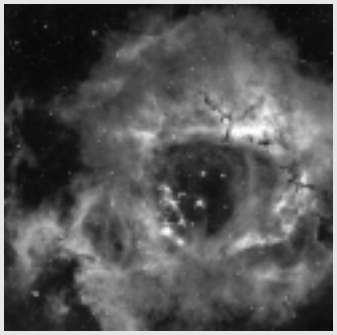

OBSERVATIONAL PROGRAMS

NOAO Nighttime Proposals Due for 2001A

The NOAO Proposal Team

Proposals for observing time for Semester 2001A (February–August 2001) at the Gemini North telescope, the Cerro Tololo Inter-American Observatory, and the Kitt Peak National Observatory, and for community access time at the Hobby-Eberly Telescope are due by Saturday evening, 30 September 2000, midnight MST. Articles in this section provide specific information on the capabilities provided at each facility.

Proposal materials and information are available on our Web page *(http://www.noao.edu/noaoprop/*). Investigators should use the Web form to initiate all proposals. Although the Web form is the starting point for all proposals, we do provide both e-mail and Web options for submission.

- *Web submissions*. The Web form may be used to complete and submit 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*. If you prefer to prepare your proposal locally as a LaTeX file and then submit it by e-mail, that option is still available. Investigators using the Web form are requested to fill out certain information on the general information, investigator information, and run information pages (what is required through the Web form varies with each facility, so read the instructions carefully). After these pages have

continued

2001A Gemini Proposals

Bob Schommer

We expect that Gemini will issue a call for proposals on 1 September 2000 for the 2001A semester on Gemini North (see additional details in call for proposals). The telescope will be scheduled up to 50% of the time for science during this semester, as remaining system and instrument verification and commissioning will still occupy significant resources. The instruments available will be the facility instrument NIRI, in both imaging and spectrographic modes, and the visitor instruments OSCIR and Hokupa'a/QUIRC. NIRI will be available primarily as a queue instrument, while the others will be "classically" scheduled (i.e., astronomers will travel to the telescope for assigned nights). Because of demand and the possibility of short blocks of time allocation, the US will run a mini-queue for some fraction of the time on both OSCIR and Hokupa'a/QUIRC. Please indicate on the normal NOAO proposal form whether you want queue or classical observations.

Please note that these details are subject to a Gemini system readiness review scheduled in August. Check our Web pages (*www.noao.edu/usgp/*) for current information.

The three nights of community access time on KECK with NIRSPEC are scheduled for 14–16 December 2000, with a call for proposals likely to be in mid-October. See the Gemini Web site for information about how to apply.

been completed, a "customized" LaTeX file can be downloaded or returned to you by e-mail for completion and submission by e-mail. Follow the instructions in the LaTeX template for submitting proposals and figures.

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

Web proposal materials and information.	***http://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 relating to operations or instrumentation.	***usgemini@noao.edu*** **and** ***http://www.noao.edu/gateway/gemini/support.html***
The official Gemini HelpDesk.	***http://www.us-gemini.noao.edu/sciops/helpdeskhelpdeskIndex.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***

The Gemini Time Allocation Process—A New Game

Todd Boroson

For the first time, the recent series of TAC meetings included proposals for Gemini North. The manner in which time is assigned and observations carried out on the Gemini telescopes is somewhat different from that of the NOAO-operated telescopes, and it was clear that some of the implications of that were not appreciated by proposers. First, let's acknowledge that many things were atypical about this semester. We had only 17.5 nights to give out. The 78 proposals that we received oversubscribed this time by a factor of 6.4. Instruments available were limited to two—University of Hawaii's Hokupa'a/QUIRC and University of Florida's OSCIR. All observations were to be obtained through queue scheduling by Gemini staff. Predictions about sensitivities and efficiencies were only guesses.

continued

However, even with all these special conditions, there are several aspects, particularly of the Gemini queue, that determine who gets data and who does not. Here's how the process works.

