ANNOUNCEMENT OF OPPORTUNITY FOR OBSERVING TIME AT THE GRAN TELESCOPIO CANARIAS

SEMESTER 2013B: September 1st 2013 – February 28st, 2014

Submission deadline: ***2 April 2013***

GRANTECAN opens a call for observing proposals for Semester 2013B on the 10.4-m Gran Telescopio Canarias (GTC) for the GTC user community. This semester runs from September 1st 2013 until February 28th 2014. GTC time is open for queue-scheduled observing as well as classical visitor-mode observing.

All interested applicants must use the IAC's CAT on-line system for submitting their proposals. This can be found at http://cat.iac.es/ where also instructions are provided. The deadline for submission is 2 April 2013 at 5pm local time in the Canary Islands. Proposals that are granted time by the respective time allocation committees will be asked to provide detailed observing information in the second phase of the submission process. For a more extensive description of how the observing process at GTC is organized please refer to http://www.gtc.iac.es/observing/ .

We note that the Time Allocation Committees may decide to extend the duration of the observing window for certain programs over more than one semester.

1. Available observing time

During semester 2013B scientific operation of the telescope will occupy the majority of the available observing time, but still a significant fraction (some 20%) is expected to be required for ongoing telescope and instrument commissioning work that will preferentially be carried out during bright time. The remaining 80% will be dedicated to programs that are granted time under this call, as well as guaranteed time for instrument builders, time for ESO-GTC programs, and for the CCI International Time. (The target lists for ESO-GTC proposals may be found at http://www.eso.org/sci/observing/teles-alloc/gtc.html).

We note that the RA band from 10 to 14 hours is occupied by a few large, high-priority programs that have been granted time on the telescope. Hence the competition for time in these RA bands, in particular during dark/grey time and good seeing, will be fierce.

GTC will accept target-of-opportunity override proposals. GTC´s procedure for triggering target-of-opportunity observations can be found at http://www.gtc.iac.es/observing/too.php .

2. Instrumentation

Details of the instruments can be found at http://www.gtc.iac.es/instruments/ , including the observing programs for guaranteed time and their reserved targets.

Visiting instruments will not be accepted during this semester.

OSIRIS:
The OSIRIS spectrograph and imager for the optical wavelength range will be available in the Nasmyth-B focal station. Observing modes that will be offered are:

- Broad-band imaging
- Long-slit spectroscopy

- Tunable filter imaging using the “red” and “blue” tunable filters
- Frame transfer (without tunable filter) and fast photometry mode; both only to be offered in classical, visiting observing mode.

We note that at the time of this announcement the commissioning of the blue tunable filter and of the frame-transfer and fast-readout modes has not yet been fully completed. Neither have details yet been incorporated in the OSIRIS exposure time calculator. Potential applicants are invited to read the available information on the OSIRIS web page http://www.gtc.iac.es/instruments/osiris/ and to contact observatory personnel in case of doubt.

We emphasize the availability of a large medium-band filter set, referred to as the SHARDS filters in reference to the project led by Dr. Pérez González who has offered these filters for general use. Further details, and how to apply for their use, may be found at http://www.gtc.iac.es/instruments/osiris/osiris.php#SHARDS_Filters

Furthermore, as of semester 2013B the standard CCD readout speed will be 200kHz for all observing modes of OSIRIS.

Charge-shuffling CCD readout modes and multi-object spectroscopy are not offered yet.

CanariCam:
This instrument, located in the Nasmyth-A focus, allows imaging and spectroscopy in the mid-IR wavelength range. The observing modes offered cover imaging and low-resolution spectroscopy in the 10 and 20 micron bands, and imaging polarimetry.

Spectro-polarimetry, high-resolution spectroscopy and coronography are not yet offered.

Furthermore, we note that due to functional limitations of the telescope, specifically the absence of correction for fast image motion, the image quality may not be the best achievable at all times. Therefore potential applicants should expect seeing-limited performance. See also Section 4 for further telescope information.

