



SPECIAL ANNOUNCEMENT OF OPPORTUNITY FOR OBSERVING TIME AT THE GRAN TELESCOPIO CANARIAS



SEMESTER 2021A: April 1st, 2021 – July 31st, 2021

Submission deadline: **28 February 2021, 22:59 (Canary Islands time)**

GRANTECAN opens a **special call for observing proposals with OSIRIS/HORuS instruments** for Semester 2021A on the 10.4-m Gran Telescopio Canarias (GTC) for the GTC user community. **A total of 250 observing hours are available** (230 h for Spanish community + 10 h for both Mexican/UF users) **in queue-scheduled mode** for observations to be executed **from April 1st 2021 until July 31st 2021**. This time will come to fill mostly dark time not demanded by CAT proposals already approved for other GTC instruments in the same semester 2021A.

All interested applicants must use the IAC's CAT on-line system for submitting their proposals. This can be found at <http://www.iac.es/OOCC/night-cat/call-for-proposals/> where instructions are also provided. The **deadline for submission is 28 February 2021 at 22:59 local time in the Canary Islands (or 21:59 UT)**. Proposals that are approved by the respective time allocation committees will be asked to provide detailed observing information in "Phase 2" of the submission process. For a more extensive description of how the observing process at GTC is organized, refer to <http://www.gtc.iac.es/observing/>

1. Available observing time

During semester 2021A the majority of the available observing time will be used for science operations, with some 20% being needed for telescope improvement and instrument commissioning that will be preferentially 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 and for the CCI International Time.

We note that the R.A. range from 10 to 12 hours is highly subscribed by approved high-priority large programs. Hence there will be strong competition for time in these R.A. bands, in particular during dark/grey time and under good seeing conditions (see Figure 1 as an example).

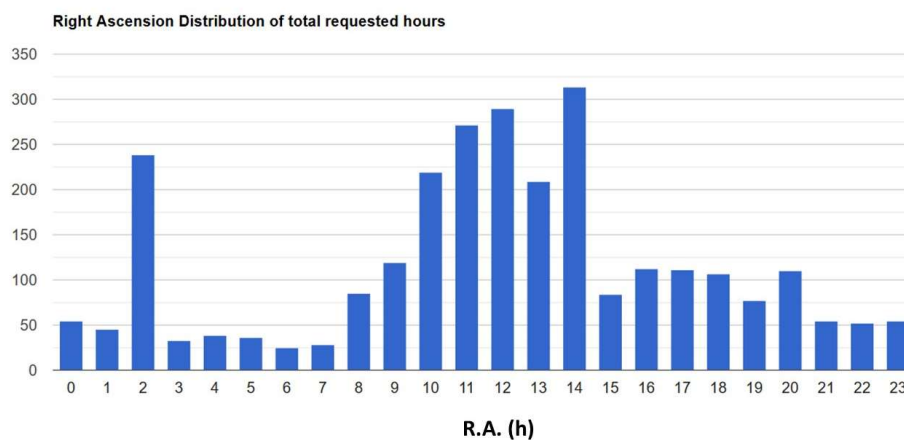


Figure 1: R.A. distribution for OBs that were requested to be executed in S20A. Note the high oversubscription in RA=10-12h and the relatively low demand for RA=3-8h.

GTC accepts target-of-opportunity (ToOs) override proposals. GTC's procedure for triggering ToO 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.

OSIRIS:

The OSIRIS optical spectrograph and imager will be available at the Nasmyth-B focal station. Available observing modes are:

- Broad-band imaging
- Medium-band imaging (SHARDS filters)
- Long-slit spectroscopy
- Multi-object spectroscopy
- Tunable filter imaging using the "red" and "blue" tunable filters.
- Frame transfer and fast photometry mode.

The MOS mode has the following important constraint: MOS observations will only be carried out for proposals that are highly ranked by the TACs (i.e. A or B ranked bands) unless the requested masks were already produced in previous semesters. The reason for this is to increase the possibilities to exploit the significant investment in designing and producing the multi-slit masks. Proposals requesting MOS mode that are not sufficiently highly ranked will hence be rejected. For further practical limitations we point the interested reader to <http://www.gtc.iac.es/instruments/osiris/osirisMOS.php>. Note that from S16A onwards, slit widths as narrow as 0.63 arcsec are allowed, but users always must be aware of the 0.1 arcsec (r.m.s.) accuracy achievable in the slit positioning when defining the scientific goals of the program.

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

HORuS:

The High Optical Resolution Spectrograph (HORuS) is a visitor instrument placed at Nasmyth-B focal plane, shared with OSIRIS, using a 3x3 IFU (2.3x2.3 arcsec) that provides a FWHM resolving power of about 25,000 in almost continuous coverage between 380 and 690 nm. For more information, see <http://www.gtc.iac.es/instruments/hors/horus.php> and/or contacting the instrument PI at callende@iac.es.

3. Reserved objects

The science teams of OSIRIS and HORuS are granted 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 the corresponding instrument.

4. Telescope status

There is no significant change from previous semesters.

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 both imaging and spectroscopy mode a total overhead of 10 minutes per observing block should be accounted for, while for tunable filter imaging the total overhead increases to about 20 minutes, to account for the TF calibration process. For **HORuS**, the same overheads than OSIRIS (10 minutes per observing block) will be considered for pointing/configuring the instrument.

To accurately estimate overheads, a **Phase 2 simulator is available at <http://gtc-phase2.gtc.iac.es/science/F2/>**. We strongly recommend the use of this simulator to determine the total telescope time to be requested in the present call for proposals.

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

6. Telescope Support Model

Observations offered in this special call for proposals will be carried out only in queue-scheduled service mode by trained GTC support astronomers. No visitor mode will be accepted. Queue scheduling provides flexibility in the execution of the observations optimizing the science return of the telescope. Priority is given to the scientifically most highly ranked proposal that is suitable for the observing conditions. Statistically, proposals with relaxed observing constraints will have a better chance of being completed successfully.

Data obtained in queue mode are provided to the users via GTC FTP service once they pass the data quality assessment. Files are available for a 50-days period, so we recommend users to retrieve these and inform GTC as quickly as possible if any problem is found with the quality of data, so that GTC can assess the problem and, if necessary, repeat the observations. **All observations are also copied to the GTC Public Science Archive, hosted at the Center for Astrobiology in Madrid (<http://gtc.sdc.cab.inta-csic.es/gtc>), which can also be used to avoid duplications when preparing a proposal. PIs will be contacted by the CAB archive staff and asked to submit their reduced data once published.**

For questions related to data analysis once the observations are retrieved from the GTC FTP service, a specific Phase-3 tool located at:

<http://gtc-phase2.gtc.iac.es/science/F3/phase3start.php>

has been developed to communicate your problems to GTC staff, including also some support in the data reduction process.

Publications that result from data taken with the Gran Telescopio Canarias must credit the use of this telescope in the following way: *“Based on observations made with the Gran Telescopio Canarias (GTC), installed in the Spanish Observatorio del Roque de los Muchachos of the Instituto de*

Astrofísica de Canarias, in the island of La Palma". In the particular case of each instrument, corresponding credits can be found at:

http://www.gtc.iac.es/observing/observing.php#Publications_and_acknowledgements

For general queries, please contact Antonio Cabrera Lavers: antonio.cabrera@gtc.iac.es