

# Call for proposals for observations on the French telescopes at OHP and TBL: first semester 2018 (18A)

**Deadline for proposal upload: Tuesday October 10th, 2017, noon (Paris - CET time)**

There is an ON-LINE procedure to prepare AND submit the proposals for OHP and TBL. See the description of this new on-line procedure below or directly at <http://northstar.bagn.obs-mip.fr>. The server will open on September 11th, 2017.

## News

- Information on the FTE (in man x months) for each participant must be provided in the tab "Additional remarks"
- It is recalled that, for an ongoing programme, information on the status of previous runs must be provided (tab: "Additional remarks")

## General principles and proposal selection

Information on the telescopes and their instrumentation can be found on the respective observatory home pages:

- [Observatoire de Haute-Provence](#)
- [Observatoire du Pic du Midi](#)

Proposals from PIs working in a French institution are evaluated and selected according to scientific excellence by a French Time Allocation Committee (TAC), which deals with different scientific topics (corresponding to the "Programmes nationaux" thematic structures).

- PNPS (Programme National de Physique Stellaire): Stars and stellar physics (from protostars to planetary nebulae) (coordinator [Boris Dintrans](#))
- PCMI (Physico-chimie du Milieu Interstellaire): Physics and Chemistry of the Interstellar Medium (coordinator [Karine Demyk](#))
- PNP (Programme National de Planétologie): Planetary science (coordinator [Alessandro Morbidelli](#))
- PNCG (Programme National Cosmologie et Galaxies): Cosmology and galaxies (coordinator [Vanessa Hill](#))
- PNHE (Programme National Hautes Energies) : High energy astrophysics (coordinator [Guillaume Dubus](#))

A telescope fee for each night is requested. For the successful French teams, this fee, as well as lodging and meals (but not the travel expenses), are granted. Mixed teams with non French Co-Is are partially funded; the remaining part is paid by the foreign institutions.

All non French teams that are eligible to the OPTICON program must submit their

proposals through OPTICON. The TNA call for this semester 2018A (<http://www.astro-opticon.org/h2020/tna/call/call-2018a.html>) is closed since August 31 2017.

## 193cm telescope at OHP

The mean number of hours of observations per night is 7 hours in winter and 5.5 hours in summer (including weather conditions). These numbers are to be used in the calculation of the number of requested nights.

For 2018A, the OHP reserves 10 nights to OPTICON programs. Please note that OPTICON proposals are handled independently by a dedicated TAC. The TNA call, available at <http://www.astro-opticon.org/h2020/tna/call/call-2018a.html> is closed since August 31, 2017.

### *SOPHIE Spectrograph*

The SOPHIE spectrograph is available to the community since the end of October 2006. This instrument, covering the 3872-6943 Å spectral range with 39 orders, has two observing modes: high efficiency (HE,  $R \sim 35000$ ) and high spectral resolution (HR,  $R \sim 75000$ ).

For each mode two fibres of 100-micron diameter each (star and sky, or calibration) pipe the light from the Cassegrain adaptor to the spectrograph. Each fibre sees 3 arcsec of the sky. The switch between modes is obtained by moving the fibre heads in the adaptor and takes about 3 minutes. In order to achieve a higher spectral resolution, the HR mode has optical scramblers and a 40-micron exit slit. This makes the throughput 2.5 times smaller.

Simultaneous Thorium exposures in the high-resolution HR mode (HR\_thosimult template and HR\_fpsimult (ThAr or Fabry-Pérot on fibre B) template (Star on fibre A and ThAr on fibre B) are only recommended for observing programs which need to achieve high accuracy radial velocities ( $< 10$  m/s). Simultaneous Thorium exposures in the high efficiency HE mode (HE\_thosimult template) are not useful and are thus not recommended.

For observing programs not requiring radial velocities more accurate than 10 m/s, it is recommended to use templates HE\_AB and HR\_AB (sky on fibre B) rather than templates HE\_A et HR\_A so that sky spectra can be recorded, which, under the presence of moonlight, can contaminate the spectra (and thus the cross-correlation profile) of stars fainter than visual magnitude 10-12. Recording the sky also should allow proper subtraction from reconnected s1d spectra.

The spectrograph uses an EEV 44-82 4102x2048 pixel CCD that has two reading modes (fast and slow). The read-out noise is 6.4e- for the fast mode (read-out time = 19sec) and 2.1 e- for the slow mode (read-out time = 197sec), which is suitable for the fainter objects. The slow mode is only useful for objects with expected S/B  $< 30$ . The spectrograph, attached to the telescope pillar, is installed in a thermally controlled

chamber. The dispersive elements are placed in a closed tank filled with nitrogen gas, which provides a constant pressure environment. The instrument software allows the preparation of the observations, the control of the instrument, and complete real time data reduction. All data are archived at the telescope.

