



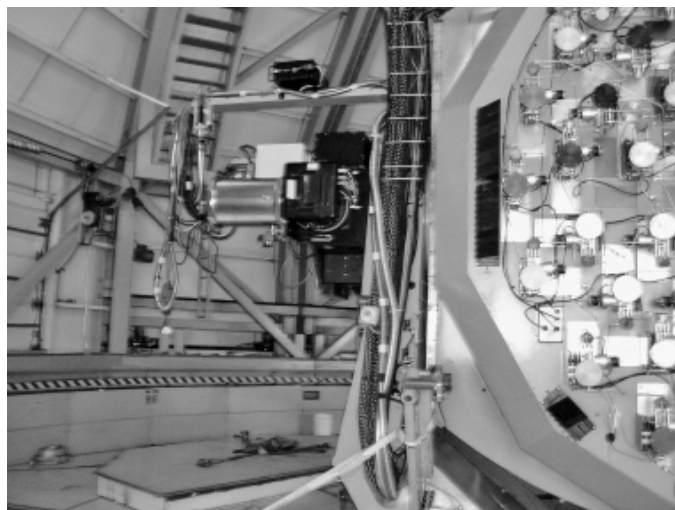
Updates on the Availability of NEWFIRM, WHIRC, and ET

Buell T. Jannuzi

NEWFIRM: Commissioning of the NOAO Extremely Wide-Field Infrared Imager (NEWFIRM) has been progressing well and we are accepting regular and survey proposals for the use of NEWFIRM at the Mayall 4-meter telescope starting in semester 2008A. NEWFIRM will be a facility instrument shared between the Mayall 4-meter and Blanco 4-meter telescopes.

Those wishing to propose to use NEWFIRM should consult the NEWFIRM instrument Web page and the NOAO proposal Web pages for current information about the availability of NEWFIRM at KPNO and CTIO from 2008 through 2011. Similarly, the process for determining which filters will be loaded into the instrument each semester is outlined on the NEWFIRM Web page. Please consult this information before you prepare your proposal.

WHIRC: The WIYN High-Resolution Infrared Camera (WHIRC) will be available for shared risk observing at the WIYN 3.5-meter telescope during semester 2008A. The total number of nights scheduled will be limited to no more than 26 nights during this semester. Observing runs will be distributed between no more than two scheduling blocks. While WHIRC (*see photo*) will eventually be used with the WIYN Tip-Tilt Module (WTTM), this mode is NOT available in 2008A.



WHIRC saw first light at WIYN in July 2007. Commissioning will be completed during 2008A. WHIRC will become a facility near-IR (0.9-2.5 micron) camera for the WIYN 3.5-meter telescope, residing on the WIYN Tip-Tilt Module (WTTM) port.

During 2008A, WHIRC will be provided only in direct imaging mode (WTTM is not available). WHIRC will have limited seeing performance of approximately 0.5-0.6 arcsec Full Width Half Maximum (FWHM) in the near-infrared. Once WHIRC becomes available with the full tip-tilt first-order adaptive optics corrections that will be possible with WTTM (expected in 2008B), the instrument should typically deliver images with approximately 0.3 arcsec FWHM and near-diffraction-limited images (0.15 arcsec) in the K_s on exceptional nights. The optical design uses a Raytheon 2048x2048 HgCdTe VIRGO array with a fixed pixel scale of ~ 0.1 arcsec (20 μm pixels). The field of view (3.3 arcminx3.3 arcmin) covers most of the WTTM corrected field.

WHIRC has two filter wheels providing three broadband filters (J, H, K_s), and an assortment of 10 narrowband filters. Please see the available instruments Web pages for a complete list of available filters. Margaret Meixner (Space Telescope Science Institute) is the instrument principal investigator (PI); Ed Churchwell (University of Wisconsin) is the project scientist; Pat Knezek is the WIYN Observatory liaison; and Dick Joyce is the KPNO WHIRC instrument scientist. Those interested in proposing to use WHIRC during 2008A should direct questions to Dick Joyce (joyce@noao.edu).

Exoplanet Tracker: The University of Florida's Exoplanet Tracker (ET), built by Jian Ge and collaborators, will be available for programs at the 2.1-meter telescope during the 2008A observing semester. Potential users may wish to contact Steve Howell (howell@noao.edu) before submitting proposals in order to discuss how their observational program will match the ET instrument.