1. *Proposers write and submit proposals using the forms and process set up by each country's national Gemini office or national TAC. For the US, this is the standard NOAO LaTeX proposal form that is available on the Web and submitted electronically to NOAO. Information about the capabilities Gemini is offering and expected performance comes from the Gemini Web site (mirrored by NOAO for US astronomers). In addition to the instrument desired, proposers must indicate what quality of observing conditions they need. For this first semester, the conditions were limited to image quality and sky transparency, and the choices were limited to one or two for each.*

2. *Proposals undergo a technical review by US Gemini Program (USGP) scientific staff at NOAO. They are evaluated scientifically by the NOAO TAC panels (membership of which is listed on our Web site) and merged into a ranked list based on scientific assessment.*

3. *A US Gemini merging TAC (with representatives from the various discipline panels) then goes through the list in detail. Our 17.5 nights are divided into two, half for each instrument, and are further subdivided into the different bins defined by observing conditions. Once the merging TAC is satisfied that the proposals are in the proper ranked order, these bins are filled by going down the ranked list. When a bin is filled, a proposal that needs those conditions cannot go to the telescope unless it can be put into a bin with better conditions. To give us some latitude, the bins were initially overfilled by a factor of two.*

4. *The resulting ranked list of proposals (about twice as many as were needed to subscribe the US time) is sent to Gemini. The Gemini North operations team takes these lists from the seven partners plus host (Hawaii) and Gemini scientific staff, and merges them into a single ordered list of programs. This list is filled top to bottom using a scheme that allows approximate balance of the partner shares to be maintained.*

5. *The International Time Assignment Committee (ITAC), including representation from each country, meets to discuss the merged queue of programs. The main charge to this committee is to deal with conflicts, such as proposals that went to more than one country (typically, the "cost" is split among the countries involved) or identical proposals from two or more countries (typically, an attempt is made to form a collaboration). The ITAC also decides how to deal with proposals for which a Gemini technical review has identified a problem. Finally, the ITAC decides how to divide the list into "bands." The bands are meant to be ranges of programs that can be considered of equal scientific priority, so that the staff executing the programs have a simple way to pick the best observation to make at any given time from a pool of reasonable size. This time, the ITAC divided the queue into three, roughly equal bands. The final list is forwarded to the Gemini Director for approval.*

6. *For each approved program, a contact scientist at Gemini is designated. The contact scientist works with the PI to ensure a complete understanding of the observations desired. As the semester proceeds, the staff execute the observations, attempting to complete all the Band 1 observations before the Band 2 observations are started. At any given decision point, weight will be given to the best match between program and conditions, completing programs that have been started, and maintaining the balance of partner shares. Partner shares can only be expected to balance over two to three semesters.*

In working through this process from beginning to end, it became clear that the constraints on conditions play a major role in determining which programs get into the queue. Proposers should understand that the tighter the constraints they put on the quality of the conditions for their program, the less time is available for that program. In the most recent round, several proposals requested more than 100% of the time that would be available to US programs with the conditions specified! In the merging TAC, we had to skip over a number of excellent programs because the conditions they requested were already used up by higher ranked programs.

continued

Why don't we select programs purely on the basis of scientific merit and use however much good quality time as there is? We have agreed with the other Gemini partners that we will share the time in an equitable way. We won't try to load the queue with programs that will use up all the best time, but will limit our request of the best time to the same proportion as we get of the total time. Alternatively, we could put a lot of good quality time proposals at the bottom of the queue, with the idea that these will get executed if there is an excess of good quality time in a given semester. Our experience with the WIYN queue convinced us that this is a bad idea. Leaving programs in the queue all semester and never executing them results in (justifiably) upset proposers. If we run out of programs to execute midway through the semester, we can always go back to our list and contact proposers to see if they are still interested in getting data—the usual response is, "Are you kidding?"

And so the advice that comes from the results of this first semester is:

- *Do the math*. Divide the number of nights you are asking for by the frequency of the conditions you require to calculate an "equivalent nights requested." See if this is a rational request.
- *Think carefully about the data quality you need*. Make sure that you specify conditions that will allow you to get that data quality, but not better. Read the instrument and telescope information carefully to ascertain what that is.
- *Don't be discouraged*. Recognize that this semester was a special case that made things a lot harder than they will be in the future.

Proposals for the Hobby-Eberly Telescope

Tom Barnes and Caty Pilachowski

Again for the 2001A semester, observers may request time on the 9.2-m (effective aperture) Hobby-Eberly Telescope (HET) at McDonald Observatory, under an agreement with the National Science Foundation.

Proposals should be submitted through NOAO using the standard NOAO proposal form. Proposals will be reviewed by the NOAO TAC, and those approved will be forwarded to the HET for queue-scheduling. For further details concerning the use of HET for observations and the preparation of observing proposals, see NOAO's Web pages for HET information (*http://www.noao.edu/gateway/het*).

