Semester 2008A Call For Proposals

Gemini Observatory invites its community to propose scientific investigations for the 2008A semester, 1 February 2008 - 31 July 2008.

The submission deadline is MONDAY OCTOBER 1ST 2007 for all partners. Applications should be submitted via your national Gemini proposal process. Submission times and other details vary by partner; please consult your National Gemini Office pages for more information. Joint proposals must adhere to the deadline (and other requirements) applicable to the partner country of the institution to which the Principal Investigator is affiliated.

The purpose of this page is to highlight the most relevant information for the 2008A call. Significant additional information is contained on supporting pages; users are encouraged to follow the links for more detailed information. If hardcopy is preferred, the primary pages are available in a single 14 page pdf document.

Highlights for 2008A

General
Relevant milestones for 2008A can be found in the 2008A schedule. Poor weather and Director's Discretionary Time proposals are both accepted at any time via the Phase I Tool (this is new for poor weather proposals), otherwise the deadline for Phase I submission is **October 1st 2007**, and for successful proposals the Phase II submission deadline is **14 January 2008.**
The Phase I Tool (PIT) is updated for 2008A; See PIT Help for downloads and important information. New features include improved handling of the "Band 3" tab in which the proposer must specify how the program can be optimized for execution in Band 3. Programs in Band 3 will be set to use their specified Band 3 observing constraints and time request. See the Band3 Considerations page for ideas on Band 3 observing strategies and completion rate statistics.
Proposals requesting classical observing time must request integer nights, with a one night minimum. The proposals must specify the observing conditions required to achieve the science goals of the program, and alternative observations utilizing poorer conditions may also be specified in an attachment. During a classical observing run, if conditions are worse than those required by the main or alternate program, the time may be used for queue observations. In this case, the classical time will not be re-scheduled.
We expect that, starting in 2008A, mask making from non-GMOS images for GMOS multi-

object spectroscopy (MOS) observations will be available. Please check the GMOS Hot News pages before submitting your proposal if you are interested in this mode. Any unused pre-imaging time will be returned to the program.

Both Rapid and Standard response Target of Opportunity (ToO) programs must be identified as such in the PIT. GMOS MOS ToO programs are not accepted at this time. Rapid response ToO programs are only allowed in Band 1 and cannot use the LGS system. Standard response but time-critical ToOs cannot be in Band 3. Starting in 2007B, no ToO program will be granted rollover status.

Gemini North

Expect 80% of the semester to be available for science, or 146 nights distributed across the partnership. A list of offered instruments and capabilities is given below.

The Laser Guide System (LGS) is fully commissioned for Altair observations with NIRI and NIFS. LGS observations must request good conditions (Cloud Cover = 50%; Image Quality = 70%) and specify "Laser guide star" in the Adaptive Optics resources section in the PIT. Users should consult the LGS web pages for further information. The LGS mode is expected to be available approximately 7-14 nights per month in queue mode only. Because of the limited availability and the need for good weather, only LGS programs ranked in bands 1 and 2 will be recommended by the ITAC.

Gemini South

Including NICI campaign science, 81% of the semester is expected to be available for science, or 148 nights distributed across the partnership. A list of offered instruments and capabilities is given below.

Phoenix is offered in 2008A. Phoenix is an NOAO instrument that is on loan to Gemini; the loan agreement is being finalized at the time of the call for proposals. GNIRS is **not** available and has been shipped to Hawaii for re-commissioning on Gemini North in 2008. NICI and Flamingos-2 are **not** being offered for community use at this time.

Exchange

HIRES: Up to 5 nights of classical time is available with the HIRES optical spectrograph on Keck. The requested nights must be within the following windows: 24-29 March (up to 2 nights); 20-25 June (up to 2 nights) and 19-24 July (up to 1 night). Requests must be full nights with a minimum of 1 night. Proposals should be submitted via the normal process. *[more information]*

Subaru: Up to 6 classical nights are available on Subaru for Suprime-Cam (wide field optical imaging) and MOIRCS (near-infrared imaging and multi-object spectroscopy). The requested nights must be within the following windows: 12-16 or 25-31 March (up to 2 nights); 1-8 April (up to 2 nights); 7-11 or 23-27 June (up to 2 nights). Requests must be full nights with a minimum of 1 night. Proposals should be submitted via the normal process. *[more information]*

Additional Information

Details of the capabilities available at each telescope are given below. Please see the page of supporting information for additional general information.

