

**Centro Astronómico Hispano-Alemán (CAHA)**

*Call for proposals at the Calar Alto*

*2.2 & 3.5 meter telescopes*

## **Spring semester 2021 (F21)**

**1 January 2021 until 30 June 2021**



**DEADLINE: October 8<sup>th</sup>, 2020**

**23:59:59 CEST at the latest**

Earliest date for submission: September 8<sup>th</sup>, 2020



Calar Alto, September 7<sup>th</sup>, 2020. Contact: [jiglesia@caha.es](mailto:jiglesia@caha.es)

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# 1 Applications for observing time at Calar Alto

## 1.1 General information

As an ICTS (Spanish Unique Scientific and Technical Infrastructure; see Appendix for a list of acronyms), the Calar Alto observatory offers to astronomers every semester through an open call for proposals, a minimum of 20% of the available observing time on its two main telescopes: the 2.2 meters and the 3.5 meters, the largest of its kind in mainland Europe.

Due to the new status of the observatory (CSIC and *Junta de Andalucía* in equal shares), the number of available observing nights for the Spanish community is notably larger since 2019. For this reason, Calar Alto encourages Spain-based astronomers to send their proposals, taking advantage of the new situation, in the national framework of *Centro Astronómico Hispano-Alemán* (hereafter CAHA), undergoing transformation to *Centro Astronómico Hispano en Andalucía*.

## 1.2 Spanish open time at the CAHA 2.2- and 3.5-m telescopes

The proposal PI (Principal Investigator) must be affiliated with a Spanish Institution at the time of submission (see exceptions in Sects. 1.3 and 1.4). CoIs (Co-Investigators) from all countries are welcome to participate along with any PI based in Spain.

## 1.3 Proposals from PIs in Europe but out of Spain

PIs based in other European countries are kindly asked to apply via the OPTICON (OPTical Infrared COordination Network for astronomy) [Call for Proposals](#), hereafter CfP.

Usually, the OPTICON deadline is 1–2 months *before* the CAHA one, and up to 10 nights are offered on the 3.5-m telescope as well as on the 2.2 m. Travel funds are available for accepted OPTICON proposals asking for visitor mode (see Sect. 1.5.1). Otherwise, OPTICON observations can be performed in service mode (Sect. 1.5.2) by the CAHA staff at no additional cost, and provide more flexibility (including limited buffers, weather and time permitting).

In the unlikely case of conflict with an open time proposal accepted, later on and independently, by the CAHA [Telescope Allocation Committee](#) (TAC), e.g. critical time observations of the same target, the CAHA director will provide arbitration, and s/he may suggest to the independent teams to collaborate instead of competing on the target.

## 1.4 Proposals from non-European PIs

Proposals of PIs from international organizations or based in non-European countries may be granted with observing time only if they are extremely well rated by the CAHA TAC. Those proposals should, in particular, justify that they apply for CAHA time because they have no access to a similar instrument at their (inter)national facilities. Typically, up to 5% of the available open time might be granted to non-partners every semester.

## 1.5 Visitor and service observing modes

CAHA will accept programs both in visitor (that is, the PI or/and CoIs observe in person at Calar Alto) and in service mode – the latter type of observations being performed by the [CAHA technical astronomers](#). The specifics of each mode are explained next.

### 1.5.1 Visitor mode

Visitor Mode (VM) means that the observations will be performed by the visiting astronomer(s) in a period fixed in advance. Limited buffer time could be reserved. If the requested observing conditions are demanding – (sub)arcsec seeing / photometric –, a backup program should be included in the proposal. It should also be discussed and approved by the TAC.

VM proposals are encouraged and will receive a higher priority to be scheduled. CAHA favors in particular the education of young researchers who have no or limited previous hands-on experience on a professional telescope. Thus, VM runs including PhD students or young postdocs as observers will be considered positively by the TAC.

**Important note:** CAHA may apply extraordinary and temporary restrictions about VM runs to ensure the health and well-being of its staff and visiting astronomers. See Sect. 2.1.

We kindly remind the PIs of VM proposals that visiting observers should be those specified in the proposal for the allocated nights, although they might be changed if needed or if new team members are to be incorporated (especially students).

If visitors are planning to go up to the observatory only for part of the allocated nights (e.g. to fine tune the observation strategy during the first night(s) of their run), "Partly service mode" may be requested.

