



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



**SEMESTER 2017A: March 1<sup>st</sup> 2017 – August 31<sup>st</sup>, 2017**

Submission deadline: **3 April 2017, 5 p.m. (Canary Islands time)**

GRANTECAN opens a **special call for observing proposals with CIRCE instrument in polarimetric mode** for Semester 2017A on the 10.4-m Gran Telescopio Canarias (GTC) for the GTC user community. This semester runs from March 1<sup>st</sup> 2017 until August 31<sup>st</sup> 2017.

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 also instructions are provided. The **deadline for submission is 3 April 2017 at 5 pm local time in the Canary Islands**. 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 please refer to <http://www.gtc.iac.es/observing/>

### 1. Available observing time

During semester 2017A 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 at 2 hours and from 10 to 12 hours are highly subscribed by approved high-priority large programs**. Hence competition for time in these R.A. bands, in particular during dark/grey time and good seeing, will be fierce.

### 2. CIRCE instrument

CIRCE camera is a visitor instrument provided by the Universidad of Florida (UF) located in one of the Folded-Cass focus at GTC. The new available observing mode offered in this special call for proposals include **polarimetry in the near-IR (JHKs bands), in a FOV of 11" x 11" with a 0.1"/pix plate scale**.

CIRCE uses a wedged double Wollaston prism to allow measurement of the linear Stokes parameters in a single image covering a 11 x 11 arcsec area. This design is the main strength of CIRCE polarimetry mode since fast polarimetric variability of interesting astrophysical sources can be investigated with simultaneous measurement of the q and u parameters. In addition, only two half wave plate rotations can be used instead of all four significantly reducing the observing time. The linear arrangement of the four images permits reading only a narrow stripe of the detector, allowing integration time as short as 100 milliseconds to be used for science observations. At present, **only the (0,45) degrees rotation of the half-wave plate of CIRCE is offered** for science, which is sufficient to fully define the polarization state of a source.

The instrument will be operated without acquisition and guiding unit (as the exposure times in the individual frames will be on the order of few seconds), and it will be externally supported by the UF team (P.I.: Stephen Eikenberry) with minimal participation of GRANTECAN staff.

For further details on the instrument's performance, users must get in contact with University of Florida (contact person, Stephen Eikenberry [eiken@astro.ufl.edu](mailto:eiken@astro.ufl.edu)) that will provide the required support. Relevant information can be also retrieved from the instrument web pages at <http://www.gtc.iac.es/instruments/circe/circe.php>.

Finally, users must be aware the all the science publications based on the use of CIRCE will acknowledge both the University of Florida and GRANTECAN, and will include a citation to the CIRCE reference publication: *Garner et al. (2014), Proc. of SPIE Vol. 9147, 4*

### 3. Reserved objects

The science team of CIRCE obtains 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/circe/circe.php#guaranteed-time>

### 4. Telescope status

There is no significant news from previous semesters, the former dome shutter limitation having been removed since the end of 2015.

### 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. In the case of CIRCE, in addition to the overheads for target acquisition and instrument and telescope setup, which are 10 minutes in the case of imaging, there are also overheads associated to the observing technique. For typical deep exposures, open-shutter efficiency for CIRCE is about 70% (including dithering, readout overheads, etc.).

For reasons of overall efficiency and since polarimetric calibrations (both polarized and non-polarized standars) 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

**Polarimetric observations with CIRCE will be carried out in *queue-scheduled service mode*** by trained observatory personnel. 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.

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, to repeat the observations. For all observations, after the one-year proprietary period the raw data are copied to the GTC Public Science Archive, hosted at the Center for Astrobiology in Madrid (<http://gtc.sdc.cab.inta-csic.es/gtc>). **PIs will be contacted by the CAB archive staff and asked to submit their reduced data once published.**

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