Observatorio Astrofísico de Javalambre
Call for Proposals
Semester 2026A
JAST80

Proposals are expected to be submitted via:

http://oajweb.cefca.es/

by 15th September 2025 at 23:59 CET.

1 Announcement of Opportunity

The Observatorio Astrofísico de Javalambre (OAJ) opens the **Call for Proposals** for semester **2026A (1st Junuary 2026 - 30th June 2026)** with the Javalambre Auxiliary Survey Telescope.

Proposals are due by 15th September 2025 at 23:59 CET

2 Introduction

The OAJ (https://oajweb.cefca.es), located at the Sierra de Javalambre, in Teruel (Spain), is aimed to lead large-sky multi-filter surveys of the Northern hemisphere over the next years. The OAJ consists of two main telescopes of large field of view (FoV): the 2.5m Javalambre Survey Telescope (JST250) and the 80cm Javalambre Auxiliary Survey Telescope (JAST80), with polychromatic, seeing-limited images in their unobscured FoVs of 7 $\deg^2$ and 3 $\deg^2$, respectively. Both telescopes are equipped with panoramic instrumentation: JPCam, with $\sim$ 1.2 Gpix distributed in a mosaic of 14 large-format CCDs covering 4.7 $\deg^2$ at the JST250 focal plane and T80Cam, at the JAST80 telescope, providing a 2 $\deg^2$ FoV at the focal plane. A specific data center for the reduction and archiving of the large volume of data acquired at the OAJ (up to 1.5 TB per night when the two telescopes are in operation) completes the main OAJ infrastructures. It deploys a storage capacity of more than 5 PBs and a computing power of 450 cores with 3.5 TB RAM memory.

JST250 is devoted to conduct the Javalambre Physics of the Accelerating Universe Astrophysical Survey (J-PAS; https://www.j-pas.org), mapping 8500 $\deg^2$ of the sky with a set of 54 narrow-band contiguous optical filters plus 3 broader ones. JPCam is currently attached to the JST250, which is currently mostly devoted to conduct the J-PAS survey. J-PAS Early Data Release (November 2024) (J-PAS EDR https://www.j-pas.org/datareleases/jpas_early_data_release) has made publicly available 12 $\deg^2$ observed with all the J-PAS filters. JAST80 is currently mostly devoted to conduct the Javalambre Photometric Local Universe Survey (J-PLUS; https://www.j-plus.es), with 12 narrow, intermediate and broad-band filters. J-PLUS survey started in November 2015 and released the first $\sim$1020 $\deg^2$ of data through the DR1 by July 2018 and more than 2000 $\deg^2$ of data in 2020 data release (DR2). The last data release (DR3) with more than 3000 $\deg^2$ was published in December 2022 and more than 5000 $\deg^2$ have been already observed with T80Cam. (https://archive.cefca.es/catalogues). Both J-PAS and J-PLUS will provide powerful 3D views of the Universe and unprecedented multicolor information for many fields of the Astrophysics that will be made publicly available to the community as legacy projects.

Since September 2014, the OAJ was included in the Spanish map of Infraestructuras Científico-Técnicas Singulares (ICTS). As such, the OAJ offers

more than 25% of Open Time to the astronomical community in the modalities of Legacy Surveys, Regular Programs (RP) and Director discretionary time (DDT).

Regarding the RP and DDT programs, a new call for proposals will be made public each semester. This document describes the RP and DDT observing time offered by the OAJ in semester 2026A for the JAST80, the proposal submission process, the available instrumentation and related information of interest for the observer.

Note that, out of the scope of the current call, most of the time offered to the community has already been set for *Survey Mode* observations only. For that, a specific open call for proposals (https://oajweb.cefca.es/observingtime/cfp_legacy_surveys_jast80) was made public early 2022 for the definition of the second-generation Surveys to be executed with the JAST80, following the survey spirit of the ICTS OAJ and with the aim of maintaining the competitiveness of the facility in the next years. The selected proposals https://oajweb.cefca.es/observingtime/oaj_ls will be active from 2023 to 2027. A new call for *Legacy Surveys* programs will be announced every 5 years approximately.

Separate Calls for Proposals have been issued to observe with JPCam on the JST250.

3 Available Instrumentation

The instrumentation available for semester 2026A is T80Cam at the JAST80 telescope.