### 1.5.2 Service mode

Service Mode (SM) programs will be executed as "A" (priority) and "B" (backup) classes, as specified in the letter of acceptance sent by the TAC secretary, namely:

- Service "A": Only for highly ranked proposals. The observations will be done in a queue mode (see exceptions below) and buffer time is allocated to ensure that most, if not all, of the foreseen data set is obtained at the end of the semester.
- Service "B": These programs are scheduled as backup, when all Service "A" programs (including those for guaranteed time) have got their data or cannot be executed anymore. This implies that time for "B" programs is allocated generally towards the end of the semester and only proposals whose objects have the appropriate visibility can be scheduled, or/and when average weather conditions are acceptable.

As specified in the letter of refusal (that is, proposals rated below the cutoff – which is not a hard boundary) sent to the PI by the TAC secretary, Service "C" programs will not be executed, except under exceptional circumstances. For example, when no more

Service "A" nor "B" targets are observable for a given night, which is more likely at the end of a particularly good weather semester of observations.

## 1.6 Ongoing surveys

Since the successful ALHAMBRA, CALIFA, and CARMENES surveys, Calar Alto offers large slots of observing time to ambitious, long-term projects requiring hundreds of nights, spread over several semesters. While this is good for the observatory in terms of legacy value, it implies that less nights remain available than in a "fully open time" multi-program observatory. Still, again as an ICTS, at least 20% of the time in CAHA is offered to open time proposals, with the following restrictions due to present-day surveys ongoing.

### 1.6.1 On the 3.5-m telescope

By January 2021, there will be three surveys ongoing at the 3.5m telescope:

- CARMENES+: extension of the CARMENES survey, support space missions (TESS and CHEOPS), and characterization of exo-planet atmospheres.
- CAVITY: observations with PPAK/PMAS of local Universe galaxies in voids.
- KOBE: observations with CARMENES of K-dwarfs orbited by habitable exoplanets.

The agreements between CAHA and these three consortia protect these scientific cases. The PIs of any open time proposal which might overlap with the scientific cases mentioned above, are encouraged to contact the observatory staff ([coords@caha.es](mailto:coords@caha.es)) to clarify whether any conflict could exist between their open time proposal and the corresponding legacy.

### 1.6.2 On the 2.2-m telescope

At the 2.2-m telescope, due to the high-cadence requirements of the **BHOLE** project (a long-term AGN survey) in progress, the observations of approved open time SM programs will be carried out in blocks of no more than three nights in a row. Only visitor mode time slots might, exceptionally, be extended to a maximum of 4 contiguous nights, if well justified in the proposal. Otherwise, split VM runs could be considered.

## 2 Important to notice

### 2.1 No visits during the COVID-19 pandemic

Due to the ongoing COVID-19 pandemic, to protect the CAHA staff and visiting astronomers themselves, all VM runs will be performed as SM blocks by the CAHA professional observers until further announcement. Please contact the support astronomer on duty ([coords@caha.es](mailto:coords@caha.es)) well in advance to prepare your service observation run.

Should you need to interact with the CAHA technical astronomers to take real-time decisions at night, feel free to contact them by email (at [service@caha.es](mailto:service@caha.es)), through Skype or Zoom chats, or directly by phone (+34 950 632 500 ext. 572 or 575).

You may have a look at your data almost immediately after they have been taken, by accessing them e.g. from <ftp.caha.es>, and reducing them on-the-fly with daytime calibrations or/and those taken at sunset, if any. According to the quick estimates found (SNR, limiting magnitude, etc.), you could then adapt the observing strategy during the night, if permitted by the instrumental setup and by the CAHA service observers.

## 2.2 CAFÉ

After the in-house upgrade (new grating plus temperature-controlled room) and new commissioning of the high-resolution, fiber-fed spectrograph at the 2.2 m, an improved CAFÉ is available for the fall 2020 semester, reaching a radial velocity accuracy below  $10 \text{ m}\cdot\text{s}^{-1}$ .

A new pipeline developed by Jorge Lillo-Box (see [Lillo-Box et al. 2020](#)), is available to reduce CAFÉ spectra, including the automatic extraction of radial velocities for FGKM stars. The pipeline works with data from the current or previous semesters and, in addition to the raw spectra, the automatically reduced CAFÉ spectra will be made available to the PI, usually a few hours after the last observation of every CAFÉ night. Please contact [coords@caha.es](mailto:coords@caha.es) for further information about the CAFÉ pipeline.

