Palomar Adaptive Optics Test Plan

Title	**Field-dependent LOWFS focus**
Version	1.0
Date released	4/3/2007
Lead	A. Bouchez
Time requested	30 minutes
Required conditions	Any

Purpose
Measure the focus as a function of field angle (aka. field curvature) at the LOWFS focus.

Previous analysis
Lab tests performed on 3/26/07 using the stimulus gave conflicting results. LOWFS focus offset from the HOWFS "sweet spot" to pixel (490,345) was +1.50 mm when using the white_x motor to offset the fiber, and -0.60 mm when using SSMs to offset.

Test procedure
1. Setup
    1.1. Center SSMs.
    1.2. Move LGS_X to LGS position.
    1.3. Set Acq to Video.
    1.4. Set LOWFS framerate to 500 Hz. (or optimum)
    1.5. Set ttm_integral_gain to something reasonable.
2. Acquire a bright (V~10.0) star near zenith. Center on HOWFS sweet spot: (282,262)
3. Acquire star with LOWFS.
    3.1. Send LOWFS to star position.
    3.2. Offset to sky and take a LOWFS background.
    3.3. Return to star and zero LOWFS centroids.
    3.4. Close TTM loop.
    3.5. Record average LOWFS focus.
4. Offset telescope and reacquire star
    4.1. Open TTM loop.
    4.2. Set Acq to Video.
    4.3. Offset the telescope 20" West.
    4.4. Repeat steps 3.1-3.5
5. Repeat step 4 at 20" intervals over entire field.
6. Return to center and take a final focus measurement.

Results and conclusions

X offset (")	Y offset (")	X (pix)	Y (pix)	LOWFS focus
0.0	0.0			