3. Reserved objects

The science teams of OSIRIS and CanariCam obtain guaranteed observing time. The objects and observing modes planned for their observations on GTC are reserved for the exclusive use by the instrument science teams. Target lists of reserved objects may be found on the instrument web pages at http://www.gtc.iac.es/instruments/ , following the links for OSIRIS and CanariCam.

4. Telescope status

The GTC remains under development and various components and functions still need to be developed and improved. Of particular interest for potential applicants for observing time we mention:

- Non-siderial tracking will be available as of semester 2013B.
- The facility for fast guiding, to correct for high-frequency image movements due to atmospheric turbulence and possible vibrations of the telescope, is not yet operational. This particularly affects prospective CanariCam users.
- The main dome shutter is still limited in its operation, which implies that the telescope beam is vignetted for elevations in excess of 72 degrees.

5. Observing overheads

It is important to make realistic estimates of the observing overheads at the time of writing a proposal, as well as when completing the Phase-2 observing definition. As a guideline, for an

OSIRIS observation in imaging mode a total overhead of 12 minutes per observing block should be accounted for, while for spectroscopy this total overhead increases to about 17 minutes, and for tunable filter imaging to some 22 minutes. In the case of CanariCam, in addition to the overheads for target acquisition and instrument and telescope setup, which are 10 minutes in the case of imaging and 15 minutes in the case of spectroscopy, there are also overheads associated to the chopping and nodding technique. Such overheads are obtained by multiplying by a factor of 2.7 or 3.1 the on-source time, in the case of imaging and spectroscopy, respectively. Note that these numbers serve as a guide only and may vary according to the detailed definition of the OB.

In the case of the use of the OSIRIS tunable filter as well as CanariCam, for reasons of overall efficiency and since these calibrations are specific for each observing programme, we require that applicants define their night-time calibrations also as observing blocks. The time necessary for these calibrations will be charged to the observing program and should therefore be taken into account in the request for time.

See http://www.gtc.iac.es/observing/ for further details.

6. Telescope Support Model

Observations can be either carried out in *queue-scheduled service mode* by trained observatory personnel, or the PIs may express their preference to execute the observations themselves on specific nights according to a set calendar (*classical visitor mode*). The PI must (i) clearly indicate her/his preference in the proposal form by selecting the appropriate option -“service” or “classical”- in the observing mode box of the proposal form, and (ii) in the case of classical observations define a valid backup program that can be carried out if the required observing conditions for the principal program are not met.

In classical visitor mode the PI will normally be present at the telescope during the observations, although the interaction with the telescope system will mostly be carried out by trained observatory personnel. The data are immediately made available to the PI.

If you would prefer to carry out your observations in visitor mode but cannot be present on the night scheduled for your observations then the GRANTECAN astronomer can carry out the observations for you in service mode. Or alternatively, on the observing night remote contact through eves dropping during the observations is also an option. In this way the PI can remotely assess the data quality and adjust the observing program without the need to be physically present in the control room.

To summarize, queue scheduling provides flexibility in optimizing the science return of the telescope depending on the atmospheric and technical circumstances each night. Priority is given to the scientifically most highly ranked proposal that is suitable for the observing conditions. In general, proposals with relaxed observing constraints will have a better chance of being completed successfully. In classically scheduled observations, on the other hand, dates of observation are fixed and the risk of poor weather conditions and technical failures rests with the PI, but it provides the advantage of the PI being able to adapt the observing plan in real time.

GRANTECAN will aim to follow the preference of the PI when drawing up the observing schedule, but no guarantee can be given that all preferences can and will be honored. In particular in case a proposal conflicts with high-priority ESO-GTC programs, or in case of a low ranking by the TAC, the proposal will most likely not be scheduled in classical visitor mode.

For general queries, contact René Rutten: rene.rutten@gtc.iac.es