## 2.3 PANIC

The **PANoramic Infra-Red (PANIC)** camera is being upgraded. The former mosaic of four HAWAII-2RG with poor cosmetic quality was replaced by a new, single HAWAII-4RG detector. The process of integration of the large, monolithic detector is in good progress at MPIA Heidelberg. First test images (darks and flats) in lab show an excellent cosmetic quality of the 4k detector. Commissioning with a team from IAA (Granada) shall start in late 2020, tentatively, on the 2.2- and 3.5-m telescopes. **Therefore, PANIC will NOT be offered in open time in semester F21.**

## 3 How to write a proposal

Applications have to be written in English using the last version of the CAHA  $\LaTeX$  [style](#) and [template](#) of the [CfP web pages](#). The template is extensively commented, so it should be self-explaining for the casual  $\LaTeX$  user. Feel free to work with your favorite  $\LaTeX$  editor – including the web-based Overleaf collaborative tool. Still, please ALWAYS perform the final  $\LaTeX$  compilation before submission (see Sect. 4) using the “old-fashion” (no pdflatex!) way, using exclusively figures if any in PostScript format.

Our submission system usually accepts proposals from (dates may vary by some weeks):

1. Early September, deadline in October for the spring (1 January–30 June) semester.
2. Early March, with a deadline in April for the fall (1 July–31 December) semester.

The L<sup>A</sup>T<sub>E</sub>X template being extensively commented, we only recall here a few important details:

- Do not forget to specify the reference ID of previous proposals for re-submissions.
- Avoid obscure acronyms, if not clearly spelled in the abstract or/and rationale.
- Do not use smaller than normal font size to fit in the abstract/text limited space.
- Do not forget to include the title of every reference cited, to facilitate the revision by the TAC.

In the following sections, we explain some specifics of a typical applicant's procedure.

### 3.1 Calar Alto instrument pages

First make sure the instrument you are interested in and applying for is available during the semester of the call, checking Tables 3.1.1 and 3.1.2, as well as the [associated webpages](#).

For semester F21, the following instruments will be available:

#### 3.1.1 Instruments offered on the 3.5-m telescope

| Acronym               | Instrument full name  |
|-----------------------|---|
| CARMENES <sup>†</sup> | <i>Calar Alto high-Resolution search for M dwarfs with Exo-earth with Near-infrared and optical Échelle Spectrographs</i> |
| LAICA                 | <i>Large Area Imager for Calar Alto</i>   |
| OMEGA2000             | Not an acronym!   |
| PMAS <sup>†</sup>     | <i>Potsdam MultiAperture Spectrophotometer</i>  |

<sup>†</sup>One can switch from CARMENES to PMAS (and vice versa) in a minute by moving the front-end plane mirror.

Table 1: 3.5-m instruments available in semester F21.

#### 3.1.2 Instruments offered on the 2.2-m telescope

| Acronym   | Instrument full name                             |
|-----------|--|
| AstraLux  | Not an acronym!                                  |
| BUSCA     | <i>Bonn University Simultaneous CAmera</i>       |
| CAFÉ      | <i>Calar Alto Fiber-fed Échelle spectrograph</i> |
| CAFOS     | <i>Calar Alto Faint Object Spectrograph</i>      |
| PlanetCam | Planetary Camera. Only VM, see section 3.3.5.    |

Table 2: 2.2-m instruments available in semester F21.



## 3.2 Science categories of proposals

To facilitate the revision by the TAC, please choose the right scientific category for your proposal. Remember that there is no specific panel per area in the CAHA TAC. Despite our referees have a broad astrophysical knowledge, targeting the right category will ensure a fair distribution and specialized revision of the proposals by the right referees.

The following science categories are defined for proposals submitted to any CAHA telescope/instrument:

- **A** Cosmology / intergalactic medium / clusters of galaxies / galaxies
- **B** Active galactic nuclei
- **C** Interstellar medium / star formation / Milky Way
- **D** Massive / hot stars
- **E** Low-mass / cold stars / exoplanets
- **F** Solar system
- **G** Instrumentation

If your science topic is very specific – or multiple – and it is not listed in the current categories, please specify the closest related field.