Current Status

During the 2000B semester, the amount of time devoted to science observations on the HET will be scaled back from 14 to 10 nights per month to concentrate engineering efforts on the improvement of image quality. This increase in engineering time follows encouraging developments in image quality improvement and recognizes that all science observations are hamstrung by poor image quality. The commissioning of instruments will take second priority during the semester, and the acquisition of science data will be the HET's third priority. Observations through the NSF Public Access programs will continue through the 2000B semester, however. The NOAO TAC recommended several programs to forward to the HET for observations, and the investigators are, as of this writing, preparing their Phase II programs, which NOAO will forward to the HET staff.

continued

Instrumentation Status

Instrumentation available on the HET in the 2001A semester will be the Marcario Low Resolution Spectrometer (LRS) and the High Resolution Spectrometer (HRS). These are described in *NOAO Newsletter*, No. 60, and at *http://www.noao.edu/gateway/het/*. The LRS is a grism spectrometer with imaging and long-slit modes in operation now. The field of view is 4′ in diameter. The two grisms provide resolving powers of 600 and 1300 in wavelength regions 410–1000 nm and 430–740 nm, respectively. The LRS has achieved 1.6″ images on the HET, although imaging in the 2.0″–2.5″ range is more typical at this time. Researchers planning to use the LRS are asked to consult current performance measures documented at *http://www.noao.edu/gateway/het/*. Upgrades to the instrument, including electronics and a new CCD, are planned this summer.

Commissioning of the HRS is also planned this summer, but may slip until September. The HRS is a fiber-fed spectrometer with resolving powers of 30,000, 60,000, and 120,000 by means of three slit widths. Spectral coverage is 420–1100 nm. Projected performance characteristics of the HRS are available at *http://www.noao.edu/gateway/het/* and will be updated as commissioning proceeds.

MMT Begins Scientific Observations— No Call for New MMT Proposals This Semester

Todd Boroson and Craig Foltz

The 6.5-m MMT saw first light at its f/9 Cassegrain focus on 17 May 2000. The telescope was dedicated on 20 May 2000, and limited scientific observations began shortly thereafter. During the very first observing run, an NSF Public Access night was scheduled with the MIRAC/BLINC mid-infrared camera. In fact, this was the first program on the new telescope to be awarded time by a telescope allocation committee. Much remains to be done, but the telescope's optical performance exceeded expectation.

Because the pace of construction and commissioning has been a little slower than our (optimistic) hopes, we intend to carry over the Public Access programs that had been approved for the 2000A semester to be executed in the 2001A semester. Consequently, we will not be soliciting new MMT Public Access programs for the upcoming proposal deadline. We expect to solicit new proposals for the next deadline, in March 2001.

Activities being carried out during the summer shutdown of the telescope include: (1) tuning and optimization of the mount servos, (2) installation of the instrument rotator and its control system, (3) installation of the primary mirror thermal control system, and (4) optimization of the primary mirror figure. It is anticipated that scientific observing will begin in earnest after Labor Day 2000, with more than 50% of the time being scheduled for scientific programs and instrument integration.

Keck/NIRSPEC Time Available to US Community

Caty Pilachowski

Observing time on the Keck II Telescope with the Near-IR Spectrograph (NIRSPEC) continues to be available to the US community (and other Gemini partners) through a trade of a Gemini InSb infrared array. In Semester 2000B, the Gemini/NIRSPEC nights will be 14–16 December 2000. This will be a non-AO run to allow observing at 3–5 μm, which was unavailable in 2000A, as well as programs for shorter wavelengths. The program will continue with three nights per semester through the 2001B semester; observations are carried out in queue mode by Gemini Observatory staff.

Investigators interested in applying for NIRSPEC should keep a close eye on the Gemini Observatory Web site (*http://www.us-gemini.noao.edu/sciops/instruments/nirspec/nirspecIndex.html*) for further information. A call for proposals is expected imminently, with a due date in late October. Based on experience in the 2000A semester, Gemini anticipates changing the application form and the rules for applications. Please do not submit proposals for 2000B until further advised.

NIRSPEC is a moderate- to high-resolution, near-infrared (1-5 μm), cross-dispersed, echelle, and grating spectrometer at the Keck Observatory on Mauna Kea. The instrument is equipped with a 1024 × 1024 Aladdin InSb array detector capable of resolving powers of R ~ 1,500–3,000 or R ~ 15,000–75,000. At any single setting of its grating or echelle, NIRSPEC covers a wavelength range of approximately 0.18 λ_{center}. For example, with λ_{center} set to 2.25 μm, the wavelength coverage is 2.05–2.45 μm.

NOAO Observing Time through HST Cycle 10 Proposals

Caty Pilachowski and Steve Strom

We are pleased to announce a collaboration with STScI through which investigators can obtain time on NOAO facilities (not including Gemini) through accepted Cycle 10 proposals for HST time. The amount of time available is limited to 5% of NOAO's available time. Investigators interested in including NOAO ground-based observations as part of their HST proposals should refer to instructions in the Cycle 10 Call for Proposals.

