

Observatorio Astrofísico de Javalambre



Phase 2 Tool: User guide

<http://oaj.cefca.es/>



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1 Introduction

After the submission of an observing proposal (often referred as “Phase 1” of the observing process at any major observatory), the PI who has been awarded time will have to describe the correct way to carry out the observations. Observations, at the Observatorio Astrofisico de Javalambre (OAJ), have to be described through a dedicated software. This manual describes how to install and use the “OAJ Phase 2 Tool” and how to send “OBs” to the observatory. The deadline for submission of the OBs is 15 days before the beginning of the semester. Waivers (see Sec.10) must be requested at least 48 hours before this limit. OBs for ToOs must also be submitted by this deadline (for details about this type of proposals, see Sec.9). Hence:

- Semester A: deadline for Phase 2 submission 16 December (deadline for waivers 14 December)
- Semester B: deadline for Phase 2 submission 15 June (deadline for waivers 13 June)

The person in charge of filling the “Phase 2” is the “Contact Person” specified in the proposal.

Observations will only be executed after validation of the Phase 2 by the OAJ personnel.

2 Installing and Executing the OAJ Phase 2 Tool

The OAJ Phase 2 Tool is a Java executable (`.jar` extension) which can be downloaded from:

<https://oajweb.cefca.es>

In order to execute the program, the user must have Java Version 8 or newer.

The program can be executed with:

```
java -jar oaj-phase2-tool.jar
```

In Mac OS/X, it also works by double-clicking the icon in Finder.

3 Retrieving the Awarded Observing Time

Once the program has been started, it will be mostly empty, like in Fig.1.

The user should now retrieve the programs for which he/she has been awarded time (and how much time he/she has finally been allocated). In order to do this, click on “Proposals” and then “Get My Proposals”. A dialogue will open asking for username and password (these are the same username and password used to submit the proposals through the OAJ web-interface). This is shown in Fig.2 (upper panel).

The main window of the Phase 2 Tool will now show the different proposals awarded, on which telescope/instrument and how much time has been allocated to the project and it should look like Fig.2 (lower panel).

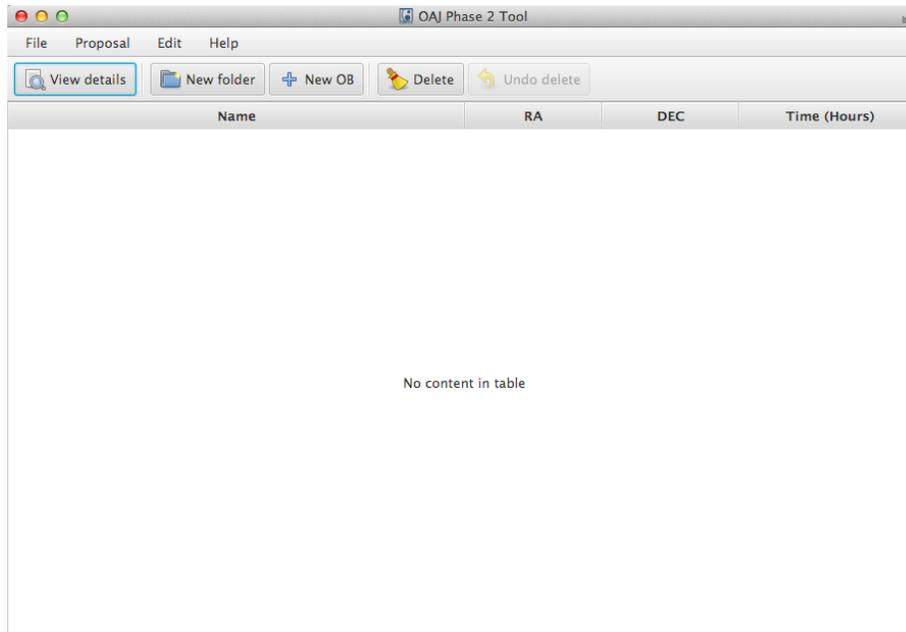


Figure 1: How the Phase2 Tool looks like when starting up for the first time.