## 3.3 Types of proposal

One should specify the right type of proposal to make sure it will be evaluated by the TAC taking into account its specificities. Failure to do so may result in an incomplete revision and evaluation of the proposal.

### 3.3.1 Re-submitted applications

Please also help the TAC by providing complete information regarding previous applications, including the former application reference (such as F20-3.5-### for example).

Projects which have lost observing time due to weather or technical problems (including unavailability of a telescope or an instrument due to unexpected events) MUST be flagged. The same is true for proposals which had been rejected previously and are re-submitted. The following codes correspond to the reason of re-submission and, as said above, should be accompanied by the reference number of the previous proposal:

- **W** for losses due to bad Weather;
- **T** for losses due to Technical (telescope/instrument) issues;
- **R** for Re-submission of a proposal previously rejected by the CAHA TAC;
- **C** for Continuation of a previous successful proposal (extending over more than a semester), or/and Cancelled due to force majeure (e.g. COVID-19 pandemic).

In case the reason to resubmit is still not known at the time of submission, e.g. because the ongoing semester data has not yet been acquired, we encourage you to re-submit with the "C" code, specifying that you are pending on the outcome of observations to be taken in the current period. The TAC will request the observatory for updated information about a given proposal at the time of the TAC meeting, and the updated status of any proposal resubmitted will be taken into account during the new TAC evaluation.

### 3.3.2 PhD thesis projects

Proposals may be flagged to indicate work related to a PhD thesis. An additional page (Sect. 8c. of the proposal) has then to be filled in to describe the logistics of the doctoral project (planned and/or being accomplished). The purpose of flagging PhD programs is to request a particularly thorough initial application, with an outline of all anticipated observations needed by the student.

In return, PhD programs can then usually expect subsequent approval within the framework of the initial request, as long as a satisfactory update on the PhD student's progress is provided in subsequent applications. CAHA encourages "hands-on" training of students at the telescope; the TAC will consider positively PhD-related proposals asking for VM runs, with the student (supervisors are welcome, too) coming to observe.

### 3.3.3 Long term or large projects

Long/large projects (more than 2 semesters and/or more than 10 nights per semester) can also be flagged to indicate that further applications are to be expected. A detailed logistics page must also be supplied. If approved, however, new applications have to be submitted each semester, which will be evaluated again in competition with all other applications. Nevertheless, the TAC will consider positively that a large/long proposal was previously granted time and presents clear progress to be renewed.

**Note:** Given that new legaci(es) will be ongoing on the 3.5-m telescope in 2021 (see Sect. 1.6.1), large or/and long-term (demanding in terms of nights applied for each semester) programs will still be difficult to schedule on the 3.5 m in the F21 period. The same is true for the 2.2-m telescope due to the ongoing AGN survey with CAFOS.

### 3.3.4 Testing new instruments

Commissioning runs of new instruments have to be flagged. They don't need to contain a scientific program themselves, but such a scientific program has to be applied for separately. A detailed breakdown of the time request for the commissioning run is expected. Since January 2004, time for technical tests must be approved by the director ([director@caha.es](mailto:director@caha.es)). Please contact the observatory well (months) in advance for further details.

**Note:** PANIC, with its new monolithic detector, is expected to start its commissioning (likely in bright time) in late 2020, on both the 2.2- and 3.5-m telescopes (Sect. 2.3).

### 3.3.5 Visitor instruments

Teams aiming at bringing their own instrument at any of the Calar Alto telescopes must sign a Memorandum of Understanding (MoU) with CAHA ([director@caha.es](mailto:director@caha.es)).

#### **PlanetCam is available in collaboration**

The two-channel (0.38–1.7  $\mu\text{m}$ ) lucky-imaging camera (cf. this [PASP paper](#)) is fully operational at Calar Alto and can be mounted either on the 1.23- or the 2.2-m telescope. Although the use of the camera corresponds to its owner – the Group of Planetary Sciences (GCP) at University of Basque Country –, in its visiting instrument mode at Calar Alto Observatory, the use of PlanetCam can be requested for any other program through a collaboration with the GCP. Potential applicants, please get in touch with Professor Agustín Sánchez-Lavega ([agustin.sanchez@ehu.es](mailto:agustin.sanchez@ehu.es)).

### 3.3.6 Multiple-instrument proposals

In some cases, for a given telescope and proposal, various instruments are required, or are simply useful (e.g. any CCD camera plus filters to do basic photometry for ToOs).

