

January 29, 2006 LGS Facility IPT Meeting Minutes

A. Bouchez 1/29/07

Caltech: Angione, Bouchez, Cromer, Guiwits, Moore, Petrie, Roberts
Palomar: Henning, Thicksten, Tripathi,

1. Laser Diagnostics

Anna presented laser diagnostics results from Jan. 2007 engineering run. Presentation (without movies) is posted on LGS Facility IPT TWiki page.

- Problem with red light leak to Coude diagnostics, will be fixed by adding a 589nm filter in diagnostics path.
- Rough calibration of photodiodes was performed during the engineering run.
- Photodiodes are sampled at 100 kHz, clearly showing shape of macropulse.
- JA: It would be useful to determine what point in pulse the BTO is sampling.
- Still need to determine platescale of far-field cameras.
- Near-field PF image very stable on both short and long timescales - BTO control loop appears to be working well, and no flexure apparent in PF diagnostics bench.
- Far-field image moves on short (thermal, vibration) and long (cause unknown) timescales.

2. What's New at Photonics West?

Brief report from Renu on trip to Photonics West SPIE conference:

- Spoke with MLD and Crystal laser about SFG crystals. Can still get old LBO repolished and coated. High power coatings are possible.
- Lithuanian company recommends BBO instead of LBO for sum-frequency generation (1/2 size, more efficient.) Will send info on BBO.
- Anti-grey tracking KTP - manufacturer claims we only need a small size (2mm).
- Made contacts with companies which produce high-power laser modules.
- No one making high-power 1.32 μm lasers. However, Antonin mentioned Volius contract with Keck and ESO.
- Consider experiments with PPSLT and PPLN (low-power only). Renu will look up material.

3. LGS and BTO computers

- Decided to replace internal DAC in laser photodiode box. Spec'ed new one with Chris, ordered, received. No power supply ordered.
- Takes serial commands. Will communicate through "read all" command. Calibrated values in Watts are probably what is being recorded.
- FUI is displaying temperatures. Will be able to set temperatures from LGS computer during next run. Still need to test temperature setting functionality.
- Diagram data pathways to LGS computer (SG/JA/AB). Fax to JH at Palomar.
- Need to send JPL ESP300 controller up to Palomar to swap with BTO M3 controller.

4. Safety systems

- Remaining problem with aircraft software: Monitor's DS9 displays periodically disappear. JC working on implementing same fix as Alan did (restart after N images).

Ask Thu. meeting speakers for slides.
Meeting adjourned at 10:00am