3.1 Retrieving Targets from Proposals

From “Proposal” \Rightarrow “Get Instrument pointings in proposal”, it is possible to download the pointings and exposure times specified in the proposal. This will create a series of pre-compiled OBs.

4 Preparing an Observing Block

Let us assume that our proposal is about observing M31 and M86. Moreover, we want to observe M31 twice (two epochs separated by 15 days). Let us assume that this is the “First Proposal” in the test shown above.

One thing that a user can do, to keep the OBs clearly separated is to create different folders for the two observations. A folder is created by right clicking on the telescope’s icon, as shown in Fig.3.

In the same way, one can create an empty “Observing Block” (see, again, Fig.3). In case one wants to create an OB in a folder, one should simply right-click the name of the folder where he/she wants to create the OB (see upper panel of Fig.4).

One can see how an empty OB looks like in the bottom panel of Fig.4. Before filling the part related with the exposures in the different filters, one should include:

- a “name” for the OB
- specify if the observations are to be executed in “queue mode” or in “target of opportunity mode” (for more details about the latter, see Sec. 9)
- the name of the object (which will be reflected in the OBJECT header keyword)

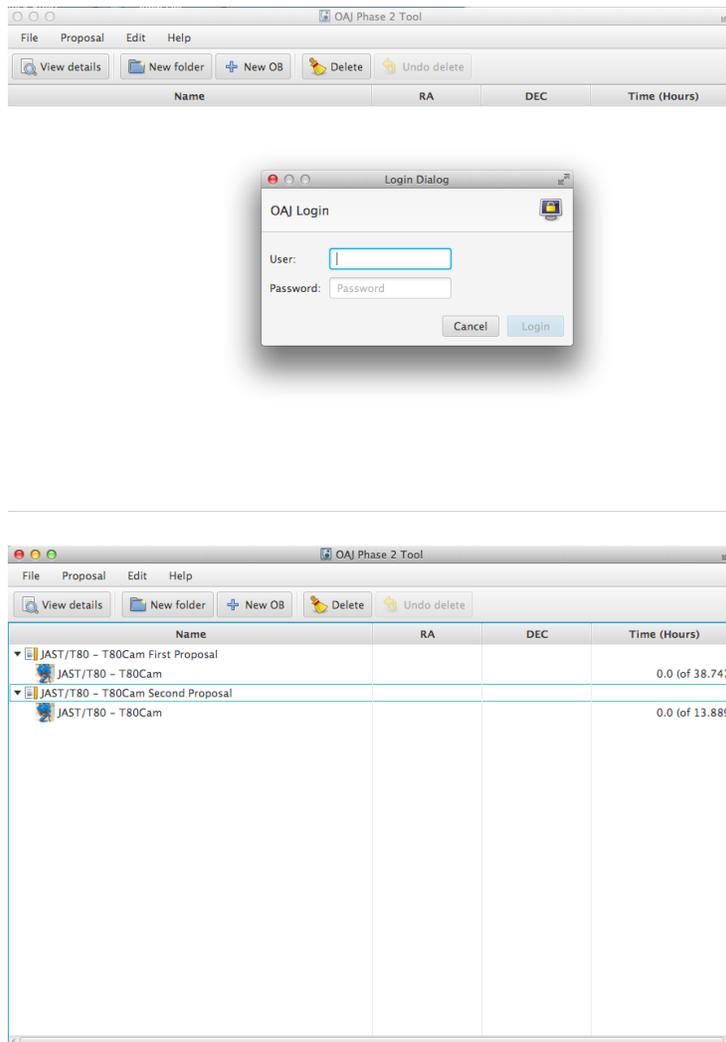


Figure 2: Upper panel shows the Phase2 Tool requesting the username and password to the user. The bottom panel shows the downloaded proposals for this user.