NOAO proposals accepted to observe with ET will be performed in a joint queue program during one or two long observing blocks in 2008A. The proposer will be responsible for providing observers to help carry out the block-scheduled queue observations at the 2.1-meter. The total number of available nights will depend on the community demand and determined by the NOAO Time Allocation Committee.

Time allocations for ET will not be scheduled as "classical" observing runs because each single observation generally requires a small integration time. Therefore, proposers should ask for time in nights (or fractions thereof) based on the following example. If a proposer is monitoring a single $V=8$ star in hopes of planet detection and wants a measurement each night for 10 nights, your total integration time would approximately be $10 * (15 \text{ min} + 15 \text{ min (overhead)}) = 300 \text{ min} = 1/2 \text{ night}$ (assuming a 10-hour night). Targets that conform to the general optimized ET observing mode will be batch reduced (by the University of Florida) and the radial velocity results distributed to the PI within a few months of the observations.

Standard Observing Proposals Due 1 October 2007 - Survey Proposals Due 17 September 2007

Dave Bell

Standard proposals for NOAO-coordinated observing time for semester 2008A (February–July 2008) are **due by Monday evening, 1 October 2007, midnight MST**. The facilities available this semester include the Gemini North and South telescopes, Cerro Tololo Inter-American Observatory (including SOAR), Kitt Peak National Observatory, and community-access time with Keck, HET, Magellan, and MMT.

Survey proposals will be due two weeks earlier, on Monday 17 September 2007, and require a letter of intent to propose to have been sent in July.

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.
- **Email 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 email. 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 which request time on Gemini plus other telescopes **MUST** use the standard NOAO form. PIT-submitted proposals will be converted for printing 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
Request help for proposal preparation
Address for thesis and visitor instrument letters, as well as consent letters for use of PI instruments on the MMT
Address for submitting LaTeX proposals by email
Gemini-related questions about operations or instruments

www.noao.edu/noaoprop/
noaoprop-help@noao.edu

noaoprop-letter@noao.edu
noaoprop-submit@noao.edu
usgemini@noao.edu
www.noao.edu/gateway/gemini/support.html

CTIO-specific questions related to an observing run
KPNO-specific questions related to an observing run
HET-specific questions related to an observing run
Keck-specific questions related to an observing run
MMT-specific questions related to an observing run
Magellan-specific questions related to an observing run

ctio@noao.edu
kpno@noao.edu
het@noao.edu
keck@noao.edu
mmt@noao.edu
magellan@noao.edu

Community Access Time Available in 2008A with Keck, HET, Magellan, and MMT

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 Semester 2008A:

- **Keck Telescopes**

A total of eight nights of classically scheduled observing time will be available with the 10-m telescopes at the W. M. Keck Observatory on Mauna Kea. All facility instruments and modes are available, including the Interferometer. For the latest details, see www.noao.edu/gateway/keck/.

- **Hobby-Eberly Telescope**

About 76 hours of queue observations are expected to be available at the 9.1-m effective aperture Hobby-Eberly Telescope at McDonald Observatory. Available instruments include the High-, Medium-, and Low-Resolution Spectrographs. For the latest information on HET instrumentation and instructions for writing observing proposals, see www.noao.edu/gateway/het/.

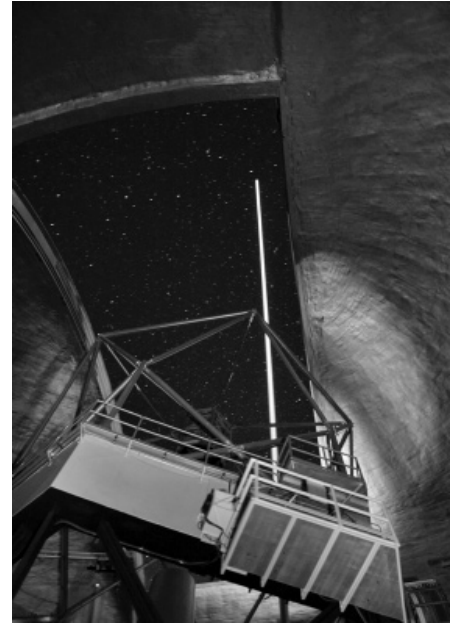
- **Magellan Telescopes**

A total of five nights will be available for classically scheduled observing programs with the 6.5-meter Baade and Clay telescopes at Las Campanas Observatory. 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. For further information, see www.noao.edu/gateway/mmt/.