Gemini North: Facilities

- All instruments are offered in queue and classical mode, except for Laser Guide Star AO which is queue mode only.
- Facility instruments:
  - NIRI **- near-IR imager and low-resolution spectrograph:** imaging and spectroscopy fed with the direct or AO-corrected beam.
  - NIFS **- near-IR integral field unit spectrograph:** IFU spectroscopy fed with the direct or AO-corrected beam.
  - Altair **- facility AO system:** for use with NIRI (except M band imaging and L & M band spectroscopy) and NIFS.
    - Natural Guide Star AO: Traditional adaptive optics guiding on a nearby star.
    - **Laser Guide Star AO:** See web page for important performance information and restrictions
  - GMOS **North - optical imager and spectrograph:** imaging and long-slit, multi-object and integral field spectroscopy
  - Michelle **- mid-IR spectrograph and imager:** imaging and R=100-3000 and echelle spectroscopy at 10 and 20um. Imaging polarimetry is also available.

- See the target accessibility page for important information regarding instrument availability and a plot of accessible RAs and Declinations. The elevation restriction for Laser Guide Star observations is no less than 40 degrees elevation.

Gemini South: Facilities

- All instruments are offered in queue and classical mode.
- Facility instruments:
  - GMOS **South - optical imager and spectrograph**: imaging and long-slit, multi-object and integral field spectroscopy
  - T-ReCS **- mid-IR imager and spectrograph:** imaging and moderate resolution (R=100 and R=1000) spectroscopy
- Visitor instruments:
  - Phoenix **- high spectral resolution (R~50000 - 75000) near-IR (1-5um) spectrometer** .
- See the target accessibility page for important information regarding instrument availability and a plot of accessible RAs and Declinations.

Semester 2008A Time Distribution

Gemini North: Time Availability and Distribution

A minimum of 80% of the time will be available for science use on Gemini North in 2008A. This amounts to 146 nights, and includes ~2 nights of "Compensatory Time" to the UK in return for the long-term transfer of Michelle to Gemini, and a Gemini staff allocation. The fraction of time available for science is slightly less than in 2007B due to the planned recoating of the primary mirror and commissioning of GNIRS. The number of hours allocated to each partner is given in the following table.

Partner	Estimated Hours Available
US	607
UK	308
Canada	198
Australia	72
Argentina	0
Brazil	13
Univ. of Hawaii (host)	119
Gemini Staff	139
Total	1456 (=146n)

Gemini South: Time Availability and Distribution

A minimum of 81% of the time will be available for science use on Gemini South in 2008A. This amounts to 148 nights, and includes 18 nights of NICI campaign science and a Gemini staff allocation. The remaining 19%, or 34 nights, is reserved for commissioning activities (Flamingos-2 and/or MCAO-related engineering) and planned telescope maintenance. The number of hours allocated to each partner is given in the following table.

Partner	Estimated Hours

Partner	Available
US	513
UK	241
Canada	162
Australia	60
Argentina	0
Brazil	14
Chile (host)	191
Gemini Staff	118
NICI Campaign Science	180
Total	1479 (=148n)

Time Adjustments

To maintain overall balance amongst the partnership, the values shown above for both Gemini North and South have been adjusted from the nominal partner shares as a result of actual time charged through 2007A. Time trades between partners are also included. The time allocations shown here were recommended by the Operations Working Group in July 2007. The number of nights is approximated by int(hours/10).

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Last update 30 August, 2007; Sandy Leggett

Instrument Availability and Target Accessibility: 2008A

This page provides best estimates, at the time of the Call for Proposals, of instrument availability and corresponding target (RA, dec) restrictions for 2008A.