In this case, the user must specify it with the "M" code, justifying that the instruments specified in the proposal (in the scientific or/and technical justification) are sufficient to perform the presented scientific program.

If instruments from different CAHA telescopes are needed (that is, one on the 2.2 AND another on the 3.5 m) or sufficient (one on the 2.2 OR another one on the 3.5 m), TWO different proposals must be submitted, so that each one will receive a specific reference number. Both proposals will be evaluated by the same referees, but observing time may be allocated for only one of the telescopes (depending on the over-subscription factors, instrument availability, etc.) if most of the science can still be done with one single telescope.

## 3.4 Choose Service or/and Visitor mode

Service Mode (SM) is routinely available for a large fraction of the observing time. In the application, one of the modes "visitor", "partly service" or "service" has to be chosen. The Calar Alto TAC or/and the director may decide to override the mode preferred by the applicant if necessary (see important restriction in Sect. 2.1 due to COVID19).

For top ranked, class "A" proposals (the class is indicated in the letter to the applicant about the TAC evaluation), either in SM or VM, the aim of the observatory is to complete most of the requested program within the semester. In addition to the regularly scheduled observing run(s), buffer time could also be assigned to compensate for weather or technical losses. Buffers are scheduled for these best proposals, during which the Calar Alto staff will try to finish the observations in SM, if there are missing data left after the first attempt.

Detailed information concerning the execution of service observations has to be provided to Calar Alto staff sending an e-mail to [service@caha.es](mailto:service@caha.es) at least TWO

WEEKS in advance (except for ToOs/DDTs, see Sects. 3.6/3.7), for any new SM run.

### **3.5 Backup programs and "filler" proposals welcome.**

All applications requiring exceptionally good observing conditions have to supply a backup program. Such demanding programs will have more chances to be completed in SM blocks, waiting for the best observing conditions.

Filler programs that provide essentially bright objects, that can still give useful data even under poor transparency/full moon conditions, are welcome to take advantage of lower quality nights. Alternatively, very clear but high-seeing nights could still be useful to observe Low-Surface Brightness (LSB) but very extended objects, e.g. large nebulae or faint, diffuse LSB structures around galaxies.

Such filler programs will be considered positively by the TAC, since they improve the overall observing statistics and maximize the scientific return of the observations.

### **3.6 Targets of Opportunity (ToO)**

Researchers who expect to observe unpredictable events or "Targets of Opportunity" (ToOs) with the 2.2- or/and 3.5-m telescopes at Calar Alto are required to submit a general application for observing time, like for standard observations. In this application, the scientific case, the aim, the method and the (total, spread over various triggers) time required for the proposed observations should be presented. The application will be discussed by the Calar Alto TAC. In order to be approved, the proposal should be highly rated. A program not approved as ToO by the TAC will not be approved as DDT (see Sect. 3.7) by the director during the same semester.

Should the proposed observations be approved by the TAC, the approval is limited to one semester. If it is necessary to continue ToO observations after this period, a new application is required, together with a status report of the results obtained thus far.

CAHA does recommend that competitive teams collaborate in all cases, for a quick, high scientific return of all ToO observations. In case two competing ToO programs have been accepted by the TAC and both teams trigger an alert on the same target, CAHA reserves the express right to share data between them, regardless of who triggered first.

#### **3.6.1 Override status of ToOs**

ToO observations generally have an override status. Exceptions will be defined beforehand by the director of CAHA (e.g. for time critical programs). In case more than one ToO occurs in the same night, CAHA staff reserves the right to restrict the observations.

If possible (e.g. light curve decay studies), follow-up observations – if approved by the TAC – should be scheduled in advance once the initial trigger is performed, until the total time allocated to a given ToO is exhausted during the semester.

If, at the end of the semester, hours of observation remain unused for a given ToO, these hours are lost for the next semester. A new proposal must be presented to attempt to continue the ToO program, which should include the results of the triggers already performed. Concerning the programs interrupted by ToOs, the observing time lost

because of the ToO trigger will be compensated, if this possible (in service mode for ToOs triggered during visitor mode runs). See Sect. 6.1.1 to know how to trigger ToOs.