In June 2011, the installation of new fibres has considerably increased the stability in radial velocity in the HR mode. The scientific validation achieved during semesters 2011B and 2012A indicates an accuracy of 2 m/s (see Bouchy et al., A&A 549, A49, 2013), which allows us to undertake Doppler asterosismology programs and search for exoplanets of low masses. A new unit of calibration lamps for SOPHIE has been installed at the beginning of semester 2014A and a new software NSTS for preparing the observations. Since the optimization of the thermal regulation of the spectrograph, the intrinsic drifts of the instrument is now less than 1 m/s per hour. In addition, a stabilized Fabry-Pérot etalon is now installed in the calibration unit, which allows an optimal measurement of the drifts, simultaneously with the HR\_fpsimult. The standard calibrations (CALIB\_NewUC\_HRfp and CALIB\_NewUC\_HEfp) include the Fabry-Pérot. From now on the ThAr lamps must be switched off during the night. The intrinsic stability of the spectrograph does not require calibration at night. However, if a calibration is required during night, switch on the ThAr lamp, execute the sequence FP2 - ThAr - FP2, switch off the ThAr lamp. A documentation is available online and in the control room of the telescope.

***For more information see:***

- [SOPHIE spectrograph](#)
- [SOPHIE spectrograph data products](#)
- [Access to the public data of the SOPHIE spectrograph](#)

***Service mode observing***

Service observing mode is offered on the spectrograph SOPHIE. However the time devoted to this mode is limited and cannot exceed 5% of the total available time. Moreover, if the exposure time exceeds one hour per night, an appropriate justification should be given.

In the proposal, the user should estimate the total equivalent number of nights needed for the program: the total exposure time of the program should include 5 minutes of dead time per exposure if the CCD is read out in fast mode and 8 minutes with slow read-out (including pointing of the telescope, time to prepare the spectrograph and read-out of the CCD), except if the requested exposures are consecutive. It should be noted that most of the observations use fast CCD read-out mode. The change from fast to slow read-out of the CCD (and vice-versa) requires taking an offset at each change.

The requested S/N ratio is the optimal value. The exposure time per object corresponds to the maximum time that the observation will be performed. In service mode, if the ratio S/N as given on line is obtained in a shorter time, the exposure will be automatically

stopped.

In addition, if service mode observations are requested, in order to facilitate their planning, it is necessary to fill in the table “observations de service” available at [http://www.obs-hp.fr/guide/sophie/obs\\_service.xls](http://www.obs-hp.fr/guide/sophie/obs_service.xls) and to send it to [ohp.demandes@osupytheas.fr](mailto:ohp.demandes@osupytheas.fr) at the time of the submission of the proposal.

### ***CARELEC Spectrograph***

This spectrograph is no longer offered.

### ***Visitor instruments***

In case of using a visitor instrument, it is compulsory to contact the OHP director to check the feasibility.

### ***Data rights***

The proprietary period is one year. Once the proprietary period expires, the data enter the public domain and are available to anyone.

## **Observations at TBL**

The spectro-polarimeter Narval is offered for semester 2018A. Observations will be conducted in multi-mission service mode.

Narval is a spectro-polarimeter that allows one to observe, in a single exposure, a point-like object spectrum in two polarization states, from 370 to 1000 nm, at a spectral resolution of 65000 in polarimetric mode and of 80000 in spectroscopic mode. Narval is now the main instrument at the TBL.

For 2018A, TBL reserves 7 nights to OPTICON programs. Please note that OPTICON proposals are handled independently by a dedicated TAC. The TNA call, available at [http://www.astro-opticon.org/fp7-2/tna/opticon\\_call\\_new.html](http://www.astro-opticon.org/fp7-2/tna/opticon_call_new.html) is closed since August 31, 2017. See the above link for the criteria of eligibility.

For the preparation of the proposals, users are invited to consult the web pages of the instrument, which includes technical information as well as an ETC. An English version can be found at the following address: <http://www.ast.obs-mip.fr/projets/narval/v1/>.

The telescope is also open to welcome visitor instruments, assuming that the observing run extends above 15 successive nights. PIs are invited to contact the TBL director to assess the technical feasibility of their program.

### ***Service observing***

Please check the [latest news on developments of service observing at TBL](#).

TBL studies the best solutions to optimize scientific return of Narval and will try to minimize the impact on users. We are grateful to the community for its understanding and patience in time of evolving procedures.

For additional information, contact [Éric Josselin](#) for scientific issues and [Marie-Pierre Arberet](#) for practical ones.

### ***A Statement from the PNPS (Stellar Physics)***

Primary criteria to rate the proposals on the 2-m telescopes are: scientific value, urgency, previous experience from and results obtained by the team. Combining different proposals, proposing key-programs, and observations made in support of large-size ground base telescopes or of space born observations are greatly encouraged. Proposals requiring a large number of nights but fulfilling those conditions may be supported.

### ***Proposal submission***

The proposals (submitted using the new on-line procedure) will be gathered by INSU and forwarded to the Time Allocation Committee.

A given proposal should refer to a main thematic field (covered by a so-called *programme national*), although some proposals may concern several fields.

### ***Large Programmes (2018A)***

**There is no call for Large Programmes at TBL for 2018A.**

## **Submission procedure**

We are now using a new software developed in the context of a European effort to gather time allocation requests. The software is called "NorthStar" and all proposers should connect to the dedicated [site for the French telescopes](#).

Users should first register and then follow the instructions after login onto the web site. On-line help is available to accompany you during this process.

Please send your TECHNICAL (only) questions to [Patrick Maeght](#). Other questions should be directed towards either the contact person for each telescope or towards the INSU representative ([Bruno Bézard](#)).

**Deadline for proposal submission: Tuesday October 10th, 2017 at**

**noon (Paris time).** No late proposals will be considered, whatever the reason.

[Bruno Bézard](#) Chargé de mission INSU-AA