General

Instrument Changes: As there are more instruments than the number of available ports on each telescope, instrument swaps will be required. Therefore **not all instruments will be available for the entire semester**. However, whenever possible instrument swaps will be scheduled to minimize impact on the queue. In other words, instrument swaps will be driven by demand as much as possible and so the final schedule will not be made until after the 2008A programs are known. Nevertheless, *it may be the case that certain targets or entire programs will not be feasible once the final schedule is determined, at ITAC or thereafter*. No instrument changes on the Instrument Support Structure are permitted during classical runs.

Gemini North

At Gemini North, NIRI and GMOS-N will remain on their side-looking ports and be available throughout the semester, except during the mirror coating in June. NIFS and Michelle share the up-looking port. It is expected that NIFS will be available from February to early April, and Michelle from early April to early June. In June the telescope will be closed for mirror coating, and in July we plan to commission GNIRS on this port. There are no special restrictions on target availability for GMOS-N, NIFS, NIRI or Michelle.

Observations requiring the Laser Guide Star (LGS) system are restricted by the limitation that the LGS must be used at or above 40 degrees elevation. How this translates into RA and dec restrictions is indicated in the figure below. In addition, because of the requirement to obtain advance approval of all telescope pointings, it is not possible to use LGS with Rapid Response Target of Opportunity observations (those requiring observation within 24 hours). Standard ToO LGS observations are allowed; however, targets must be defined at least 8 days in advance of the start of the LGS observing block in which the observations are desired.

Figure 1 displays the accessibility of targets as a function of RA (horizontal axis) and Declination (vertical axis) at Gemini North for the 2008A semester. The dark gray area indicates the restriction on LGS observations. The larger light gray area indicates sky positions that are above 2.5 airmasses for at least 2 hours on at least 7 days of the semester. Targets outside this area should not be requested in 2008A. However, these represent the *minimum criteria* for scheduling an observation in the queue (or classically), and proposers with targets very close to the extremes are advised to consider carefully other factors such as the amount of time needed on the source, the observing conditions required and the maximum airmass acceptable for the observation.