### 3.7 Director's Discretionary Time (DDT)

A small fraction of the available time (about 5%) will be set aside for short-term allocation by the Calar Alto director, as discretionary time (DDT). These time requests, of no more than 3 (THREE) hours, overheads included, are reserved exclusively for brief but expected high yield new observations, where the delay entailed by the standard application procedure would spoil the science. DDT observations will be performed in SM, except in a few peculiar cases where a visiting observer (PI or CoI) is needed. International PIs are welcome to send well justified DDT proposals, demonstrating in particular the uniqueness of CAHA instrumentation to reach the expected high-impact results. Inquiries are made using the CAHA [web form for DDT service observations](#).

## 4 How to submit a proposal

Once fully completed and compiled using the `latex myproposal.tex` command, without any error, on your local machine, your final `.tex` file and associated figures (<3 MB each, in PostScript format only) should be submitted as a test run via CAST, the [Calar Alto Submission Tool web page](#).

If satisfied with the results, comment back the `\TestRun` line in your  $\LaTeX$  definitive file and submit it. Please triple check before submitting the truly definitive version!

Additional material (e.g. support letters) may be accepted, too, anytime BEFORE the deadline. Nevertheless, the submission of a proposal is always definitive AFTER the deadline. Late proposals will automatically be rejected by the CAST system.

You will receive by mail a unique reference for the submitted proposal, as well as the `.ps` version that will be distributed to the referees.

Since the CfP is usually open ONE month before the deadline, for each semester, feel free to send your proposal at your earliest convenience. It is the applicant responsibility to have the correct, final version received at CAHA in time before the deadline. The final version will receive a unique ID, to be indicated clearly (e.g. in the email subject) in any correspondence related to this proposal.

In case of problem, contact the TAC secretary ([jiglesia@caha.es](mailto:jiglesia@caha.es)). Take into account that turnarounds close to the deadline may be slow, if not humanly impossible!

## 5 Proposal evaluation by the TAC

The CAHA TAC meets twice a year to select the best proposals, after rating and commenting extensively all of them. The cut (which cannot be a hard boundary) between accepted/rejected proposals depends on the ratings and on over-subscription (the total number of nights applied for vs. the available nights in open time for a given semester). The over-subscription factors on the 2.2 & 3.5 m from previous semesters are visible in Fig. 1.

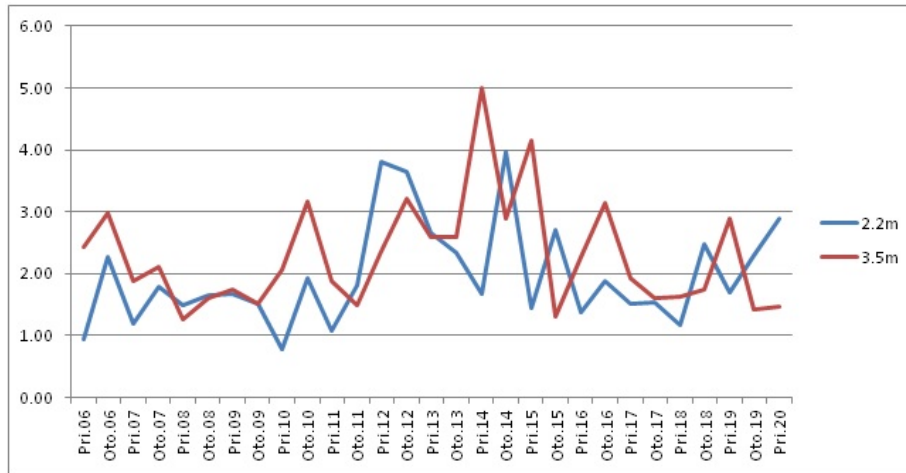


Figure 1: Previous oversubscription factors on the 2.2 (blue) & 3.5 m (red) telescopes.

In addition to the CAHA director and TAC secretary (the latter non voting), the TAC is composed of half a dozen of internationally recognized astronomers having wide, complementary expertise. The current TAC composition is visible at [this web page](#).

## 6 How to proceed for accepted proposals

PIs will be notified by (electronic) letter as soon as possible – usually within ten working days after the TAC meeting – of the outcome of their proposal evaluations, including the final comments by both referees, after being checked also by the TAC chair and secretary.

For accepted proposals, the final number of nights allocated, pre-scheduled dates (always tentative) and observing mode (service or visitor) are specified in the letter of acceptance sent by the TAC secretary.

