

OBSERVATIONAL PROGRAMS

NATIONAL OPTICAL ASTRONOMY OBSERVATORY

NOAO 2005A Proposals Due 30 September 2004

Todd Boroson

Proposals for NOAO-coordinated observing time for semester 2005A (February–July 2005) are **due by Thursday evening, 30 September 2004, midnight MST**. The facilities available this semester include the Gemini North and South telescopes, the Cerro Tololo Inter-American Observatory (now including SOAR), the Kitt Peak National Observatory, and community-access time with the Keck I and II telescopes, the Hobby-Eberly Telescope, Magellan-I, and MMT.

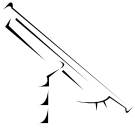
Proposal materials and information are available on our Web page (www.noao.edu/noaoprop/). There are three options for submission:

- **Web submissions**—The Web form may be used to complete and submit all proposals. The information provided on the Web form is formatted and submitted as a LaTeX file, including figures that are “attached” to the Web proposal as encapsulated PostScript files.
- **E-mail submissions**—As in previous semesters, a customized LaTeX file may be downloaded from the Web proposal form, after certain required fields have been completed. “Essay” sections can then be edited locally and the proposal submitted by e-mail. Please carefully follow the instructions in the LaTeX template for submitting proposals and figures.
- **Gemini’s Phase-I Tool (PIT)**—Investigators proposing for Gemini time **only** may optionally use Gemini’s tool, which runs on Solaris, RedHat Linux, and Windows platforms, and can be downloaded from www.gemini.edu/sciops/P1help/p1Index.html.

Note that proposals for Gemini time may also be submitted using the standard NOAO form, and that proposals that request time on Gemini plus other telescopes **MUST** use the standard NOAO form. PIT-submitted proposals will be converted to LaTeX at NOAO, and are subject to the same page limits as other NOAO proposals. To ensure a smooth translation, please see the guidelines at www.noao.edu/noaoprop/help/pit.html.

The addresses below are available to help with proposal preparation and submission:

Web proposal materials and information	www.noao.edu/noaoprop/
Request help for proposal preparation	noaoprop-help@noao.edu
Address for thesis and visitor instrument letters, as well as consent letters, for use of PI instruments on the MMT	noaoprop-letter@noao.edu
Address for submitting LaTeX proposals by e-mail	noaoprop-submit@noao.edu
Gemini-related questions about operations or instruments	usgemini@noao.edu www.noao.edu/gateway/gemini/support.html
CTIO-specific questions related to an observing run	ctio@noao.edu
KPNO-specific questions related to an observing run	kpno@noao.edu
HET-specific questions related to an observing run	het@noao.edu
Keck-specific questions related to an observing run	keck@noao.edu
MMT-specific questions related to an observing run	mmt@noao.edu
Magellan-specific questions related to an observing run	magellan@noao.edu



Community Access Time Available in 2005A with Keck, HET, Magellan-I, and MMT

Todd Boroson & Dave Bell

As a result of awards made through the National Science Foundation's Telescope System Instrumentation Program (TSIP) and a similar earlier program, telescope time is available to the general astronomical community at the following facilities in 2005A:

- **W.M. Keck Observatory**—A total of at least four nights will be available for classically scheduled observing programs with the 10-meter Keck I and II telescopes on Mauna Kea. At press time, there remains the possibility of a few additional nights being offered in 2005A. For the latest details on Keck community-access time, see www.noao.edu/gateway/keck/.
- **Hobby-Eberly Telescope**—About 16 clear nights of community-access queue observations per fully scheduled year are available with the 9.2-meter-effective-aperture Hobby-Eberly Telescope (HET) at McDonald Observatory. During 2005A, about 76 hours are expected to be available for integration and set-up time. Available instruments include the High-, Medium-, and Low-Resolution Spectrographs. Please see the following article for additional details, and for the latest information on HET instrumentation and instructions for writing observing proposals, see www.noao.edu/gateway/het/.
- **Magellan-I Telescope**—Three bright nights will be available for classically scheduled observing programs with the 6.5-meter Baade telescope at Las Campanas Observatory. The Clay telescope will not be available for new community access programs in 2005A due to a previous allocation that will be held over. For updated information on available instrumentation and proposal instructions, see www.noao.edu/gateway/magellan/.
- **MMT Observatory**—Twelve nights of classically scheduled observing time will be available with the 6.5-meter telescope of the MMT Observatory in 2005A. Four new instruments are being offered: MegaCam, Hectospec, Hectochelle, and ARIES. For further information, see www.noao.edu/gateway/mmt/.