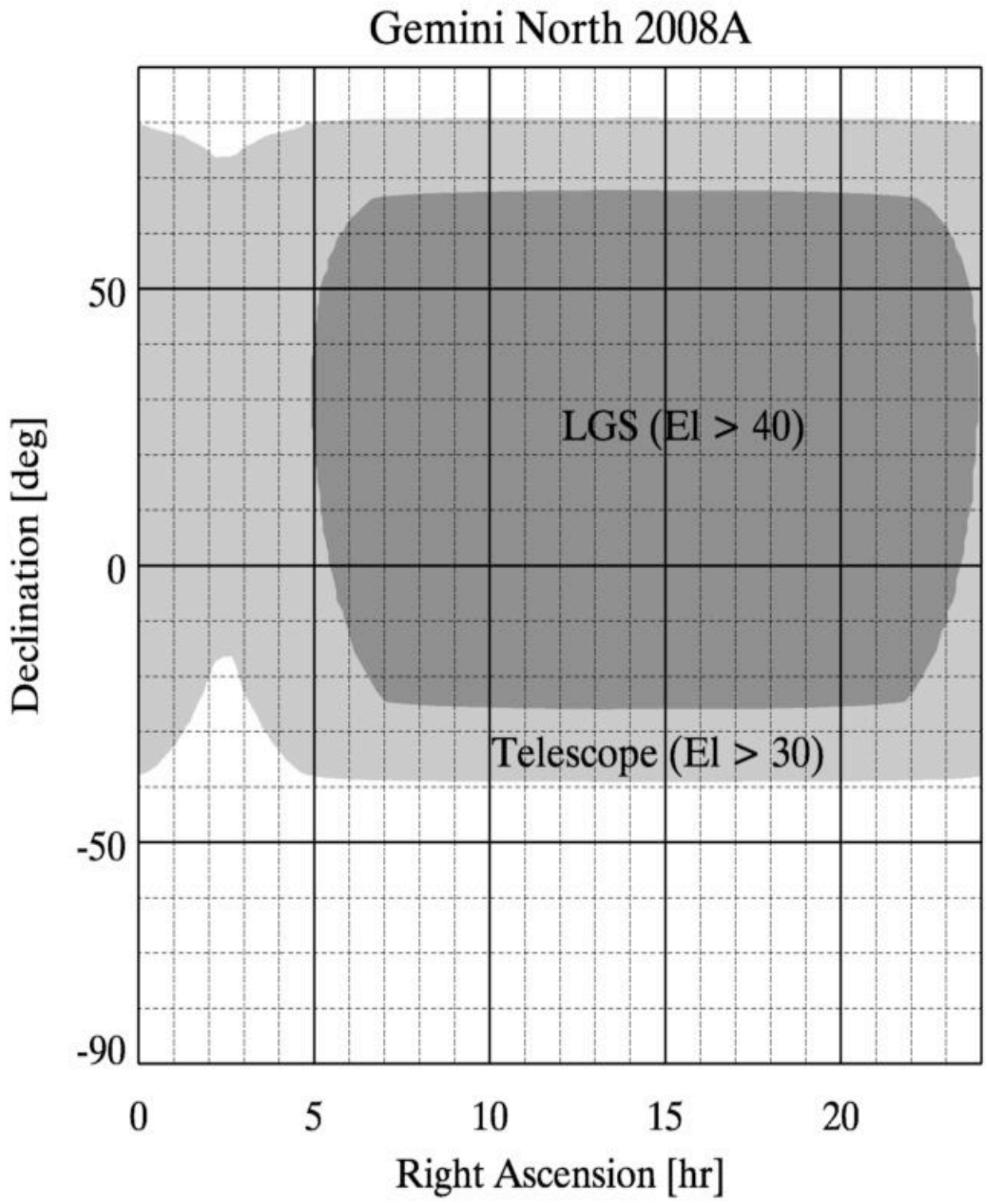

Figure 1: Target accessibility at Gemini North during semester 2008A.

Gemini South

At Gemini South, GMOS-S will remain on its side-looking port and T-ReCS on the up-looking port

throughout the semester. Phoenix will be mounted on the AO, or "light" port and NICI on the other side port at the start of the semester. Either of these instruments may be displaced or rotated during the semester for Flamingos-2 and/or MCAO and GSAOI commissioning, depending on both science demand and new instrument commissioning schedules. No RA restrictions on any of the instruments are envisioned at this time.

Figure 2 displays the accessibility of targets as a function of RA (horizontal axis) and Declination (vertical axis) at Gemini South for the 2008A semester. The large gray area indicates sky positions above airmass 2.5 for at least 2 hours on at least 7 days during the semester. Targets outside this area should not be requested in 2008A. However, these represent the *minimum criteria* for scheduling an observation in the queue (or classically), and proposers with targets very close to the extremes are advised to consider carefully other factors such as the amount of time needed on the source, the observing conditions required and the maximum airmass acceptable for the observation.

