

May 16, 2006 Palomar LGS IPT Meeting Minutes

Palomar: Angione, Doyle, Henning, Shelton, Thicksten
Caltech: Bouchez, Morrissett, Petrie, Pickles, Roberts, Troy, Velur
Chicago: Kibblewhite

1. 06B AO engineering schedule

AO engineering runs on draft schedule (14 nights total):

- 5-7 Sep. 2006
- 11-13 Oct. 2006
- 2-3 Nov. 2006 (bonus run)
- 6-8 Dec. 2006
- 4-6 Jan. 2007

Decided to use the extra two full nights in November for science verification observations, but *not* to use the two NGS half-nights offered 31 Oct.-1 Nov.

2. BTO Stimulus layout

AB presented two options for the layout of the BTO stimulus (see Fig. 1). Everyone generally agreed that the vertically mounted optical bench provided the most flexibility and simplest mounting options. Decided to follow this approach. 2'x2' optical bench will be ordered from ThorLabs today. AB will go to Palomar on 5/22 to discuss mounting geometry with Bob.

Required Palomar engineering:

- Mounting the vertical optical bench to floor and spectrograph frame.
- Cutting slot in the 4" vertical edge of the platform.

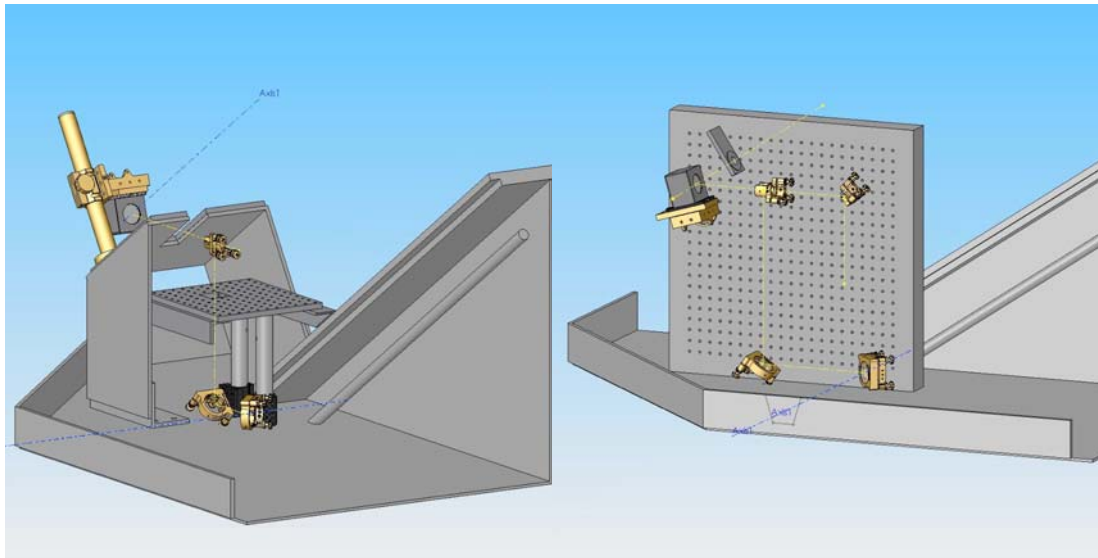


Fig. 1: *Left:* Horizontal mounting concept, which includes the installation of a horizontal 12"x18" breadboard and cutting holes in the current polar platform. *Right:* Vertical mounting concept. The 2'x2' optical bench is mounted 3" west of the polar axis.

3. Progress on LGS tasks

Chris Shelton

- BTO computer is installed and running again.
- Laser focus stage is plugged in – no cable extensions were needed.
- Rotator stage is hooked up, works well.
- New motors are called: laser_focus, laser_polarization.

John Angione

- Working on changes to BTO control algorithms today.

Viswa Velur

- Installed laser focus stage.
- Ordered pressurization parts – will not arrive until end of this week.
- Will order 100um actuator for CSFL etalon.
- Today-Thu. will line up spectrum analyzer and test with HeNe.

Ed Kibblewhite

- Has a Lil crystal, which needs to get it polished and coated.

Hal Petrie

- Worked on design for $\frac{1}{4}$ -wave plate in LLT with Chris.
- Filters for quad cells need to be ordered, installation should be simple.
- Will be returning to Palomar 1 day next week to work on LLT.

Antonin Bouchez

- BTO stimulus layout designed (see above).

Jenny Roberts

- Still investigating different chopper solutions, including two which we already have available (Oriel and New Focus).
- CS Worked out a method for stopping the chopper in the open position: Will use synchronization signal in a servo, locking on edge. Should work for any optical sensor. Will design a board to do this.

4. Critical path items on schedule

Those already completed are not included in this list

- (JR) need detailed schedule on chopper work.
- (JA) need list of motor names for AOCP.
- (TT) start on HO processor modifications to enable coadding frames.
- (SG) work on dual-star mode crash problems.
- (JR) chasing down new dichroic.
- (AB) Need to order quad cell filters & BTO breadboard.
- (CS/JA) Write laser focus & polarization control algorithm & code.
- (JA) Zaber motor tests ongoing.
- (JA/CS) Cleaning up BTO software.
- (SG) Trouble-shoot solid state disk problems.
- (CS/HP) LLT $\frac{1}{4}$ -wave plate design underway. Will machine parts at Palomar next week.
- (VV/CS) BTO laser focus & polarization control – all underway.
- (CS) Measure FSM-200 reflectivity. This week.
- (AB) Backstops: Will delay this item until after the June run.
- (VV) Lab spring cleaning done, but shelving still underway.
- (VV) LBO pressurization: Parts on the way, will install after bandwidth experiment.
- (VV) Test & calibrate spectrum analyzer. Later this week.
- (VV) Intracavity nonlinear crystals: Waiting for Lithuanian quote.
- (VV) Etalon: need to order hardware.
- (VV) Need to order plumbing for CSFL-3
- (MT) Need to talk with Palomar about PHARO focus adjustment.