A list of instruments we expect to be available in 2008A can be found at the end of this section. As always, investigators are encouraged to check the NOAO website for any last-minute changes before starting a proposal.



The Keck II Laser Guide Star on 21 April 2007. Photo credit: Andrew Cooper

NOAO-GLAST Collaborative Science Agreement

NOAO and NASA's Gamma-ray Large Area Space Telescope (GLAST) mission have concluded an agreement for collaborative science. This agreement will maximize the science output from both GLAST and NOAO telescopes by providing both telescope observing time and funding for multi-wavelength investigations.

GLAST currently is scheduled for launch in early 2008. Its primary mission will be to perform an all-sky survey for gamma-ray sources, with an expectation that 5,000-10,000 discrete gamma-ray sources will be detected, compared to approximately 300 confirmed sources known from the Compton Gamma-Ray Observatory. The NOAO-GLAST agreement will enable researchers to propose peer-reviewed multiwavelength investigations for funding from the GLAST mission: if their proposals pass the GLAST peer review and require optical observations with NOAO telescopes, NOAO will grant observing time based on the peer review from GLAST without requiring any separate proposal submission.



NOAO will make available up to approximately 5 percent of NOAO's share of the scientific observing time on the CTIO Blanco 4-meter, SOAR 4.1-meter, KPNO Mayall 4-meter, WIYN 3.5-meter, KPNO 2.1-meter, WIYN 0.9-meter, Gemini North, Gemini South, Hobby-Eberly, and SMARTS telescopes for Cycle 1 of the GLAST Guest Investigator (GI) Program. NOAO will work to add additional access to some smaller telescopes in time for the Cycle 2 GLAST GI call for proposals. Details may be found at www.noao.edu/gateway/nasa/ and glast.gsfc.nasa.gov/ssc/.

Target of Opportunity (ToO) proposals and NOAO Survey Program proposals must be submitted to both NOAO and the GLAST GI program in order to be considered for NOAO observing time and funding by NASA/GLAST. NOAO is funded by the National Science Foundation.

GLAST GI proposals are due on 7 September 2007. The proposal deadline for NOAO Survey Project proposals is 17 September 2007 and the NOAO deadline for ToO proposals is 1 October 2007.

Observing Request Statistics for 2007B 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								
GEM-N	159	175.72	1.11	60.49	0	0	60.49	2.9
GEM-S	80	88.71	1.11	23.78	4.92	0	23.78	3.73
CTIO								
CT-4m	65	236.2	3.63	104	4	2.5	101.5	2.33
SOAR	14	33.6	2.4	30	2	0	30	1.12
CT-1.5m	6	39	6.5	34	0	8	26	1.5
CT-1.3m	8	16.59	2.07	17.7	0	0.72	16.98	0.98
CT-1.0m	5	30	6	44	0	0	44	0.68
CT-0.9m	18	74.8	4.16	50.3	0	1.6	48.7	1.54
KPNO								
KP-4m	77	274.8	3.57	94.5	0	0	94.5	2.91
WIYN	25	66.9	2.68	45.5	0	2	43.5	1.54
KP-2.1m	16	81.2	5.08	93.5	0	0	93.5	0.87
KP-0.9m	3	18	6	12	0	0	12	1.5
Keck/HET/MMT/LCO								
HET	9	15.34	1.7	6.64	0	0	6.64	2.31
Keck-I	16	24	1.5	4	0	0	4	6
Keck-II	19	26.5	1.39	4	0	0	4	6.62
Magellan-I	4	9	2.25	2	0	0	2	4.5
Magellan-II	5	10	2	3	0	0	3	3.33
MMT	13	25	1.92	12	0	0	12	2.08