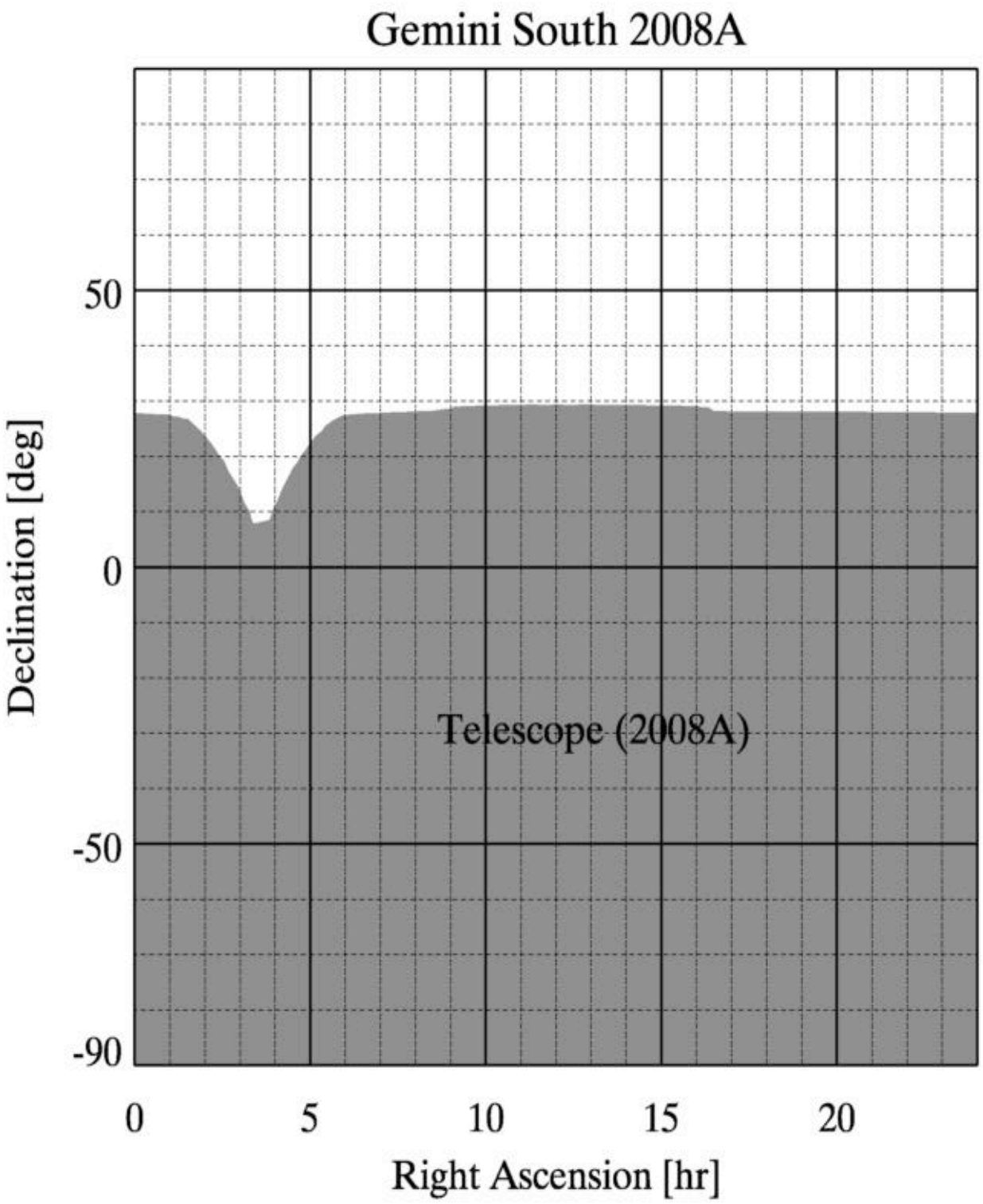

Figure 2: Target accessibility at Gemini South during semester 2008A.

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Semester 2008A Important Dates

Key dates and events in the proposal process are shown below. The Phase I and Phase II deadlines are highlighted.

Date	*Event*	*Comments*
1 October 2007	**Proposal deadline**	**Proposals received by National Gemini Offices (NGOs) - see partner-specific pages**
Set by partner	NTAC meetings	Separate scientific and technical assessments by each Gemini partner ("National TACs")
No later than 15 November	E-transmission	Electronic transmission of proposals to Gemini from NTACs
22 November	Draft queue and classical schedule	Drafts generated by operations staff and distributed to ITAC members
27-28 November	ITAC	International Time Allocation Committee meets to resolve issues and recommend programs
7 December	Final queue/schedule, and ITAC & Gemini feedback to NGOs	After approval by Gemini Director
12 December	**Queue and classical schedule on web**	**Phase II programs ("skeletons") available in Observing Database; 2008A OT released**
14 January 2008	**Phase II deadline**	**Final PI deadline for submission of completed Phase II Science Programs to National Offices (earlier submission is encouraged)**
28 January 2007	Phase II review complete	Goal for electronic transfer of checked Phase II programs from National Offices to Gemini
1 February 2008	Start of semester 2008A	2008A programs may be observed earlier to fill queue nights
15 February 2008	Queue fully loaded	Goal for activation of all Phase II programs

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Call For Proposals

Supporting Information

This page contains information on the following topics relevant to applying for time on Gemini. The information is general in nature, for details specific to the upcoming semester, please see the current call for proposals.