Those dates of observations (both SM nights and VM runs) cannot be changed by the PI, except in case of obvious scheduling errors (e.g. our misunderstanding of time critical observations night/hour). Nonetheless, Calar Alto keeps the right to perform slight schedule adjustments during the semester to accommodate other programs, always trying to benefit the best rated proposals, including possible buffer time depending of the outcome of previous VM runs or SM nights.

Hereafter we describe the usual way to proceed depending on the type of proposal.

### 6.1 Target of Opportunity observations

We recommend applicants of ToO proposals to favor instruments frequently mounted at the telescopes to improve the chances to have a trigger executed, taking into account the ongoing surveys (namely: CAFOS on the 2.2 m and CARMENES on the 3.5 m).

Alternatively, asking for multiple instruments (or/and telescopes) in the same proposal (see Sect. 3.3.6).

### 6.1.1 How to trigger a ToO

To trigger any ToO observation, the PI or CoI of an accepted ToO proposal has to contact immediately the CAHA service staff (at [service@caha.es](mailto:service@caha.es)) to make sure that astronomers on duty (day and night, all year round) will reply as soon as possible.

PI/CoIs of allowed ToO programs will send the material needed to perform their observations (incl. the instrumental setup, detailed observing strategy, estimated brightness if available, finding chart, etc.).

The CAHA staff on duty will confirm the reception of the material ASAP (feedback at night is ensured all year long, but it might be slower during the day, in particular during the week-ends/holidays). The observations will then be attempted promptly if possible – instrumental setup, target visibility and weather permitting.

In exceptional cases (e.g., PI traveling with limited Internet access), the night observers (CAHA staff first, in case of a VM night) may be alerted at the observing rooms by phone (+34 950 632 500, ext. 572 or 575), but only after the written request to [service@caha.es](mailto:service@caha.es) has been sent.

The maximum number of triggers accepted by the TAC might be extended, after agreement by the CAHA staff and/or CAHA director, until the total time allocated to a given ToO program is reached (e.g. by allowing additional triggers at the end of a semester, if there is time left from the total one agreed by the TAC).

### 6.1.2 Who can trigger a ToO?

Under no circumstance a researcher without an approved ToO program can contact the CAHA staff, particularly the night observers (including VM programs), to conduct an observation which has not been approved by the TAC or by the director under a DDT.

Only the PI or CoIs of ToO programs accepted by the TAC can trigger their programs during the assigned semester.

### 6.1.3 Guidelines for ToOs and visitor astronomers

When a ToO program is activated during a VM run, the CAHA staff will communicate it to the visiting astronomer and the time lost, when possible, will be compensated ASAP (most likely in service mode, during available buffers). Visitor astronomers cannot begin any ToO or any other observation (not described in the proposal approved by the TAC) on their own, without previous consent of the CAHA staff and/or director.

## 6.2 Service mode programs

We kindly ask the PI (or any CoI) of every SM proposal to send detailed instructions, at least TWO weeks in advance before the first planned observation, as specified in the letter of acceptance filling in the [corresponding web form](#) of the allocated instrument or/and contacting the Calar Alto support astronomers through [coords@caha.es](mailto:coords@caha.es).

Last-minute changes (in particular from Friday to Sunday and on Spanish holidays) in the setup may not be accepted or simply not feasible, except if fully justified by the outcome of the previous observing night.

Informing the CAHA service staff in advance will allow us to secure the scheduling and setup (e.g. filters and grisms) of the instruments on the 2.2- and 3.5-m telescopes in time, and keep the chance to iterate with the PI, if needed, to fine tune the observing strategy. Changes to this rule will be only accepted under exceptional circumstances (e.g. sudden illness).

Programs in service mode are generally performed during service blocks. Although tentative observing slots are assigned for each program, the observations will be performed in a pseudo-queue mode. This gives the observatory more flexibility to react on changing observing conditions, so that the programs will benefit from higher efficiency.

### 6.3 Visitor mode programs

We suggest that all visiting astronomers contact ([coords@caha.es](mailto:coords@caha.es)) the Calar Alto Astronomy Dept. (weeks) in advance for any questions about their VM observing run.

Any visiting astronomer must fill in the [arrival form](#) to inform, at least TWO weeks in advance of their trip to the observatory, about their travel plan, booking of room and meals, as well as the basic setup of the instrument they will use. The setup should be identical to the one accepted by the TAC, except if not available for some reason, or if fully justified for unexpected scientific/technical reasons; the setup may then be changed accordingly (e.g. other filter or grism) after discussion with the CAHA staff.