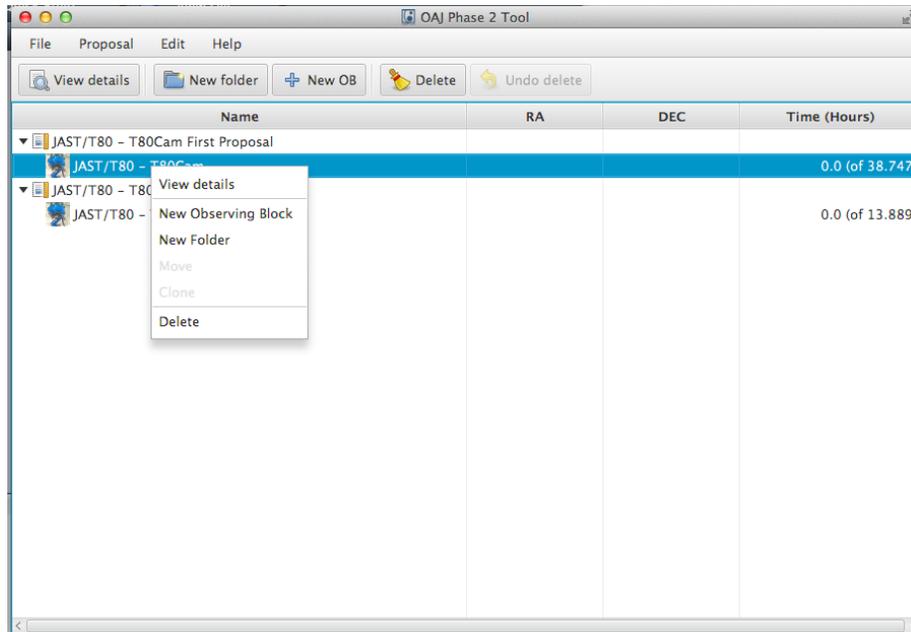


Figure 3: The drop-down menu which allows to create a new folder also allows to create a new OB.

- the coordinates (right ascension and declination) for the object and the relative epoch
- the priority of the OB, ranging from 1 (maximum) to 10 (minimum).

In short, the “name” of the OB can be very useful for visualisation (e.g. assuming that our observation of M31 must be executed in two different times but the second time one only wants to observe with a subset of filters, one can call a first OB “M31.a” and the second “M31.b”). The name of the target is the one that will then be added to the header. It can be useful to use the magnifying glass next to the name; by connecting to Simbad ¹, the OAJ Phase 2 Tool tries to obtain the coordinates of the target. In case the magnifying glass does not manage to get the coordinates of the target (and even if so, it is recommended to check that the pointing is the desired one), the user should fill the corresponding fields.

In order to add one exposure, just click on the “New Exposure” button. This will create a new line and the user can modify:

- the exposure time (always given in seconds)
- the number of exposures

¹<http://simbad.u-strasbg.fr/simbad/>

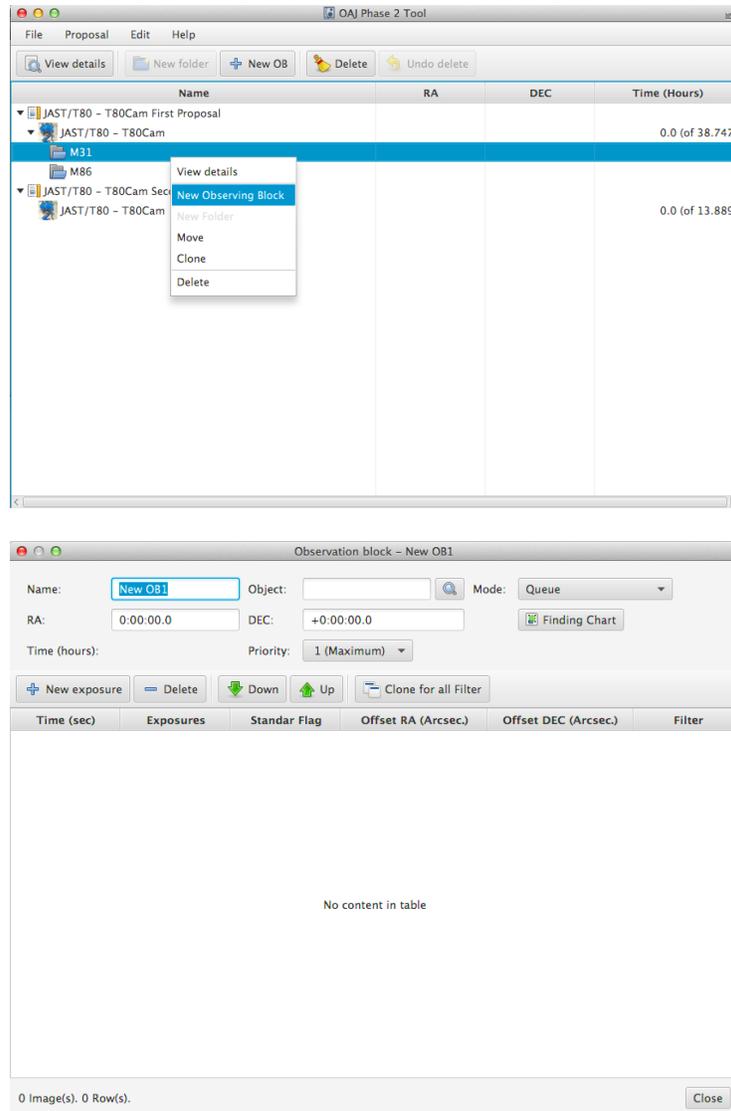


Figure 4: The upper panel shows the drop-down menu which can be used to create an OB and the bottom panel shows an empty OB.

- a flag (important for the data reduction) if the observation is a scientific target or a standard star
- offsets in right ascension and declination (in arcseconds)
- the filter in which a user wishes to observe (selected from a drop-down

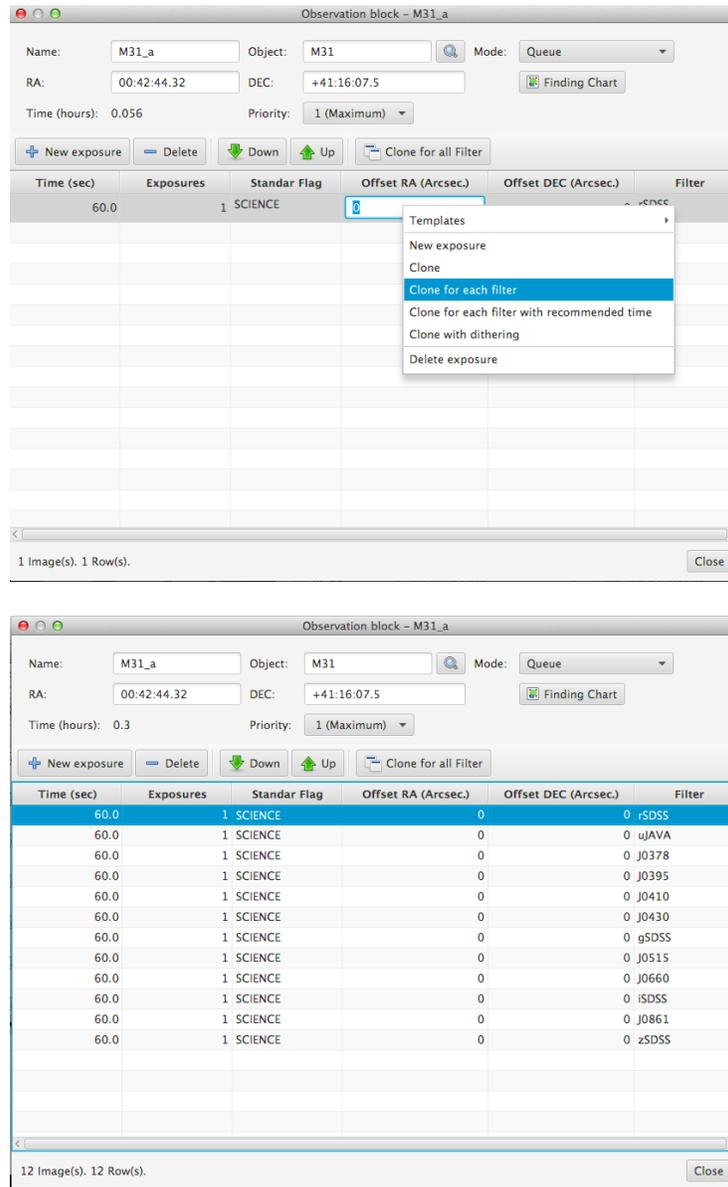


Figure 6: The upper panel shows how to access the “Clone For All Filters” command while the bottom panel shows the result.