Time Allocation Process

The assessment and ranking of proposals within each partner country will be via National Time Allocation Committees (NTACs) supported by the National Gemini Offices. Assembly of the final semester schedule and queue, definition of scientific ranking bands and resolution of conflicts and joint proposals between partners is done by the International Time Allocation Committee (ITAC), following the procedures described in the Phase I overview.

Submissions to Use Multiple Telescopes

Each observing proposal may request resources from a single telescope only (Gemini North, Gemini South, Keck or Subaru). Proposals for multiple telescopes are no longer permitted, and the Phase I tool will not allow resources from multiple telescopes to be selected. Proposals may include the use of multiple instruments on the same telescope. If a program requires resources from multiple telescopes, separate proposals must be submitted for each telescope; in this case, each proposal should clearly reference the other(s). The proposals will be ranked and scheduled independently. Proposals that can be carried out with either GMOS (note that they have different capabilities) must nevertheless specify one of them; the NTACs or ITAC may make changes.

Queue Rollover

Programs assigned by the ITAC into Band 1 are eligible for rollover into the next semester, for no more than two consecutive semesters, in order to increase the likelihood of program completion. Rollover status will be assigned by the ITAC. Programs with rollover status will automatically be carried forward for up to 2 semesters until their time allocation is exhausted, i.e. PIs need not re-apply if the currently approved allocation is sufficient to reach the science goals of the program. Starting in 2007B, ToO programs will not be given rollover status. National policies that affect eligibility are defined by the relevant NTAC.

Electronic Submission

All partners support electronic submission of proposals from within the Gemini Phase I Tool (PIT). In the US, submission of non-joint proposals using the NOAO web form continues to be supported. A new version of PIT is available, including new features described in PIT Hot News. If re-using a previous proposal, please read the joint proposal instructions on how to reset the submission flag.

Joint Proposals

If you submit the same proposal to several partner countries (a "joint proposal") you must do so using PIT. The PIT software, and backend servers installed at each National Office, allow automatic ("one-click") submission of the same proposal to multiple partners. Joint proposals must be submitted by the deadline applicable to the institution of the Principal Investigator (PI); if the PI is not based in a partner country, the deadline will be the same as the Gemini staff deadline. Likewise, joint proposals must adhere to the proposal guidelines (regarding format and page length for example) of the same partner (that of the PI).

See the joint proposal instructions for more details including how to reset the submission status if re-using a (single or joint) proposal from previous semesters.

Under-Utilized Instruments

Community demand is a critical factor in determining instrument availability. Gemini maintains as a "minimum goal" that any instrument must be awarded at least 160 hours (approx 16 nights) in order to be mounted on the telescope. As each instrument introduces significant overhead to the Observatory, and access to instrument ports is at a premium, Gemini reserves the right to not schedule any instrument that consistently falls short of the minimum.

Rapid Response or Target of Opportunity programs

We continue to encourage Target of Opportunity (ToO) programs (formerly called "Quick Response"), intended to allow observation of targets that cannot be specified in advance but which have a well defined **external trigger** (e.g., Supernovae or Gamma Ray Bursts which will be identified throughout the observing semester by non-Gemini programs).
"ToO" mode may be requested with any facility instrument. Proposals for ToO mode should be made via the normal proposal process and must select the type of trigger in the PIT and summarise the

trigger event (e.g. identification of a target brighter than a pre-determined threshold) in the proposal abstract. *ToO covers trigger types from several months to minutes in response time*. Two types of ToO triggers are defined: "Rapid Response" and "Standard" which differ by response time and activation mechanism. Rapid response programs must be allocated time in Band 1. Starting in 2007B, ToO programs will not be given rollover status.

Gamma Ray Burst (GRB) programs: in previous semesters many separate proposals for Gamma Ray Burst follow-up studies were submitted to the NTACs and a subset were forwarded to ITAC. As in those semesters, the ITAC and Observatory will seek to combine or otherwise substitute such proposals, e.g. by forming partnerships or time-division strategies, so that only one proposal is active on each telescope at any time. Applicants for GRB studies are strongly encouraged to coordinate their proposals before submission. The Observatory and ITAC reserve the right to form umbrella programs based on the proposals forwarded by the NTACs.