3.1 JAST80

The JAST80 telescope is an 80cm Ritchey-Chrétien-like telescope, with a German equatorial mount and a corrector of three spherical lenses. The secondary mirror (M2) is held by an hexapod, which is used to correct for optical aberrations of the system during operation. This is done by wavefront curvature sensing techniques developed at CEFCA, making use of intra- and extra-focal images. Because of the large FoV and fast optics (F#4.5) of the telescope, this process is required to keep the optimal image quality all across the FoV over time. In normal operation, the position and tilt of M2 are fine tuned according to an empirically calibrated control law for the hexapod, that takes into account the pointing coordinates and the temperature of the telescope. A software limit is set at 25 deg elevation, below which observations cannot be performed. The absolute pointing accuracy is ~ 4 arcsec (rms) in the whole sky. Differential pointing inside a radius of 2 deg can be performed with an accuracy of ~ 0.6 arcsec (rms). Non-sidereal tracking capabilities are available.

3.1.1 T80Cam

T80Cam (http://www.cefca.es/observatory/t80cam) is the panoramic camera on the JAST80. It is a wide field camera with a 9.2k×9.2k pixels CCD, which provides a 2 deg^2 (unvignetted) FoV. The pixel scale is 0.55 arcsec/pixel.

For this call, **the only available mode of the CCD is "mode 05"**, with the following characteristics:

Readout noise	3.4e$^-$
Gain	Normal
Binning	1×1
Readout time	12.0s

For operational reasons, **the longest integration time offered for a single exposure is 600 s**.

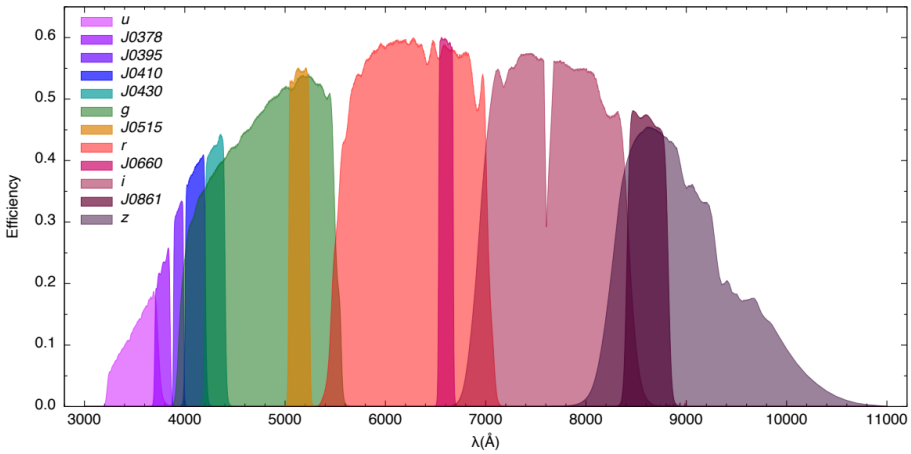

Figure 1: Efficiency curves measured for the set of 12 J-PLUS filters, including the effect of the entire system (sky, mirrors, lenses, and CCD)

T80Cam is equipped with the J-PLUS filters. These are 4 SDSS filters (g, r, i, z), the $u_{\rm Java}$, and seven narrow band filters, as illustrated in Figure 1. Table 1 summarizes the characteristics of the filters. If a project requires filters which are different from the ones offered, the PI should contact the OAJ in advance.

4 Proposing for Semester 2026A

4.1 Proposal Types

The OAJ Open Time is split in two semesters as given below:

ID	Name	CW (nm)	FWHM (nm)	Comments
01	$u_{\rm Java}$	348.5	50.8	In common with J-PAS
02	J0378	378.5	16.8	[OII]; in common with J-PAS
03	J0395	395.0	10.0	Ca H+K
04	J0410	410.0	20.0	Hδ
05	J0430	430.0	20.0	G-band
06	Sloan-g	480.3	140.9	SDSS
07	J0515	515.0	20.0	Mgb Triplet
08	Sloan-r	625.4	138.8	SDSS
09	J0660	660.0	14.5	Hα; in common with J-PAS
10	Sloan-i	766.8	153.5	SDSS
11	J0861	861.0	40.0	Ca Triplet
12	Sloan-z	911.4	140.9	SDSS

Table 1: Main characteristics of the J-PLUS filters mounted on T80Cam.