## 7 After observing in CAHA: publications and releases

### 7.1 Proprietary period of the data and acknowledgements to SVO

**Proprietary period:** All observing data from open time programs will be made public through the Spanish Virtual Observatory (SVO) after a proprietary period of one year after the end of the observations. DDT data are publicly available after three months.

**Acknowledgements:** We kindly remind you to include the following acknowledgements if you are using data from any CAHA telescope & instrument archived at SVO: *This research has made use of the Spanish Virtual Observatory (<http://svo.cab.inta-csic.es>) supported by the MINECO/FEDER through grant AyA2017-84089.*

### 7.2 Mandatory acknowledgments or/and footnote for CAHA data

**Every publication based on CAHA data must always contain a footnote as follows:** *Based on observations collected at Centro Astronómico Hispano-Alemán (CAHA) at Calar Alto, operated jointly by Junta de Andalucía and Consejo Superior de Investigaciones Científicas (IAA-CSIC).*

Alternatively, a similar phrasing appearing in the paper acknowledgements is acceptable. Specifying the associated CAHA proposal reference is welcome in all cases.



**Failure to do so may result in penalties being applied by the CAHA TAC for future proposal submissions to any telescope in Calar Alto from the same PI and CoI(s).**

### **7.3 Report CAHA-based publications and possible press releases**

CAHA kindly asks you to inform us ([prensa@caha.es](mailto:prensa@caha.es)), as soon as possible before publication, of every recently accepted paper based on data collected at our facilities.

The most appealing publications may be worth a press release. Please contact us at [prensa@caha.es](mailto:prensa@caha.es) in advance (that is, well before publication in a given journal) about any breakthrough result based on CAHA data, so as to study its possible public diffusion, coordinated if needed with the press office(s) of the PI & CoI institute(s). The Calar Alto and IAA press officers will distribute the press release to a few selected journalists, committed to strictly respect any embargo imposed by the authors or publisher.

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| For any question related to this call for proposals, please contact the TAC secretary <a href="mailto:jiglesia@caha.es">jiglesia@caha.es</a> . Calar Alto welcomes feedback from its users' community. |
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## Acronyms

|         |  |
|---------|--|
| CAHA    | <i>Centro Astronómico Hispano-Alemán</i><br>( <i>Deutsch-Spanisches Astronomisches Zentrum</i> )         |
| or      | <i>Centro Astronómico Hispano en Andalucía</i><br>(Hispanic Astronomical Center in Andalusia)            |
| CAST    | Calar Alto Submission Tool   |
| CfP     | Call for Proposals   |
| CoI     | Co-Investigator  |
| CSIC    | <i>Consejo Superior de Investigaciones Científicas</i><br>(Spanish Superior Research Council)            |
| DLR     | <i>Deutsches Zentrum für Luft- und Raumfahrt e.V.</i><br>(German Aerospace Center)                       |
| DDT     | Director Discretionary Time  |
| EC      | Executive Committee  |
| ESA     | European Spatial Agency  |
| GCP     | Grupo de Ciencias Planetarias (UPV/EHU)<br>(Group of Planetary Sciences at University of Basque Country) |
| GTOC    | Guaranteed Time Observations for the CARMENES consortium   |
| IAA     | <i>Instituto de Astrofísica de Andalucía</i><br>(Institute of Astrophysics of Andalusia)                 |
| ICTS    | <i>Infraestructura Científico-Técnica Singular</i><br>(Singular Scientific and Technical Infrastructure) |
| LSB     | Low-Surface Brightness (object)  |
| MoU     | Memorandum of Understanding  |
| MPIA    | <i>Max-Planck-Institut für Astronomie</i><br>(Max Planck Institute for Astronomy)                        |
| OPTICON | OPTical Infrared COordination Network for astronomy  |
| PI      | Principal Investigator   |
| RIA     | <i>Red de Infraestructuras en Astronomía</i><br>(Spanish Astronomy Infrastructures Network)              |
| SAC     | Scientific Advisory Committee  |
| SM      | Service Mode (observations)  |
| SVO     | Spanish Virtual Observatory  |
| TAC     | Time Allocation Committee  |
| ToO     | Target of Opportunity  |
| VM      | Visitor Mode (observations)  |