GMOS Mask Definition

We expect that, starting in 2008A, mask making from non-GMOS images for GMOS multi-object spectroscopy (MOS) observations will be available. Please check the GMOS Hot News pages before submitting your proposal if you are interested in this mode. If pre-imaging is required, then sufficient pre-imaging time should be included in the proposal. For classical programs, pre-imaging will be scheduled in the queue. Any unused pre-imaging time will be returned to the program.

Poor Weather Proposals

Often the queue contains insufficient proposals for the poorest conditions, despite the best efforts of the National TACs to pass on a balanced package of proposals to Gemini. To encourage submission of more proposals in this category, those with the observing condition constraints specified below will receive special consideration at the TACs. If the programs are ranked lower than band 3 they may be placed in a "Poor Weather Queue" and neither the PI nor partner country will be charged for any time used. Note however that poor weather programs are lower in priority than scientific ranking band 3. Poor weather programs may be submitted for any facility instrument but the observing constraints *must* match one of the following:

- Image Quality of "any" and Cloud Cover of 70%-ile or worse (non-photometric)
- Cloud Cover of 90%-ile (typically 2 magnitudes of cloud cover and unusable in the mid-IR) and any other combination of conditions

Water Vapour constraints for all poor weather proposals need to be set to "any". The Sky Background constraint can be specified and it is acceptable for these programs to request dark time.

Starting in 2008A, poor weather programs can be submitted at any time in the semester. Use the Phase I tool to submit your proposal, selecting "Poor weather" from the drop down menu in the Submit tab.

Exchange Time

Gemini Observatory encourages fruitful exchanges with other major observatories in order to expand

the instrument capabilities available to the Gemini community. At present, the Observatory has two exchange programs in place. The first agreement, initiated several semesters ago, is an exchange of classical nights for HIRES time on the Keck I telescope in exchange for classical nights with Michelle on Gemini North or T-ReCS on Gemini South. See the Keck time application page for information on applying for the Gemini time through Keck. The second agreement, established in 2006B, is for observing time on Subaru in exchange for observing at Gemini. Previously the Subaru nights were carried out in service mode, and the Gemini nights in queue; starting in 2008A the exchange will be classical for classical. The Subaru instruments currently available to the Gemini community are Suprime-Cam and MOIRCS (imaging and multi-object spectroscopy). In exchange, the Subaru community has access to both GMOS instruments (North and South), NIRI, NIFS and T-ReCS. See the Subaru call for proposals for more information on applying for the Gemini time through Subaru. Joint proposals for Gemini time between the Japanese community and Gemini partners are permitted and encouraged. The details of the amount of time currently available and other restrictions are provided in the current call for proposals.

Target Information

Time-specific (including periodic monitoring and follow-up) programs may be accepted on a best-efforts basis. Proposers should specify these time constraints in the PIT. Note that the instrument scheduling may impose additional restrictions on this class of programs.

All observations require the use of one wavefront sensor (WFS) star for fast guiding, primary mirror active optics control and/or as an adaptive optics wavefront reference source. The specific requirements for each instrument are given in the relevant science instrument web pages ("performance and use" section). As the technical feasibility of proposals relies in part on the availability of WFS stars, **all proposals with well-defined targets must include suitable WFS stars**. Proposals to observe non-sidereal objects should indicate the likely availability of WFS stars in the technical justification but are not required to supply specific stars. Target of Opportunity programs do not need to define WFS stars.

Non-sidereal tracking is available for all instruments. Non-sidereal tracking with GMOS is fully supported with the peripheral wavefront sensors and partially supported with the OIWFS (see GMOS non-sidereal information).

Duplicate Observations

Proposers should check their observations against the Gemini Science Archive to ensure that similar or identical observations have not already been executed. The Phase I Tool includes a function to facilitate this. Any duplicate or seemingly duplicate observations should be well-justified in the proposal. The NTACs will consider duplication of existing observations as part of the proposal evaluation. The ITAC evaluates and resolves any duplication of targets (or potential duplication in the case of ToO observations) between proposals from different partner countries.

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