NOAO 2003B Proposals Due 31 March 2003

Todd Boroson

Proposals for observing time for semester 2003B (August 2003–January 2004) with the Gemini North and South telescopes, the Cerro Tololo Inter-American Observatory, the Kitt Peak National Observatory, and community access time at the Hobby-Eberly Telescope, the Keck I and II telescopes, and the MMT Observatory telescope are **due by Monday evening, 31 March 2003, midnight MST**.

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 **only** may optionally use Gemini's tool, which runs on Solaris, RedHat Linux, and Windows platforms, and can be downloaded from their Web site.

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*

Community Access Time at the Keck, MMT, and HET Observatories

Todd Boroson & Dave Bell

As a result of two awards made in the first proposal cycle of the National Science Foundation's Telescope System Instrumentation Program (TSIP), a total of 41 nights of classical observing time are being allocated to the astronomical community on the two 10-meter telescopes of the W.M. Keck Observatory on Mauna Kea. These 41 nights are being allocated over five semesters, with 12 nights to be scheduled in 2003B. The nights will be divided equally between the two telescopes and distributed evenly over lunar phases. All current facility-class instruments and modes (which excludes interferometry) are available. Any scientist may propose without regard to nationality or preferred access through other channels. For additional information, see *www.noao.edu/gateway/keck/*.

About 27 classically-scheduled nights of community-access observing time per year are available on the MMT Observatory 6.5-meter telescope, under a six-year agreement with the National Science Foundation. About 12 nights will be available during the August 2003–January 2004 period. Proposals that can take advantage of MMT's bright-time capabilities are particularly encouraged, as public-access programs in previous semesters have somewhat disproportionately used the community's share of dark time. For more information, check NOAO's MMT Web page at *www.noao.edu/gateway/mmt/* and MMT's public-access instrumentation page at *www.mmto.org/public_access/*.

About 16 equivalent clear nights of community-access queue observations per year are available on the Hobby-Eberly Telescope (HET) at McDonald Observatory, under a six-year agreement with the National Science Foundation. During 2003B, about 50 hours are expected to be available for integration and set-up time. Beginning this semester, community-access investigators may submit proposals for the new Medium Resolution Spectrograph (see the following article) in addition to the High- and Low-Resolution Spectrographs. For additional information, see *www.noao.edu/gateway/het/*.

The Hobby-Eberly Telescope Medium-Resolution Spectrograph

Larry Ramsey (Penn State)

The Hobby-Eberly Telescope (HET) Medium-Resolution Spectrograph (MRS) is currently in commissioning, and the most basic single-object mode has been tested. That and the "long-slit" modes, which we anticipate testing in the March–June period, will be available to the general community through NOAO starting in August 2003.

The MRS is a complex fiber-feed instrument with single-object, fiber long slit, and multi-object capability in the resolution range $5{,}000 < \lambda/\Delta\lambda < 20{,}000$ in the visible and $5{,}000 < \lambda/\Delta\lambda < 10{,}000$ in the 1- to 1.35-micron range. The complete capabilities of the MRS are described in Ramsey et al. 2002 (available at *www.noao.edu/gateway/het/*) and are summarized in the table below, taken from that paper.

The available modes are called the direct-feed mode and the long-slit mode. The direct-feed mode utilizes the MOS 0 probe and has an object/sky pair of blue-optimized (Polymicro Technologies PT FVP300330370500) and red-optimized (PT FIP 300330370500) fibers that project to 1.5 arcsec on the sky, yielding a fixed resolution of about 7,000. The object and sky fibers are separated by about 10 arcsec. There are also single 2-arcsec red or blue optimized fibers that yield a resolution of about 5,300. These modes have all been tested with cross-disperser #1. Next to be tested will be the synthetic fiber long slits. The 1.5-arcsec long slit is an array of 15 fibers in a linear array and the 2 arcsec long slit is a linear

continued

Hobby-Eberly continued

array of 9 fibers. At the spectrograph end, the fibers are reimaged via an all-reflecting optical system to an intermediate slit mask that can enable resolutions from 5,300 to 20,000 and select four different slit "heights." A number of configurations are possible with different cross dispersers and these are discussed in the "MRS Fiber and Slit Arrangements" document. This document, and other information useful to 2003B proposal writers, can be found at *www.noao.edu/gateway/het/.* Currently, only the visible beam of the MRS is available. We anticipate that the near-infrared beam, which has had one test run, will be available this fall. The MOS mode should be available to the community for 2004A.