*Nights allocated by NOAO Director

CTIO Instruments Available for 2008A

Spectroscopy	Detector	Resolution	Slit
4-m Blanco			
Hydra + Fiber Spectrograph	SiTe 2Kx4K CCD, 3300-11,000Å	700 - 18000, 45000	138 fibers, 2" aperture
R-C CCD Spectrograph	Loral 3Kx1K CCD, 3100-11,000Å	300-5000	5.5'
4-m SOAR¹			
OSIRIS IR Imaging spectrograph	HgCdTe 1Kx1K, JHK windows	1200, 3000	1.3', 3.3'
1.5-m²			
Cass Spectrograph	Loral 1200x800 CCD, 3100-11,000Å	<1300	7.7'
Imaging	Detector	Scale ("/pixel)	Field
4-m BLANCO			
Mosaic II Imager	8Kx8K CCD Mosaic	0.27	36'
ISPI IR Imager	HgCdTe (2Kx2K 1.0-2.4mm)	0.3	10.25'
4-m SOAR¹			
Optical Imager	E2V 4Kx4K Mosaic	0.08	5.5'
OSIRIS IR Imaging spectrograph	HgCdTe 1Kx1K	0.14, 0.35	1.2', 3.2'
1.3-m^{2,3}			
ANDICAM Optical/IR Camera	Fairchild 2Kx2K CCD	0.17	5.8'
	HgCdTe 1Kx1K IR	0.11	2.0'
1.0m⁴			
Direct Imaging	Fairchild 4Kx4K CCD	0.29	20'
0.9-m⁵			
Direct Imaging	SiTe 2Kx2K CCD	0.4	13.6'

¹ The amount of science time available on SOAR in 2008A will be at least 50%. Classical (i.e. visitor) observing is the only observing mode offered for NOAO proposals. The availability of the Goodman spectrograph, the Spartan IR imager, and the Phoenix high-resolution IR spectrograph at time of writing is uncertain. Please consult the NOAO Proposals Web pages for the latest information.

² Service observing only.

³ Proposers who need the optical only will be considered for the 1.0m unless they request otherwise. Note that data from both ANDICAM imagers is binned 2x2.

⁴ Classical observing only - Observers may be asked to execute up to 1 hr per night of monitoring projects which have been transferred to this telescope from the 1.3m. In this case, there will be a corresponding increase in the scheduled time. No specialty filters, no region of interest.

⁵ Classical or service, alternating 7-night runs. If proposing for classical observing, requests for 7 nights are strongly preferred.

KPNO Instruments Available for 2008A

Spectroscopy	Detector	Resolution	Slit	Multi-object
Mayall 4m				
R-C CCD Spectrograph	T2KB/LB1A/F3KB CCD	300-5000	5.4'	single/multi
MARS Spectrograph	LB CCD (1980x800)	300-1500	5.4'	single/multi
Echelle Spectrograph	T2KB/F3KB CCD	18000-65000	2.0'	
FLAMINGOS ¹	HgCdTe (2048x2048, 0.9-2.5mm)	1000-1900	10.3'	single/multi
IRMOS ²	HgCdTe (1024x1024, 0.9-2.5mm)	300, 1000, 3000	3.4'	single/multi
WIYN 3.5m³				
Hydra + Bench Spectrograph	T2KA CCD	700-22000	NA	~100 fibers
SparsePak ⁴	T2KA CCD	700-22000	IFU	~82 fibers
2.1m				
GoldCam CCD Spectrograph	F3KA CCD	300-4500	5.2'	
FLAMINGOS ¹	HgCdTe (2048x2048, 0.9-2.5mm)	1000-1900	20.0'	
Exoplanet Tracker (ET) ⁵	CCD (4Kx4K, 5000-5640 Å)	See Note	Fiber (2.5")	
Imaging	Detector	Spectral Range	Scale ("/pixel)	Field
Mayall 4m				
CCD MOSAIC-1	8Kx8K	3500-9700 Å	0.26	35.4'
NEWFIRM ⁶	InSb (mosaic, 4, 2048x2048)	1–2.3 μm	0.4	28.0'
SQIID	InSb (4-512x512)	JHK	0.39	3.3'
FLAMINGOS ¹	HgCdTe (2048x2048)	JHK	0.32	10.3'
WIYN 3.5m				
Mini-Mosaic ⁷	4Kx4K CCD	3300-9700 Å	0.14	9.3'
OPTIC ⁷	4Kx4K CCD	3500-11000 Å	0.11	9.3'
WHIRC ⁸	VIRGO HgCdTe (2048x2048)	0.9-2.5 μm	0.11	3.3'
2.1m				
CCD Imager	T2KB/F3KB CCD	3300-9700 Å	0.305	10.4'
SQIID	InSb (4-512x512)	JHK	0.68	5.8'
FLAMINGOS ¹	HgCdTe (2048x2048)	JHK	0.61	20.0'
WIYN 0.9m				
CCD MOSAIC-1	8Kx8K	3500-9700 Å	0.43	59'