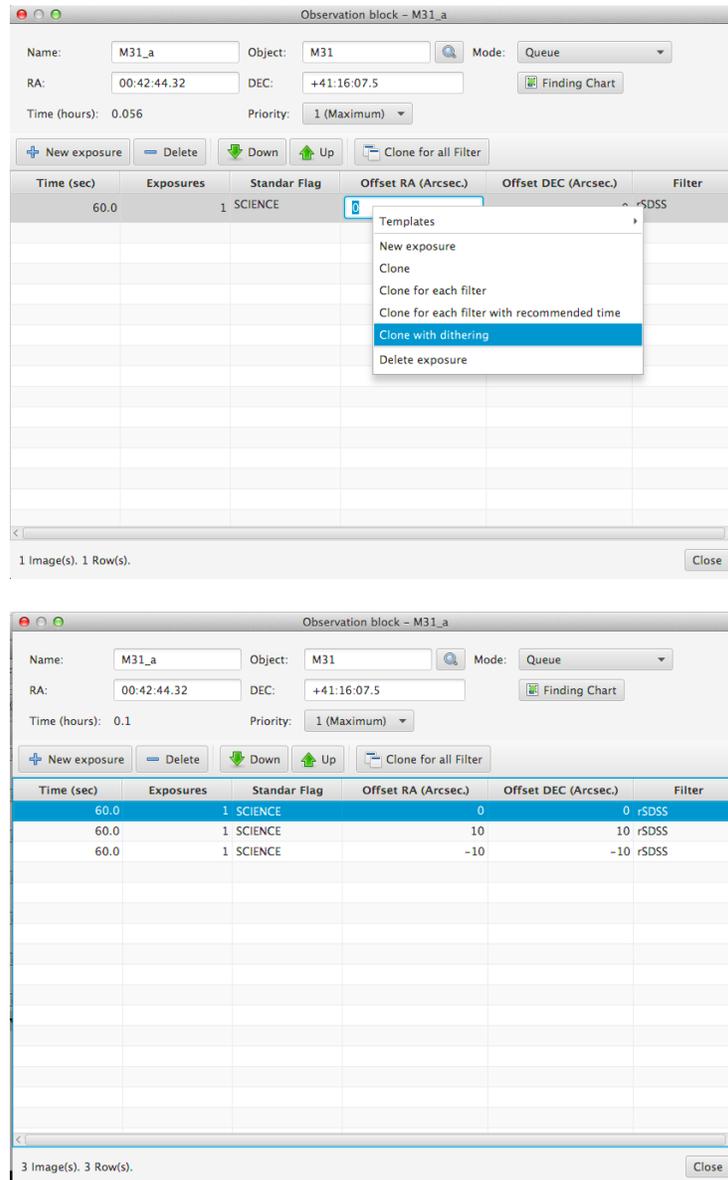


Figure 7: Similarly to Fig.6, the upper panel shows the command and the lower panel shows its result.

4.3 Using the J-PLUS Template

Assuming that one may want to observe one field with the same strategy of J-PLUS, one can create an OB (like, in this case, M86.a) and then select “Tem-

plate”. Two templates are available:

- “A”: three dithered exposures in each of the 12 J-PLUS exposures, mimicking the current exposure times and filter sequence
- “B”: three dithered exposures in g and r only

5 The Finding Chart

To attach a finding chart to an OB, the user has to click on the “finding chart” button in the main panel of the OB (right under the box with the declination of the pointing). This will open a window where one can:

- select “open file” and attach a file
- select “capture” which will open an Aladin-Lite interface, centred at the selected pointing and with the field of view of the instrument for which one is creating the OB.

6 Replicating an OB for a List of Targets

Assuming that a user wants to carry out the same observation over many different targets, instead of copying several times the OB and modifying the coordinates, one can:

- select an OB
- select “Edit” \Rightarrow “Clone from Positions in CSV file”
- select a CSV file

The CSV file must carry the right ascension, declination and name of the object.

