AO Engineering plan for 17-20 Aug. 2005

V2: 08/15/05, AB

Schedule Overview

PDT date	12° twilight		PI	Overview
08/17/05	20:29	05:14	Britton	AO PSF prediction
08/18/05	20:28	05:15	Britton	AO PSF prediction/NGS AO engineering
08/19/05	20:27	05:16	Dekany	AO PSF prediction/NGS AO engineering
08/20/05	20:26	05:17	Dekany	NGS AO engineering

CIT/JPL Personnel Schedule

Personnel	Wed. 08/17	Thu. 08/18	Fri. 08/19	Sat. 08/20
A. Bouchez	X	X	X	X
M. Britton	X	X	X	
J. Cromer	X	X	X	Avail. if needed
R. Dekany		Arrives at 1700	X	X
E. Kibblewhite	X	Leave at 1800		
A. Pickles	Leave at 2100			1300-1800
V. Velur	X	X	X	X

Everyone is responsible for their own Monastery reservations. Please send corrections to this schedule to A. Bouchez.

Proposed Experiment Schedule

Date	Start	End	ID	Description	Personnel
8/16	0900	1000		LGS IPT mtg.	all
8/16	1400	1800	D1	Q2 sensitivity	AB
8/17	1000	1100		Remove LLT primary	VV, AP
8/17	1300	1400		LLT installation (no primary)	Palomar staff
8/17	1400	1600	D2	Open-loop BTO performance setup	VV, AB, tel. operator
8/17	1600	1900	D3	Beam size at LLT focus setup	VV, AB, EK, JC
8/17	2000	2030		Status mtg. (monastery)	All
8/17	2030	0530	N1	AO PSF prediction	MB, AB
8/18	1000	1600	D2	Open-loop BTO performance	VV, tel. operator
8/18	1600	1900	D3	Beam size at LLT focus	VV, AB, EK, JC
8/18	2000	2030		Status mtg. (monastery)	all
8/18	2030	0000	N1	AO PSF prediction	MB, RD, AB
8/19	0000	0200	N2	NGS error budget	RD, AB
8/19	0200	0530	N3	LOWFS performance	RD, AB
8/19	1000	1600	D2	Open-loop BTO performance (contingency)	Velur, tel. operator
8/19	1600	1900	D3	Beam size at LLT focus (contingency)	VV, AB, EK, JC
8/19	2000	2030		Status mtg. (monastery)	all
8/19	2030	0000	N1	AO PSF prediction	MB, RD, AB
8/20	0000	0200	N2	NGS error budget	RD, AB
8/20	0200	0530	N4	LGS acquisition	RD, AB

8/20	1000	1600		Install primary mirror in LLT	VV, Palomar staff
8/20	2000	2030		Status mtg. (monastery)	all
8/20	2030	2300	N5	Collimate LLT	RD, VV, AB
8/20	2300	0300	N6	High contrast performance	RD, AB, J. Carson (?)
8/20	0300	0530	N7	Visible light AO	RD, AB

Experiment Descriptions

D1 Q2 sensitivity

Lead: A. Bouchez
Description: Test Q2 sensitivity to HeNe laser. Project HeNe up polar axis, off M2 to Q2.
Time needed: 3 hrs daytime.
Restrictions: None.
Prerequisites:

1. Redirect Q2 output to Coude oscilloscope.
2. Align HeNe to polar axis.
3. Telescope at zenith and trolley, M2 in zenith position.

D2 Open-loop BTO Performance

Lead: A. Bouchez
Description: Test ability of BTO optics to track telescope motion with servo loops open. Use HeNe laser on Q3 to evaluate effects of trolley control errors and flexure.
Time needed: 8 hr daytime.
Restrictions: Need telescope operator.
Prerequisites:

1. Redirect Q3 output to Coude oscilloscope.
2. Align HeNe to polar axis.
3. Trolley homed and tracking telescope declination.

D3 Beam size at LLT focus.

Lead: V. Velur
Description: Measure the beam size at the LLT focus by a knife-edge test.
Time needed: 8 hr daytime.
Restrictions: 589nm laser in dome. Need safety officer and restricted public access.
Prerequisites:

1. LLT installed without primary mirror.
2. Beam attenuator installed on laser bench (~1% transmission).
3. Telescope at zenith and trolley, M2 in zenith position.
4. Safety systems (and officer) in place.
5. 3-axis blade positioner and diode installed.

N1 AO PSF estimation

Lead: M. Britton
Description: Estimate AO PSF from MASS/DIMM and telemetry data.
Time needed: 2 nights

N2 NGS AO error budget

Lead: R. Dekany
Description: Evaluate terms in NGS AO bright star error budget using improved calibration.
Time needed: 4 hrs (various turbulence conditions).

Prerequisites:

1. Create new flat map from Sid's July phase map.
2. Online PSD analysis tool modified for Palomar AO.

N3 LOWFS performance

Lead: A. Bouchez
Description: Evaluate LOWFS performance (TT and focus) on bright and faint stars.
Time needed: 4 hrs
Prerequisites:

1. Appropriate LOWFS reconstructor computed and loaded (must include focus)
2. Online PSD analysis tool modified for Palomar AO.

N4 LGS acquisition

Lead: A. Bouchez
Description: Practice LGS acquisition and closing LGS/NGS loops on binary stars.
Time needed: 4 hrs
Prerequisites:

1. Document acquisition procedure.

N5 LLT collimation

Lead: R. Dekany
Description: Use star images on LLT pulnix to improve telescope collimation.
Time needed: 4 hrs (good seeing)
Prerequisites:

1. LLT installed with primary mirror.
2. Zoom optics installed on LLT pulnix.

N6 High-contrast NGS AO performance characterization

Lead: J. Carson
Description: Complete high-contrast performance characterization experiments begun in 2004.
Time needed: 4 hrs

N7 Visible light AO performance

Lead: A. Bouchez
Description: Measure on-axis visible light AO correction using acquisition camera.
Time needed: 2 hrs (average to good seeing)
Prerequisites:

1. Capability to switch to dichroic reflecting spot.
2. Insert filter in front of acquisition camera