The goal of this collaboration is to allow proposers to avoid the double jeopardy inherent in having to pass through two separate TAC processes, and to provide access to facilities essential to obtaining complementary ground-based O/IR data without regard to institutional affiliation.

STScI joins two other NASA observatories, Chandra and SIRTF (through the SIRTF Legacy Program), in providing investigators with complementary ground-based observations in support of their programs.

New Surveys to Begin

Todd Boroson

NOAO makes available for surveys up to 20% of the time on the telescopes to which it provides access. Our second solicitation for surveys yielded 17 proposals for new programs. A cross-disciplinary survey panel evaluated the new proposals as well as progress reports on the five ongoing surveys. Following the discipline panel evaluation of the standard proposals, the merging TAC discussed the recommended new survey proposals in comparison with the merged ranked lists. The five continuing surveys are:

- *Deep Imaging Survey of Nearby Star-Forming Clouds*, PI: John Bally (Colorado)
- *In Search of Nearby Stars: A Parallax Program at CTIO*, PI: Todd Henry (Harvard-Smithsonian CfA)
- *The NOAO Deep Wide-Field Survey*, PI: Buell Jannuzi and Arjun Dey (NOAO)
- *Deep Lens Survey*, PI: Anthony Tyson (Bell Labs, Lucent Technologies)
- *A Fundamental Plane Peculiar Velocity Survey of Rich Clusters within 200 h^{-1} Mpc*, PI: Michael Hudson (Waterloo)

The new surveys that were recommended for scheduling are:

- *ChaMPlane: Measuring the Faint X-ray Binary and Stellar X-ray Content of the Galaxy*, PI: Josh Grindlay (Harvard-Smithsonian CfA)
- *Toward a Complete Near-Infrared Spectroscopic and Imaging Survey of Giant Molecular Clouds*, PI: Elizabeth Lada (Florida)
- *The Resolved Stellar Content of Local Group Galaxies Currently Forming Stars*, PI: Phil Massey (NOAO)
- *Star Formation in HI Selected Galaxies*, PI: Gerhardt Meurer (Johns Hopkins)
- *Southern Standard Stars for the u´g´r´i´z´ System*, PI: Allyn Smith (Michigan)

Instruments Available in 2001A

Todd Boroson

The following tables summarize instruments available (or expected to be available) in the 2001A semester at the Gemini North Telescope, the Cerro Tololo Inter-American Observatory, the Kitt Peak National Observatory, and the Hobby-Eberly Telescope. For further information about the capabilities and performance of these instruments, and links to instrument manuals, check the NOAO Web site (*http://www.noao.edu/gateway/facilities.html*).

CTIO Instruments Available

Spectroscopy		Detector	Resolution	Slit
4-m	Hydra + Fiber Spectrograph	SITe 2K CCD, 3300-11,000Å or Loral 3K CCD, 3300-11,000Å	300-2000	Fiber 120+fibers, 2 arcsec aperture
	R-C CCD Spectrograph	Loral 3K CCD, 3100-11,000Å	300-5000	5.5'
	Echelle Spectrograph + Blue Air Schmidt	Loral 3K CCD, 3100-11,000Å	15,000	5.2'
	Echelle Spectrograph + Long Cameras	SITe 2K CCD, 3100-11,000Å	98,000	5.2'
	CTIO IR Spectrometer (restricted)	InSb (256^2, 0.9-5μm)	450-98000	0.3'
	OSIRIS IR Imager/Spectrometer	HgCdTe (1024^2, 1.0-2.4μm)	1200 or 2900	1.2'
1.5-m	Cass Spectrograph	Loral 1200x800 CCD, 3100-11,000Å	<1300	7.7'
	OSIRIS IR Imager/Spectrometer	HgCdTe (1024^2, 1.0-2.4μm)	1200 or 2900	4'
Curtis Schmidt	Objective Prism Imaging	SITe 2K CCD, 3100-11,000Å	<900	NA

