypassed when the dome shutters are closed.
- All zone 8 interlocks will be disconnected from the alarm.

(Zone 8 interlocks = dome shutters, TCS, BTO, allsky camera, ircam and radar.)

J. Henning will implement all of these changes in time for the next observing run.

3. LLT and Laser diagnostics

D. Zieber has begun configuring COO Dell PC as video computer for Coude lab. All hardware is installed; now working on LabView 8 license. Several further action items:

- Purchase a Gig-E card if necessary (AB)
- Include VNC to allow configuration by Anna from Pasadena, and use by Renu from data room. (DZ)
- Transfer temperature control software from laptop to PC, to allow us to get rid of old laptop. (RT/DZ)

- Decide whether to transfer Spiricon and delay generator software from "blue PC" to Dell. (RT/DZ).

A. Moore will present drawings of diagnostics bench enclosures at next week's LGS Facility meeting. Harvey Mudd SURF student will attend the May LGS engineering run. He will start work on laser diagnostics data on June 11.

LLT image quality was best ever measured ($<1.2''$ FWHM NGS, and $1.6''$ FWHM LGS in $\sim 0.75''$ seeing). Some indications that collimation could be optimized on LGS. Agreed on a strategy for testing boresighting and adjusting collimation next run:

1. Fire laser with no adjustment to boresighting (or final fold) to test boresight repeatability.
2. Adjust collimation and boresighting to optimize spot size on mesosphere.

4. Other items

Congratulations to everyone on a very successful first shared-risk science observing run!

Meeting adjourned 9:45.