Properties of the MRS

	Visible Beam	NIR Beam
Fiber-fed MOS (max. # objects)	9	5
Wavelength range (nm) Typical	430–880	1000–1300
Blue limit	380	900
Red limit	900	1350
Resolution-slit product (Rφ arcsec)	10400	10400
Max. resolution	~20000	10400
Camera	Dioptric f/1.6	Dioptric f/1.6
Detectors	Two 2K×4K Marconi 15μm pixels	1K×1K HgCdTe Hawaii 18μm pixels
Echelle	79 or 110g/mm, R2	31.6g/mm, R2
Cross dispersers (g/mm & wavelength of max. efficiency)	#1: 220g/mm, 590nm #2: 600g/mm, 650nm #3: 900g/mm, 515nm #4: 1200g/mm, 560nm	#1: 400g/mm, 1200nm #2 TBD
Max. wavelength range/frame	450nm	300nm

Observing Request Statistics for 2003A 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	148.62	1.56	41.64	2	0	41.64	3.57
Gemini South	59	83.58	1.42	32.2	0	0	32.20	2.60
CTIO								
CTIO 4-m	88	272	3.09	103	5	0	103	2.64
CTIO 1.5-m	12	69	5.75	74	0	7	67	1.03
CTIO 1.3-m	9	24	2.67	23.3	0	0	23.30	1.03
CTIO 0.9-m	15	100	6.67	62.5	0	0	62.5	1.60
KPNO								
KPNO 4-m	94	307.8	3.27	111.50	5	0	111.5	2.76
WIYN 3.5-m	40	112.25	2.81	55.75	0	8.5	47.25	2.38
KPNO 2.1-m	39	183.2	4.7	115	0	0	115	1.59
WIYN 0.9-m	7	21	3	21	0	8	13	1.62
Keck/HET/MMT								
Keck I	14	18.5	1.32	6	0	0	6	3.08
Keck II	19	28	1.47	6	0	0	6	4.67
HET	8	6.8	0.85	4.3	0	0	4.3	1.58
MMT	7	16	2.29	11	0	0	11	1.45

*Nights allocated by NOAO Director

KPNO Instruments Available for 2003B

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	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

CTIO Instruments Available for 2003B

Spectroscopy	Detector	Resolution	Slit
4-m			
Hydra + Fiber Spectrograph	SITe 2K CCD, 3300–11000Å	300–2000	138 fibers, 2" aperture
R-C CCD Spectrograph	Loral 3K CCD, 3100–11000Å	300–5000	5.5'
Echelle + Long Cameras	SITe 2K CCD, 3100–11000Å	60000	5.2'
1.5-m			
Cass Spectrograph	Loral 1200×800 CCD, 3100–11000Å	<1300	7.7'

Imaging	Detector	Scale ("/pixel)	Field
4-m			
Mosaic II Imager	8K×8K CCD Mosaic	0.27	36'
ISPI IR Imager	HgCdTe (2048×2048, 1.0–2.4μm)	0.3	11'
1.3-m			
ANDICAM Optical/IR Camera	Fairchild 2K CCD	0.17	5.8'
	HgCdTe 1K IR	0.11	2.0'
0.9-m			
Cass Direct Imaging	SITe 2K CCD	0.40	13.6'

Gemini Instruments Possibly Available for 2003B

GEMINI NORTH	Detector	Spectral Range	Scale ("/pixel)	Field
NIRI	1024×1024 Aladdin Array	1–5μm R~500–1600	0.022, 0.050, 0.116	22.5", 51", 119"
GMOS-N	3 - 2048×4608 CCDs	0.36–1.10μm 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"

GEMINI SOUTH	Detector	Spectral Range	Scale ("/pixel)	Field
Phoenix	512×1024 InSb	1–5μm R≤70000	0.1	14" slit length
T-ReCS	320×240 Si:As IBC	8–25μm R~100, 1000	0.09	28"×21"
Acquisition Camera	1K×1K frame-transfer CCD	BVRI	0.12	2'×2'
GMOS-S	3 - 2048×4608 CCDs	0.36–1.10μm R~670–4400	0.072	5.5'

Keck Instruments Available for 2003B

	Detector	Resolution	Spectral Range	Scale ("/pixel)	Field
Keck I					
HIRESb/r (optical echelle)	Tek 2048×2048	30k–80k	0.35–1.0μm	0.19	70" 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	0.31–1.0μm	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 (slitcam)	46"
NIRSPAO (NIRSPEC w/AO)	1024×1024 InSb	2000, 25000	1–5μm	0.18 (slitcam)	46"
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 2003B

	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	0.5–1.0μm	0.3	150"
MIRAC3 (mid-IR img, PI)	128×128 Si:As BIB array	2–25μm	0.14, 0.28	18.2, 36"
MiniCam (optical imager)	2 - EEV 2048×4608 CCDs	UBVRI	0.05	3.7'
SPOL (img/spec polarimeter, PI)	Loral 1200×800 CCD	0.38–0.9μm	0.2	20"

HET Instruments Available for 2003B

	Detector	Resolution	Slit	Multi-object
LRS (Marcario low-res spec)	Ford 3072×1024 4100–10000Å or 4300–7400Å	 600 1300	 1.0"–10"×4' 1.0"–10"×4'	 13 slitlets, 15"×1.3" in 4'×3' field
MRS (med-res spec)	2 - 2K×4K, visible 1K×1K HgCdTe, near-IR	5000–20000 5000–10000	1.5" or 2" fibers (synth long-slit)	9 objects (no MOS in 2003B)
HRS (high-res spec)	2 - 2K×4K 4200–11000Å	15000–120000	2" or 3" fiber	single