¹ FLAMINGOS Spectral Resolution given assuming 2-pixel slit. Not all slits cover full field; check instrument manual. FLAMINGOS was built by the late Richard Elston and his collaborators at the University of Florida. Steve Eikenberry is currently the PI of the instrument.

² IRMOS, built by John MacKenty and collaborators. Availability will depend on proposal demand and block scheduling constraints.

³ A new Volume Phase Holographic (VPH) grating, 740 l/mm, is now available for use. Please contact Di Harmer for information.

⁴ Integral Field Unit, 80"x80" field, 5" fibers, graduated spacing

⁵ Exoplanet Tracker (ET) is an instrument provided by Jian Ge of the University of Florida and his colleagues. It enables very high precision measurements of radial velocities for suitably bright enough targets. Details regarding this instrument are available via our instrument web pages. It is capable of providing Doppler precision of 4.4 m/s in 2 minutes for a $V = 3.5$ mag. G8V star.

⁶ NEWFIRM is being offered on a "shared-risk" basis for this semester. Please see <http://www.noao.edu/ets/newfirm/> for more information. Permanently installed filters include J, H, and K_s. Please see NEWFIRM Web pages for update on availability/scheduability of other filters.

⁷ OPTIC Camera from U of Hawaii is anticipated to be available through an agreement with John Tonry of the University of Hawaii. This instrument may be assigned to those that request to use Mini-Mosaic if this substitution still meets proposed imaging needs and making such an assignment would further observatory support constraints. Fast-guiding mode of operation of OPTIC is now a supported mode for NOAO users of the instrument.

⁸ WHIRC, built by Margaret Meixner (STScI) and collaborators, will be available for shared-risk use during 2008A. During this first semester of shared-risk observing the total number of nights scheduled will be limited to no more than 26 nights. These will be distributed between no more than two scheduling blocks during the semester. While WHIRC will eventually be used with the WTTM (WIYN Tip-Tilt Module), this mode is NOT available in 2008A.

Gemini Instruments Expected to be Available for 2008A

GEMINI NORTH	Detector	Spectral Range	Scale ("/pixel)	Field
NIRI	1024x1024 Aladdin Array	1-5 μ m R~500-1600	0.022, 0.050, 0.116	22.5", 51", 119"
NIRI + Altair (AO- Natural or Laser)	1024x1024 Aladdin Array	1-2.5 μ m R~500-1600	0.022	22.5"
GMOS-N	3x2048x4608 CCDs	0.36-1.0 μ m R~670-4400	0.072	5.5' 5" IFU
Michelle	320x240 Si:As IBC	8-26 μ m R~100-30,000	0.10 img, 0.20 spec	32"x24" 43" slit length
NIFS	2048x2048 HAWAII-2RG	1-2.5 μ m R~5000	0.04 x 0.10	3" x 3"
NIFS + Altair (AO- Natural or Laser)	2048x2048 HAWAII-2RG	1-2.5micron R~5000	0.04 x 0.10	3" x 3"

GEMINI SOUTH	Detector	Spectral Range	Scale ("/pixel)	Field
Phoenix	512x1024 Aladdin Array	1-5 μ m R<70,000	0.085	14" slit length
GMOS-S	3x2048x4608 CCDs	0.36-1.0 μ m R~670-4400	0.072	5.5' 5" IFU
T-ReCS	320x240 Si:As IBC	8-26 μ m R~100,1000	0.09	28" x 21"
NICI	2 InSb Aladdin III 1024x1024	1-5 μ m	0.018	18"

*Please refer to the NOAO Proposal Web pages in September 2007 for confirmation of available instruments.

