Palomar Adaptive Optics Test Plan

Title	PHARO pupil motion
Version	1.0
Date released	4/9/2008
Lead	A. Bouchez
Time requested	1 hr.
Required conditions	Dome closed

Purpose
Measure the amount of pupil motion observed by PHARO over the accessible sky.

Previous analysis
None which I am aware of.

Test procedure

A. Verify pupil alignment at zenith
1. Install the pupil mask on the deformable mirror. **Gloves required.**
2. Record a 2s dark with the PHARO block in to subtract from subsequent images.
3. Set up PHARO for pupil imaging: Pupil imaging, 25 mas field, J filter, standard cross pupil mask.
4. Check the pupil image on PHARO using white-light stimulus. If necessary, adjust PHARO's pitch and yaw to align the PHARO pupil mask to the DM pupil mask to better than 5 pixels.
5. Remove the DM pupil mask.
6. Turn on the high lamps, open the mirror cover, set stimulus selection motor to "sky".
7. Check the telescope pupil on PHARO. If necessary, adjust the AO system's FM1 mirror to align the PHARO pupil mask to the telescope secondary to better than 5 pixels.

B. Measure pupil motion as a function of zenith angle.
8. System configuration:
   - DM pupil mask *not* installed.
   - Mirror cover open, high lamps on.
   - PHARO configuration: Pupil imaging, 25 mas field, J filter, standard cross.
   - Record a 10s dark (PHARO block in).
9. Record 10s pupil images at the following HA/Dec positions. Fill in image numbers in the table below.

	-6:00	-4:00	-2:00	0:00	+2:00	+4:00	+6:00
-20.0	N/A	N/A				N/A	N/A
0.0							
+20.0							
+40.0							
+60.0							

Results and conclusions