A list of instruments we expect to be offered in 2005A can be found at the end of this section. As always, investigators are encouraged to check the NOAO Web site for any last-minute changes before starting a proposal.

Current Status of the Hobby-Eberly Telescope

Matthew Shetrone (McDonald Observatory/HET)

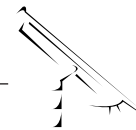
The Hobby-Eberly Telescope (HET), a fixed altitude 9-meter class optical telescope, has shown significant improvements in performance over the past six months. The addition of louvers to the HET enclosure and modifications to the open-loop model used to control the motion of the prime focus corrector have improved the delivered image quality to within half an arcsec of the site seeing (determined by DIMM measurements).

The HET instrument suite includes: 1) the Marcario Low-Resolution Spectrograph with long slit or multislit capabilities at resolutions ranging from 300 to 1800; 2) the High-Resolution Spectrograph with a single object fiber feed with resolution of 15,000–120,000; and 3) a Medium-

Resolution Spectrograph with a single object fiber feed with resolutions of 6800 or 9200. The direct single object feeds to the Medium Resolution Spectrograph are newly commissioned and taking regular science observations. Additional observing modes for the Medium Resolution Spectrograph are being commissioned at the present time.

The queue-scheduled nature of the HET allows rapid response to changing conditions. This fast turnaround combined with recent improvements in our synoptic planning capabilities makes the HET a powerful tool for spectroscopic temporal surveys. An example of this capability is the recently published "The First HET Planet: A Companion to HD 37605" by Cochran et al. 2004, astro-ph/0407146. The

continued



Current Status of the Hobby-Eberly Telescope continued

parameters for this planet were found in a single orbital cycle owing to quick data reduction by the PI and active feedback to the HET queue.

For the last six months the HET has been conducting science operations 94 percent of available observing time (the remaining 6 percent has been used for continued engineering efforts to improve image quality and instrument commissioning), with less than 6 percent of science operations time lost due to problems. This is approximately twice the efficiency of previous years. The astronomical community has time on the HET that is administered through NOAO.

The NOAO community can now expect 76 hours of clear HET nights each period to be spread roughly evenly over bright and dark time and also over the sky.

The most successful programs are those that capitalize on the strengths of the HET: slightly flexible temporal surveys (given weather constraints), all-sky surveys, near-full moon programs (given 33 percent of the NOAO time is for the near-full moon time) and an active customer service oriented queue. We look forward to seeing your programs and papers.

KPNO Instruments Available for 2005A

Spectroscopy	Detector	Resolution	Slit	Multi-object
Mayall 4-m				
R-C CCD Spectrograph	T2KB/LB1A CCD	300–5000	5.4'	single/multi
Cryocam/MARS Spectrograph	LB CCD (1980×800)	300–1500	5.4'	single/multi
Echelle Spectrograph	T2KB CCD	18000–65000	2.0'	
FLAMINGOS	HgCdTe (2048×2048, 0.9–2.5μm)	1000–3000	10'	single/multi
WIYN 3.5-m				
Hydra + Bench Spectrograph	T2KC CCD	700–22000	NA	~100 fibers
DensePak ¹	T2KC CCD	700–22000	IFU	~90 fibers
SparsePak ²	T2KC CCD	700–22000	IFU	~82 fibers
2.1-m				
GoldCam CCD Spectrograph	F3KA CCD	300–4500	5.2'	
FLAMINGOS	HgCdTe (2048×2048, 0.9–2.5μm)	1000–3000	20'	

Imaging	Detector	Spectral Range	Scale ("'/pixel)	Field
Mayall 4-m				
CCD Mosaic	8K×8K	3500–9700Å	0.26	35.4'
SQIID	InSb (4-512×512)	JHK + L (NB)	0.39	3.3' circular
FLAMINGOS	HgCdTe (2048×2048)	JHK	0.3	10'
WIYN 3.5-m				
Mini-Mosaic/OPTIC	4K×4K CCD	3300–9700Å	0.14	9.3'
WTTM	4K×2K CCD	3700–9700Å	0.11	4.6'×3.8'
2.1-m				
CCD Imager	T2KA CCD	3300–9700Å	0.305	10.4'
SQIID	InSb (4-512×512)	JHK + L (NB)	0.68	5.8' circular
FLAMINGOS	HgCdTe (2048×2048)	JHK	0.6	20'
WIYN 0.9-m				
CCD Mosaic	8K×8K	3500–9700Å	0.43	59'

¹ Integral Field Unit: 30"×45" field, 3" fibers, 4" fiber spacing @ f/6.5; also available at Cass at f/13.