HET Instruments Available for 2008A

	Detector	Resolution	Slit	Multi-object
LRS (Marcario low-res spec)	Ford 3072x1024			
	4100-10,000Å	600	1.0"-10"x4'	13 slitlets, 15" x 1.3" in 4' x 3' field
	4300-7400Å	1,300	1.0"-10"x4'	13 slitlets, 15" x 1.3" in 4' x 3' field
	6250-9100 Å	1,900	1.0"-10"x4'	13 slitlets, 15" x 1.3" in 4' x 3' field
MRS (med-res spectrograph)	(2) 2Kx4K, 4200-9000 Å	70,009,000	1.5" or 2" fiber	single
HRS (high-res spectrograph)	(2) 2Kx4K 4200-11,000Å	15,000-120,000	2" or 3" fiber	single

MMT Instruments Available for 2008A

	Detector	Spectral Range	Scale ("/pixel)	Field
BCHAN (spec, blue-channel)	Loral 3072 x 1024 CCD	0.32-0.8µm	0.3	150"
RCHAN (spec, red-channel)	Loral 1200 x 800 CCD	0.5-1.0µm	0.3	150"
MIRAC3 (mid-IR img, PI inst)	128 x 128 Si:As BIB array	2-25µm	0.14, 0.28	18.2, 36"
MegaCam (optical imager, PI)	36 2048x4608 CCDs	0.32-1.0µm	0.08	24'
Hectospec (300-fiber MOS, PI)	2 2048x4608 CCDs	0.38-1.1µm	R ~1K	60'
Hectochelle (240-fiber MOS, PI)	2 2048x4608 CCDs	0.38-1.1µm	R ~32K	60'
SPOL (img/spec polarimeter, PI)	Loral 1200 x 800 CCD	0.38-0.9µm	0.2	20"
ARIES (near-IR imager, PI)	1024x1024 HgCdTe	1.1-2.5µm	0.04,0.02	20", 40"
SWIRC (wide n-IR imager, PI)	2048x2048 HAWAII-2	1.0-1.6µm	0.15	5'

Magellan Instruments Available for 2008A

	Detector	Resolution	Spectral Range	Scale ("/pixel)	Field
Magellan I (Baade)					
PANIC (IR imager)	1024x1024 Hawaii		1-2.5µm	0.125	2'
IMACS (img/lslit/mslit)	8192x8192 CCD	R~2100-28000	0.34-1.1µm	0.11, 0.2	15.5', 27.2'
Magellan II (Clay)					
MagIC (optical imager)	2048x2048 CCD		BVRI, u'g'r'i'z'	0.07	2.36'
LDSS3 (mslit spec/img)	4096x4096 CCD	R~200-1700	0.4-0.8 µm	0.19	8.25' circ.
MIKE (echelle)	2Kx4K CCD	R~19000-65000	0.32-1.0µm	0.14	

Keck Instruments Available for 2008A

	Detector	Resolution	Spectral Range	Scale ("/pixel)	Field
Keck 1					
HIRESb/r (optical echelle)	Tek 2048 x 2048	30k-80k	0.35-1.0µm	0.19	70" slit
NIRC (near-IR img/spec)	256 x 256 InSb	60-120	1-5µm	0.15	38"
LRIS (img/lslit/mslit)	Tek 2048 x 2048	300-5000	0.31-1.0µm	0.22	6x7.8'
Keck 2					
ESI (optical echelle)	MIT-LL 2048 x 4096	1000-6000	0.39-1.1µm	0.15	2x8'
NIRSPEC (near-IR echelle)	1024 x 1024 InSb	2000, 25000	1-5µm	0.18 (slitcam)	46"
NIRSPA0 (NIRSPEC w/AO)	1024 x 1024 InSb	2000, 25000	1-5µm	0.18 (slitcam)	46"
NIRC2 (near-IR AO img)	1024 x 1024 InSb	5000	1-5µm	.01-.04	10-40"
DEIMOS (img/lslit/mslit)	8192 x 8192 mosaic	1200-10000	0.41-1.1µm	0.12	16.7x5'
Interferometer					
IF (See http://msc.caltech.edu/software/KISupport/)					