

CHIRON Queue Instructions

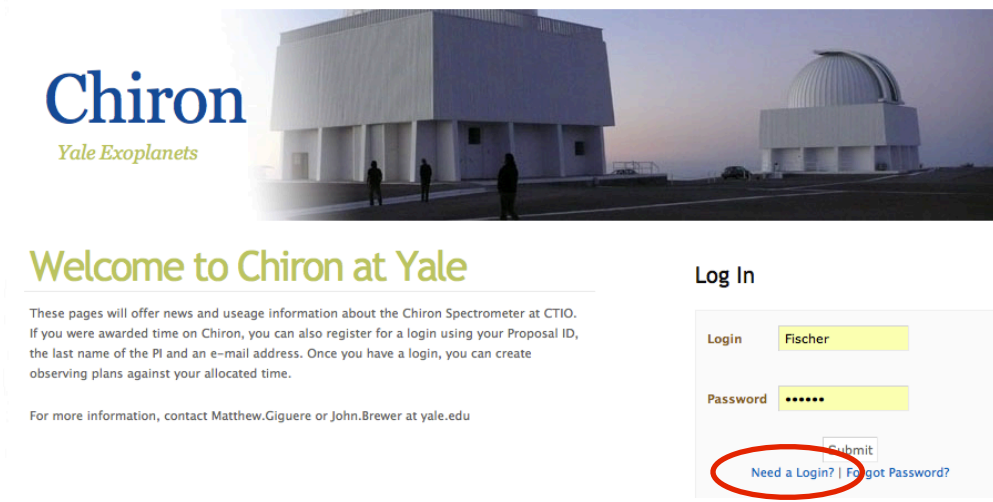


Figure 1. The home screen of chiron.astro.yale.edu.

The CHIRON Queue is managed through the website chiron.astro.yale.edu. If you have assigned time this semester, you can upload your targets and download your data after it has been observed from this site.

Logging in

If you have used CHIRON in a previous semester, you can use your login name and password from that previous semester. If this is your first semester using CHIRON, you will need to create a login name and password. To create a login name and password, click the “Need a Login?” link below the “Password” field (circled in red in **Fig 1**). You will need to have the *PI last name*, your *email address*, and *proposal ID*. You should have received an email listing your proposal ID, or you can access that information from the SMARTS 1.5m schedule at: <http://www.astro.yale.edu/smarts/schedules/sched15m2012a.txt>

Uploading your targets

Log in to chiron.astro.yale.edu and click the submit button on the login screen brings you directly to the “Edit Plan” page (**Fig 2, left**) if this is your first plan for the semester. If you would like to create additional plans, clicking the “Schedule” link in the top navigation bar will bring you to the “Schedule” page (**Fig 2, right**). Once there, click the “(+)add plan” link and a window will pop up allowing you to create and name your new plan.

What is a Plan?

A plan is a list that contains targets or calibrations that you want to observe. The targets within your plan will be scheduled over many nights along with the objects of all the other CHIRON Queue observers to reduce the impact of lost time due to bad weather or mechanical problems. It is not necessary to create multiple plans. The ability to create multiple plans is simply an option to help you organize your time if you prefer to do so.

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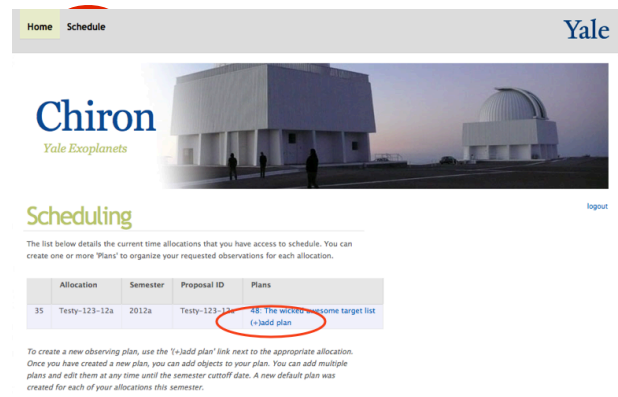
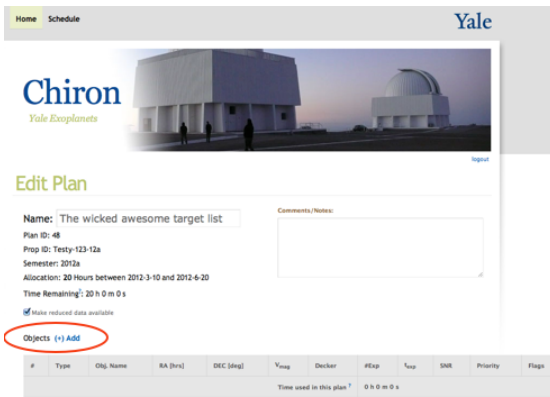


Figure 2. (left) Edit Plan: upload targets here and check the status of observations. (right) from the top navigation bar, “Schedule” links to a page where you can specify your observing plan.

Adding Objects

To add objects to your plan, start on the “Edit Plan” page (Fig 2) and click the “Objects (+) Add” link to bring up the “ADD New Object” window (Fig 3).