² Integral Field Unit, 80"×80" field, 5" fibers, graduated spacing.

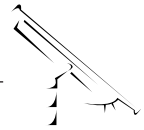


Observational Programs

CTIO Instruments Available for 2005A*

Spectroscopy	Detector	Resolution	Slit
4-m Blanco Hydra + Fiber Spectrograph R-C CCD Spectrograph	SITe 2K CCD, 3300–11000Å Loral 3K CCD, 3100–11000Å	300–2000 300–5000	138 fibers, 2" aperture 5.5'
4-m SOAR Goodman Spectrograph OSIRIS IR Imaging Spectrograph	Lincoln 4K×4K Mosaic, 3100–11000Å HgCdTe 1K, JHK Windows	1400–6000 1200–3000	5" 1.3', 3.3'
1.5-m Cass Spectrograph	Loral 1200×800 CCD, 3100–11000Å	<1300	7.7'
Imaging	Detector	Scale ("/pixel)	Field
4-m Blanco Mosaic II Imager ISPI IR Imager	8K×8K CCD Mosaic HgCdTe (2048×2048, 1.0–2.4μm)	0.27 0.3	36' 11'
4-m SOAR Optical Imager OSIRIS IR Imaging Spectrograph	E2V 4K×4K Mosaic HgCdTe 1K	0.08 0.014, 0.35	5.5" 1.3', 3.3'
1.5-m CPAPIR	Hawaii II 2K IR	0.88	30'
1.3-m ANDICAM Optical/IR Camera	Fairchild 2K CCD HgCdTe 1K IR	0.17 0.11	5.8" 2'
1-m Direct Imaging	4K CCD	0.29	20'
0.9-m Cass Direct Imaging	SITe 2K CCD	0.4	13.6'

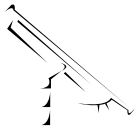
* Please refer to the NOAO Proposal Web pages in September 2004 for confirmation of available instruments.



Gemini Instruments Possibly Available for 2005A*

GEMINI NORTH	Detector	Spectral Range	Scale ("/pixel)	Field
NIRI	1024×1024 Aladdin Array	1–5μm R~500–1600	0.022, 0.05, 0.116	22.5", 51", 119"
GMOS-N	3-2048×4608 CCDs	0.36–1.1μm R~670–4400	0.072	5.5'
Michelle	256×256 Si:As IBC	8–25μm R~200, 1000, 3000	0.10 img, 0.18 spec	~25"×25"
Altair (feed to NIRI)	1024×1024 Aladdin Array	1–2.5μm R~500–1600	0.022	22.5"
GEMINI SOUTH	Detector	Spectral Range	Scale ("/pixel)	Field
GNIRS	1K×1K Aladdin Array	1–5.5μm R~1700, 6000, 18000	0.05, 0.15	3"–99" slit length
GMOS-S	3-2048×4608 CCDs	0.36–1.1μm R~670–4400	0.072	5.5'
T-ReCS	320×240 Si:As IBC	8–25μm R~100, 1000	0.09	28"×21"
Phoenix	512×1024 InSb	1–5μm R≤70000	0.1	14" slit length
Acquisition Camera	1K×1K frame-transfer CCD	BVRI	0.12	2'×2'
Hokupa'a-85	1024×1024 Aladdin Array	1–5μm	0.022	22"

* Please refer to the NOAO Proposal Web pages in September 2004 for confirmation of available instruments.



Observational Programs

Keck Instruments Available for 2005A

	Detector	Resolution	Spectral Range	Scale (" / pixel)	Field
Keck I					
HIRESb/r (optical echelle)	4096×6144	30K–90K	0.31–1μm	0.12	60×45" slit
NIRC (near-IR img/spec)	256×256 InSb	60–120	1–5μm	0.15	38"
LWS (mid-IR img/spec)	128×128 As:Si BIB	100, 1400	3–25μm	0.08	10"
LRIS (img/lslit/mslit)	Tek 2048×2048	300–5000	0.31–1μm	0.22	6×7.8'
Keck II					
ESI (optical echelle)	MIT-LL 2048×4096	1000–6000	0.39–1.1μm	0.15	2×8'
NIRSPEC (near-IR echelle)	1024×1024 InSb	2000, 25000	1–5μm	0.18	46"
NIRSPA0 (NIRSPEC w/AO)	1024×1024 InSb	2000, 25000	1–2.5μm	0.018	4.6"
NIRC2 (near-IR AO img)	1024×1024 InSb	5000	1–5μm	0.01–0.04	10–40"
DEIMOS (img/lslit/mslit)	8192×8192 mosaic	1200–10000	0.41–1.1μm	0.12	16.7×5'