- **Semester A**: January 1st - June 30th
- **Semester B**: July 1st - December 31st

As commented before, the OAJ as ICTS offers more than 25% of Open Time to the astronomical community. Although most of this time is already allocated for Legacy Surveys (see Section 2), it is currently offering 70 hours splitted equally between RPs and DDTs for semester 2026A. The maximum time length of each individual proposal is set to the total time assigned to each category; i.e. 40 hours.

Program	**Total time offered**
Regular program (ToO only)	40 h
Director Discretionary time	30 h

Table 2: Programs properties.

- **OAJ Regular Programmes (OAJ-RPs)** starting at 2023A and following semesters will be devoted **exclusively to Target of Opportunity projects**. These projects are expected to benefit from the large FoV of the OAJ telescopes and depending on the scientific requirements and merit, can be guaranteed "override" status (i.e. can interrupt the execution of another observation in the queue). OAJ-RPs are evaluated by the OAJ Time Allocation Committee (OAJ-TAC).
- **OAJ Director Discretionary Time (OAJ-DDT)** are reserved for testing the feasibility of potential future observing cases of great scientific

impact, for the follow-up of objects in which a quick response is key for the scientific return, of for unexpected events. OAJ-DDT proposals are evaluated by an internal committee chaired by the Director of CEFCA.

In case that the time allocated for OAJ-RP projects is not awarded completely (either due to a scarcity of proposals or to their unfeasibility and/or low quality), the OAJ-TAC may decide to move this time to OAJ-DDT or the J-PLUS/J-PAS time in the ratio decided by the OAJ-TAC.

4.2 Access to the OAJ Open Time

OAJ proposals are directed to researchers from institutions from all over the world. A proposal can have up to two Principal Investigators (PIs). While OAJ-DDT proposals can be requested at any time, the opening and deadlines of the call for proposals for OAJ-RPs in each semester are:

- **Semester A**: Openning: August 1st; Deadline: September 15th.
- **Semester B**: Openning: February 1st; Deadline: March 15th.

4.3 Observing at the OAJ

In semester 2026A the RPs proposals are executed in ToO mode only. The visitor mode can be considered upon request depending on the available resources and logistics at the OAJ.

The observing time is split following the 1:2:1 ratio for Dark:Grey:Bright time conditions. Figure 2 shows the fraction of time requested in the last semesters as a function of the sky transparency and brightness split into A and B. Whenever possible, we encourage the users to consider less restrictive observing conditions for a higher success rate of their proposals.

4.4 Data Products

The data collected at the OAJ as part of an Open Time proposal will be provided to the contact person indicated in the proposal form through the OAJ-TACData webportal. The delivered data account for:

- The raw scientific data
- Calibration frames (bias/darks/flatfields)
- The scientific data reduced in a standard way with the most-recent OAJ pipelines developed by the CEFCA team for each instrument.