Enter information pertaining to your target:

- the plan name
- select science vs calibration
- J2000 epoch coordinates
- V magnitude
- observing mode “Decker” drop-down menu ¹
- iodine cell (optional - for precision RV)
- the number of exposures
- maximum exposure time ²
- SNR (optional) ³
- preferred cycle for observations ⁴
- request automatic pipeline reduction
- comment/link to finder chart

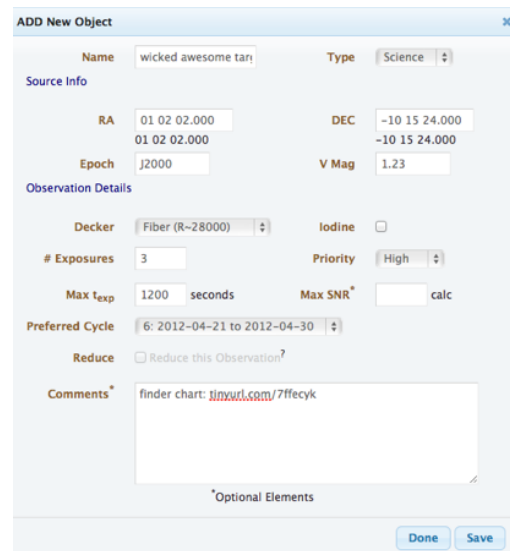


Figure 3. ADD New Object window

¹ For more information on the observing modes (e.g. resolution), see the official CHIRON instrument page at: <http://www.ctio.noao.edu/noao/content/chiron>

² Set the number of exposures and the maximum exposure time for each of the exposures to achieve your desired SNR. For example, if you are observing a star that saturates the CCD in 1200 seconds, but you want a higher SNR, you could enter “# Exposures ”=3 and “Max t_exp”=1200 seconds to take 3x1200 second consecutive exposures, for a total time on your target of 3600 seconds in one pointing.

³ If you have a desired maximum signal-to-noise ratio you would like for your target, you can enter it in the “Max SNR” field seen in **Figure 4**. This will stop the exposure at whichever comes first, the “Max t_exp” or the “Max SNR”. The SNR is calculated per Å at 5500 Å. Leaving the “Max SNR” field blank will mean your exposure will be stopped when the “Max t_exp” is reached.

⁴ CHIRON is now being scheduled in what are referred to as “cycles”. If you select a cycle, we will do our best to observe the target at that time. If you do not select a preferred cycle, your target will be observed whenever it is most convenient during the semester.

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ADD New Object

Name: ThAr Type: ThAr

Attach To: 1: wicked awesome target 1 After: --- Science Observation ---

Daytime OK

Observation Details

Decker: Fiber (R~28000) Iodine:

Exposures: 3 Priority: High

Max t_{exp} : 0.25 seconds Max SNR*: calc

Reduce: Reduce this Observation?

Comments*

*Optional Elements

Done Save

Figure 4. Attaching calibrations or standard star requests to your targets

Standards and Calibrations

If you would like a standard star, thorium argon (ThAr) exposure for wavelength calibration, or another form of calibration, first create a science target as outline above. Once your science target has been created, you can then link a standard star, ThAr, or other calibration request to your science target. This can be done by changing the “Type” at the top right of **Figure 4**. Once the “Type” has been changed, an “Attach To” pop down menu appears. Using this, you can select the observation you would like to take your calibration with, and request to have the calibration taken “Before” or “After” your science observation. Only science observations are listed in the “Attach To” pop-down menu. If you would like a ThAr to be taken before a standard star observation, first attach the standard star request to the science observation, then create a ThAr object and attach it to the science observation; in the rightmost “--- Science Observation ---” pop-down menu, you will have the option to attach your ThAr before or after the standard star.

Note: ThAr exposures are auto-set to the optimal time for each of the 4 modes.

New Feature: Once you have created a package containing observations with calibrations attached to it, you can now click the box icon to the left of your package to duplicate the entire entry. When you mouse over any icon in an Object row on the “Edit Plan” page a pop-up information box will appear describing what clicking that icon will do.

Daytime Calibrations


There are a number of standard calibrations taken at the beginning and end of the night that you do not need to request; these are available for download for every night you have observations. At both the beginning and end of the night, for each of the 4 modes the following calibrations are obtained:

- one ThAr exposure for wavelength calibration
- 15 quartz exposures for flat fielding
- 15 bias frames in the 4x4 binning mode with normal readout speed (fiber mode)
- 15 bias frames in 3x1 binning mode with fast readout speed (other 3 modes)
- 5 dark frames for 12, 30, 37 and 90 s exposure times (all with 3x1 binning, fast r/o)

If you would like additional day or night calibrations, they can be requested and attached to science observations in the usual way, by changing the “Type” from the pop-down menu located in the top right corner of the “ADD New Object” window (**Fig 4**). If it is acceptable to take these extra calibrations during the day, click the box in front of the “Daytime OK” text seen near the top right of the “ADD New Object” window (**Fig 4**) to save night observing time.

Object Status and Downloading Your Observations

Once the observing semester has commenced, you will start to see flags appear in the right-hand column (**Fig 5**). A dialog box will appear describing each flag and providing dates when you mouse over them:

- R: you requested that we reduce your data for you after your target has been observed.
- S: the target has been scheduled; mousing over this flag shows the scheduled date.
- O: the target has been observed; mousing over this flag shows the observation date.
- W: poor weather prevented observation of your target. Since CHIRON is over-subscribed, objects flagged with a “W” will not be observed at a later date.
-  download icon; clicking this icon, or scrolling down the “Edit Plan” page, goes to the “Download” section, where you will find a link to download your data.

| Decker | #Exp | t _{exp} | SNR | Priority | Flags |
|--------|------|------------------|-----|----------|---|
| Slicer | 1 | 4.00 | - | High | R, O,  |
| Slicer | 1 | 720.00 | - | High | R, O,  ,  |
| Slicer | 1 | 4.00 | - | High | R, O,  |
| Slicer | 1 | 600.00 | - | High | R, O,  |
| Slicer | 1 | 4.00 | - | High | R, W |
| Slicer | 1 | 600.00 | - | High | R, W |

Figure 5. Object status on the “Edit Plan” page