E.g.:

00:42:44.3,41:16:07.5,M31

03:31:12.0,43:54:15.48,GK Per

11:23:00.0,23:54:00,Coma Supercluster

7 The README

The “README” is very important as it carries a lot of information which would otherwise be hard to deliver.

In order to access the “README”, click on the telescope section of a given proposal and click on “View Details” (see Fig.9).

The README is structured in a series of self-explanatory boxes. Each of them needs:

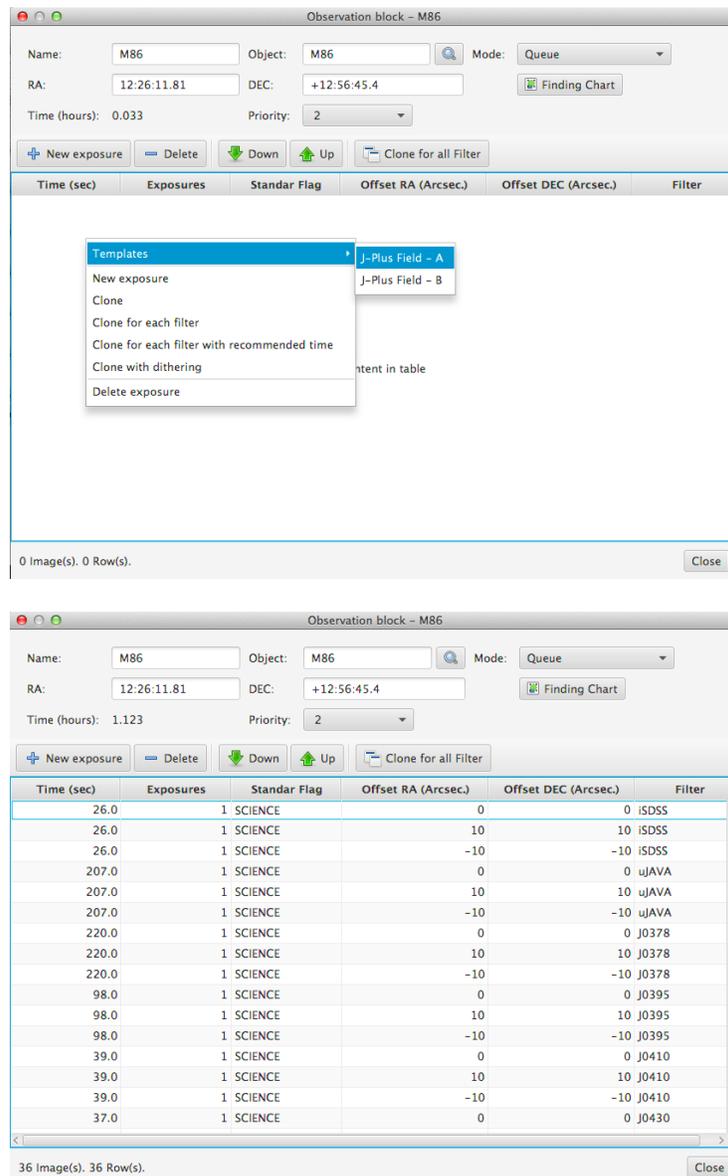


Figure 8: Example of how to access the “J-PLUS A Template”.

- “Proposal Description” is a short description of the scientific goals of the proposal
- “Critical Observing Condition Constraints” should contain a description