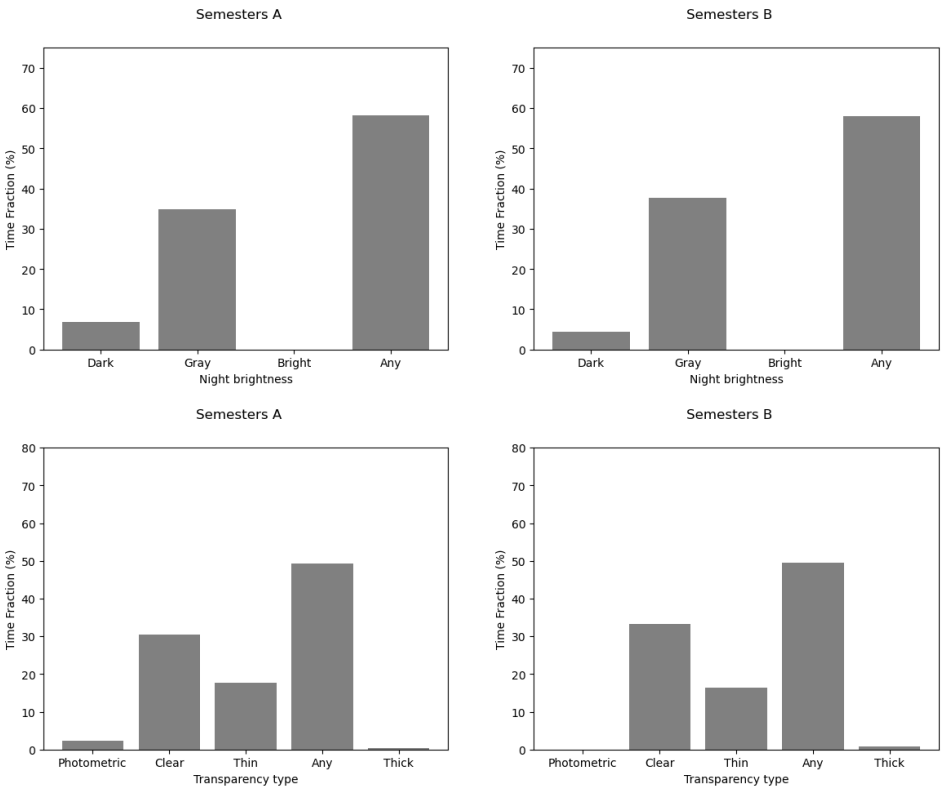

Figure 2: Statistics on the requested types of night brightness (two top plots) and sky transparency (two bottom plots) split by semester: A or B.

OAJ guarantees the storage of this data, which will be available once the raw images have been processed by the pipeline and validated at CEFCA.

CEFCA staff is continuously developing and implementing upgrades of the system to optimize the overall performances. Although we will try to notify important upgrades, take into account that the reduction pipeline may change and the offered processed data may be updated without prior notice. If you think this can be critical for your project, we encourage you to keep track of the data versions.

Pre-reduced data can be provided upon request which must be scientifically justified during the observations' preparation phase.

After a proprietary time of one year, the data will be made public through the OAJ External Data Access Machine.

Additional support regarding the data could be provided by the OAJ staff on a best-effort basis. In case it is needed, please, contact `oaj-upad_at_cefca.es`.

4.5 Calibrations

The calibrations, which are taken as part of the standard calibration plan at the OAJ are:

- Bias
- Sky flats
- Illumination correction observations
- OAJ spectrophotometric standard stars

In case a user requires specific calibration frames, the observing time will be charged as part of the proposal.

4.6 Submission Procedure

Proposals should be submitted in electronic form via:

http://oajweb.cefca.es/.

Both PIs and their collaborators must register to the website.

Anyone can create a proposal and the proposals can be edited until the deadline. If the proposal does not have all the required information, it is marked as "incomplete". The web form will provide feedback on the missing information.

Once the proposal is "complete", the PI can submit it. If a complete proposal has not been submitted by the deadline, it is considered submitted by default. If a proposal is not complete by the deadline, it is not submitted.

The web form should include the requested pointings as well as the exposure times. An estimate of the overheads (pointing, instrument setup, readout time and observation of standard stars) is already included in the automatic calculation of the total requested time. Overheads already include the average time spent in running the wavefront curvature sensing algorithms and applying the M2 hexapod control law to optimise the image quality all over the entire FoV of T80Cam.

4.7 Publications

You can find a list of all publications which were made using OAJ facilities at:

http://oajweb.cefca.es/publications/publications.

If you have already observed at OAJ and you are publishing a paper, we encourage you to inform us at oaj-support_at_cefca.es and we will post a link to your paper at our web page.

Publications derived or partly based on OAJ JAST80 observations shall be acknowledged as follows:

"Based on observations made with the JAST80 telescope at the Observatorio Astrofísico de Javalambre, in Teruel, owned, managed and operated by the Centro de Estudios de Física del Cosmos de Aragón."

In case of a publication derived from the OAJ DDT, the Acknowledgment section of the manuscript shall include the sentence:

"We thank the Centro de Estudios de Física del Cosmos de Aragón for allocation of Director's Discretionary Time to this program."

In case of a publication that makes use of OAJ data reduced by CEFCA with the OAJ pipelines, the Acknowledgment section of the manuscript shall include the sentence:

"We thank the OAJ Data Processing and Archiving Department (DPAD) for reducing and calibrating the OAJ data used in this work, as well as the distribution of the data products through a dedicated web portal."

If you have already observed at OAJ and you are publishing a paper, we encourage you to inform us at oaj-support_at_cefca.es and we will post a link to your paper at our web page.

Should you have questions, contact oaj-support_at_cefca.es