MMT Instruments Available for 2005A

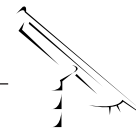
	Detector	Spectral Range	Scale (" / pixel)	Field
BCHAN (spec, blue-channel)	Loral 3072×1024 CCD	0.32–0.8μm	0.3	150"
RCHAN (spec, red-channel)	Loral 1200×800 CCD	0.5–1μm	0.3	150"
MegaCam (optical img)	(36) 2048×4608 CCDs	0.32–1μm	0.08	24'
Hectospec (300-fiber MOS)	(2) 2048×4608 CCDs	0.38–1.1μm	R~1K	60'
Hectochelle (240-fiber MOS)	(2) 2048×4608 CCDs	0.38–1.1μm	R~32K	60'
MIRAC3 (mid-IR img, PI inst)	128×128 Si:As BIB array	2–25μm	0.14, 0.28	18.2, 36"
SPOL (img/spec polarimeter, PI)	Loral 1200×800 CCD	0.38–0.9μm	0.2	20"
ARIES (near-IR img, PI)	1024×1024 HgCdTe	1.1–2.5μm	1.1, 2.1	20, 40"

HET Instruments Available for 2005A

	Detector	Resolution	Slit	Multi-object
LRS (Marcario low-res spec)	Ford 3072×1024			
	4100–10000Å	600	1"–10"×4'	13 slitlets, 15"×1.3" in 4'×3' field
	4300–7400Å	1300	1"–10"×4'	13 slitlets, 15"×1.3" in 4'×3' field
	6250–9100Å	1900	1"–10"×4'	13 slitlets, 15"×1.3" in 4'×3' field
MRS (med-res spec)	(2) 2K×4K, visible	5000–20000	1.5" or 2" fibers	single
HRS (high-res spec)	(2) 2K×4K 4200–11000Å	15000–120000	2" or 3" fiber	single

Magellan Instruments Available for 2005A

	Detector	Resolution	Spectral Range	Scale (" / pixel)	Field
Magellan I (Baade)					
PANIC (IR img)	1024×1024 Hawaii		1–2.5μm	0.125	2'
IMACS (img/lslit/mslit)	8192×8192 CCD	R~2100–28000	0.34–1.1μm	0.11, 0.2	15.5', 27.2'



Observing Request Statistics for 2004B Standard Proposals

	No. of Requests	Nights Requested	Average Request	Nights Allocated	DD Nights (*)	Nights Previously Allocated	Nights Scheduled for New Programs	Over-subscription for New Programs
GEMINI								
Gemini North	95	150.68	1.59	50.74	0	0	50.74	2.97
Gemini South	101	215.19	2.13	50.28	10.665	0	50.28	4.28
CTIO								
CTIO 4-m	77	214.7	2.79	112.5	0	5	107.5	2
CTIO 1.5-m	10	42	4.2	38	0	0	38	1.11
CTIO 1.3-m	18	60.10	3.34	21.7	0	0	21.7	2.77
CTIO 1.0-m	5	23	4.6	20.83	0	0	20.83	1.1
CTIO 0.9-m	13	96.7	7.44	63.6	0	0	63.6	1.52
KPNO								
KPNO 4-m	62	178.8	2.88	104	0	0	104	1.72
WIYN 3.5-m	34	99.8	2.94	38	2	7	31	3.22
KPNO 2.1-m	27	123.2	4.56	105	0	0	105	1.17
WIYN 0.9-m	9	48	5.33	18	0	0	18	2.67
Keck/HET/MMT/ Magellan								
Keck I	14	22	1.57	6	0	0	6	3.67
Keck II	14	29	2.07	6	0	1	5	5.8
HET	5	10.5	2.1	5.5	0	0	5.5	1.91
Magellan-I	4	11	2.75	3	0	0	3	3.67
Magellan-II	4	10	2.5	3	0	0	3	3.33
MMT	10	19.5	1.95	12.5	0	0	12.5	1.56