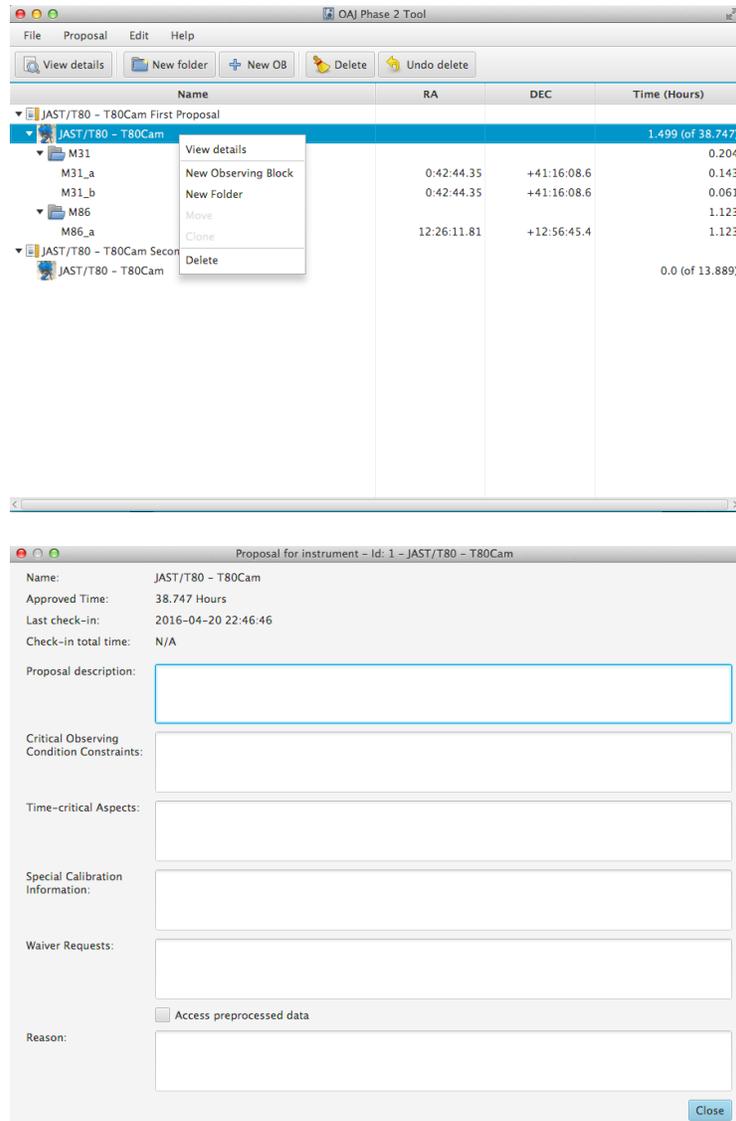


Figure 9:

of the observing conditions that are required to achieve the scientific goals of the proposal (if needed)

- “Time-critical Aspects” should explain the required scheduling constraints between OBs of a project (if applicable)
- “Special Calibration Information” should contain the description of any

required calibration which is not part of the standard calibration plan (e.g. a particular spectrophotometric star)

- “Waiver Requests” should report that a waiver has been asked and granted (see Sec.10)
- “Access preprocessed data”. “Preprocessed data” are data which are processed daily at the observatory for quick look evaluation. These data are not reduced with the optimal calibrations and, therefore, have a slightly worse photometric accuracy than the “processed” ones. Users who require access to preprocessed data (e.g. quick response in case of follow-up of variable objects) should request them using the tickbox and provide a scientific justification.

8 Submitting the OBs for a Program

Once the OBs and the README have been filled, in order to transfer the OBs to the OAJ, one needs to check them in the OAJ database.

To do so, go to “Proposal” \Rightarrow “Check-in Instrument time”. The user will be requested to select one observation and then to provide his/her username and password.

9 Targets of Opportunity

Given the nature of these observations, OBs for Targets of Opportunity (ToOs) can be submitted without specifying the coordinates. The coordinates can be added during the activation process.

10 Limitations and Waivers

The duration of an OB is limited to one hour for operational reasons. In case an observer wished to observe for more than one hour, he/she should ask for a waiver. Waiver requests must be submitted to oj-support@cefca.es with a scientific justification. In case a waiver is granted, it should be reported in the README (see Section 7).

11 Working Offline

It is possible to save a session (“File” \Rightarrow “Save” or “Save as”). The saved file has extension “.oj”.

It is possible to resume work offline at anytime by loading (“File” \Rightarrow “Load”) a saved “.oj” file.

It is important that only the “Contact person” specified in the proposal can check-in the OBs to the OAJ.

12 FAQ: Frequently Asked Questions

In case of technical incident, where should I ask? Please, in case of incident, contact as at oaj-support_at_cefca.es .