Imaging		Detector	Scale (″/pixel)	Field
4-m	Mosaic II Imager	8Kx8K CCD Mosaic	0.27	36'
	OSIRIS IR Imager/Spectrometer	HgCdTe (1024^2, 1.0-2.4μm)	0.15 or 0.4	1.2' or 3'
	CTIO IR Imager (restricted)	HgCdTe (256^2, 1-2.5μm)	0.4 or 0.22	1.7' or 0.9'
1.5-m	Cass Direct Imaging	SITe 1K/2K CCD	0.44/0.24	14.8'/8.2'
	CTIO IR Imager (restricted)	HgCdTe (256^2, 1-2.5μm)	1.15/0.64	4.9'/2.8'
	ASCAP Optical Photometer			
	OSIRIS IR Imager/Spectrometer	HgCdTe (1024^2, 1.0-2.4μm)	0.4 or 1.1	4' or 10'
0.9-m	Cass Direct Imaging	SITe 2K CCD	0.40	13.6'
Curtis Schmidt	Direct Imaging	SITe 2K CCD	2.3	79'
YALO	ANDICAM Optical/IR Camera	Loral 2K CCD	0.3	10'
		HgCdTe 1K IR	0.2	3.3'

KPNO Instruments Available

Spectroscopy		Detector	Resolution	Slit	Multi-object
Mayall 4-m	R-C CCD Spectrograph	T2KB CCD	300-5000	5.4'	single/multi
	CCD Echelle Spectrograph	T2KB CCD	18000-65000	2.0'	
	IR Cryogenic Spectrograph	InSb (256x256, 0.9-5.5µm)	300-1500	0.8'	
	FLAMINGOS	HgCdTe (2048x2048, 0.9-2.5µm)	1000-3000	10'	single/multi
	High Resolution IR Spectograph (Phoenix)	InSb (256x1024, 0.9-5.5µm)	45000-70000	0.5'	
WIYN 3.5-m	Hydra + Bench Spectrograph	T2KC CCD	700-22000	NA	~100 fibers
	DensePak (1)	T2KC CCD	700-22000	IFU	~90 fibers
2.1-m	GoldCam CCD Spectrograph	F3KA CCD	300-4500	5.2'	
	FLAMINGOS	HgCdTe (2048x2048, 0.9-2.5µm)	1000-3000	20'	single/multi
	High Resolution IR Spectograph (Phoenix)	InSb (256x1024, 0.9-5.5µm)	45000-70000	1.0'	

Imaging		Detector	Spectral Range	Scale (“pixel)	Field
Mayall 4-m	Prime Focus CCD Camera (2)	T2KB CCD	3300-9700Å	0.42	14.2'
	IR Imager (2)	HgCdTe (256x256, 1-2.5µm)	JHK + NB	0.60	2.5'
	CCD Mosaic	8Kx8K	3500-9700Å	0.26	35.4'
	SQIID	InSb (4 512x512, 0.9-3.3µm)	JHK + L (NB)	0.39	3.3' circular
	FLAMINGOS	HgCdTe (2048x2048, 0.9-2.5µm)	JHK	0.3	10'
WIYN 3.5-m	Mini-Mosaic	4Kx4K CCD	3300-9700Å	0.14	9.3'
2.1-m	CCD Imager	T2KA CCD	3300-9700Å	0.305	10.4'
	IR Imager (2)	HgCdTe (256x256, 1-2.5µm)	JHK + NB	1.1	4.7'
	SQIID	InSb (4 512x512, 0.9-3.3µm)	JHK +L(NB)	0.68	5.8' circular
	FLAMINGOS	HgCdTe (2048x2048, 0.9-2.5µm)	JHK	0.6	20'

(1) Integrated Field Unit: 30" x 45" field, 3" fibers, 4" fiber spacing.
(2) Limited to narrow-band filter work and scheduling backup.

HET Instruments Available

Spectroscopy	Detector	Resolution	Slit	Multi-object
Marcario Low-Res Spect.	Ford 3072x1024 CCD, 4100-10,000Å	600	1.0"-10"x4'	to be added
	or 4300-7400Å	1300	1.0"-10"x4'	to be added
High Resolution Spectrograph	(2) 2Kx4K CCD's, 4200-11,000Å	30,000-120,000	2"or 3"	single

Gemini Instruments Expected to be Available

Imaging	Detector	Spectral Range	Scale (“/pixel)	Field
NIRI F/32 Camera	1024x1024 Aladdin Array	1-5µm	0.022	22.5"
NIRI F/14 Camera	1024x1024 Aladdin Array	1-5µm	0.050	51"
NIRI F/6 Camera	1024x1024 Aladdin Array	1-5µm	0.116	119"
Hokupa'a AO Camera	QUIRC 1024x1024 HgCdTe	1-2.5µm	0.020	20"
OSCIR	128x128 Si:As IBC	8-25µm	0.084	11"

Spectroscopy	Detector	Resolution	Slit	Multi-object
NIRI	1024x1024 Aladdin Array, 1-5µm	800-4200	0.1-0.46"	grism
OSCIR	128x128 Si:As IBC, 8-25µ	100	0.2-0.8"x11"	single