Carleton SRT User Manual

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Logging In

You must enter a username and password to access the website. There are two accounts, normal and admin. Normal users, like students and other members of the public, should log in using the normal account. Normal users have the following privileges:

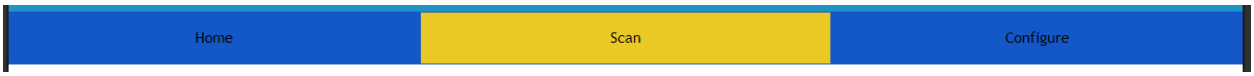
- Viewing the telescope's current position and status.
- Submitting, cancelling, and downloading scans.
- Viewing the telescope's configuration data.
- Viewing the list of sources in the telescope's database.

Admin users should log in using the normal user account unless they need to perform any admin-specific actions. Faculty and system administrators are examples of admin users. The admin account has the following additional privileges:

- Changing the telescope's configuration data.
- Deleting scans from the database.
- Adding and removing sources from the telescope's list of sources.

Navigation Menu

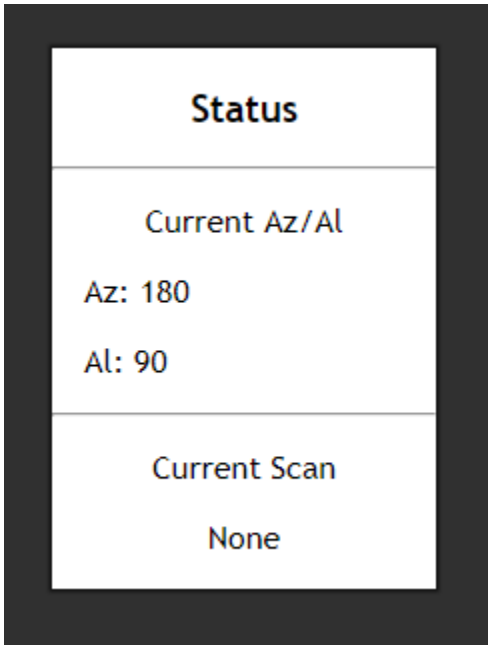
You can use the navigation menu, located near the top of the page, to view information about the telescope and access its various controls.



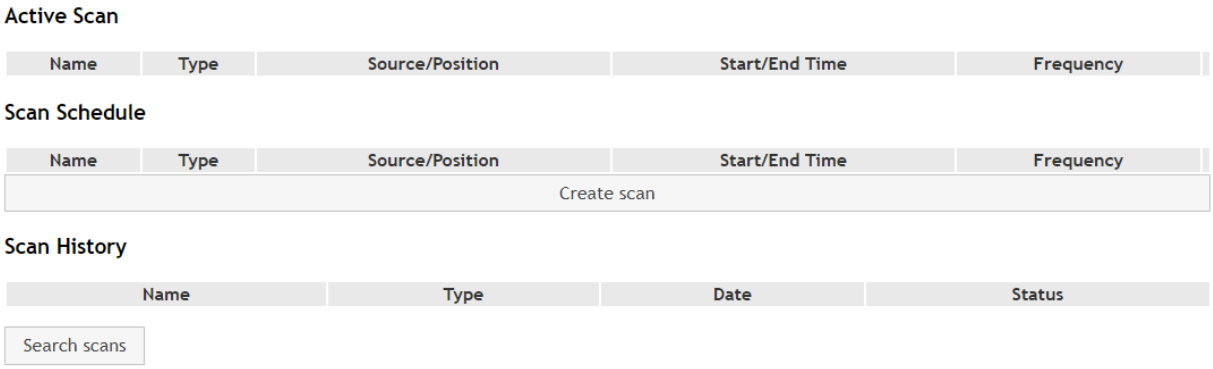
- The home tab contains the website's home page, with a basic description of the telescope.
- The scan tab contains controls for submitting, cancelling, and downloading scans. You can also view the current scan schedule and any active scan.
- The configure tab contains controls for changing the telescope's configuration data and list of sources. You can also view the data and source lists.

Status Sidebar

The status sidebar displays some basic information about the current state of the telescope. It displays the telescope's current azimuth and altitude in degrees, as well as information about any currently running scan.



Scan – Layout

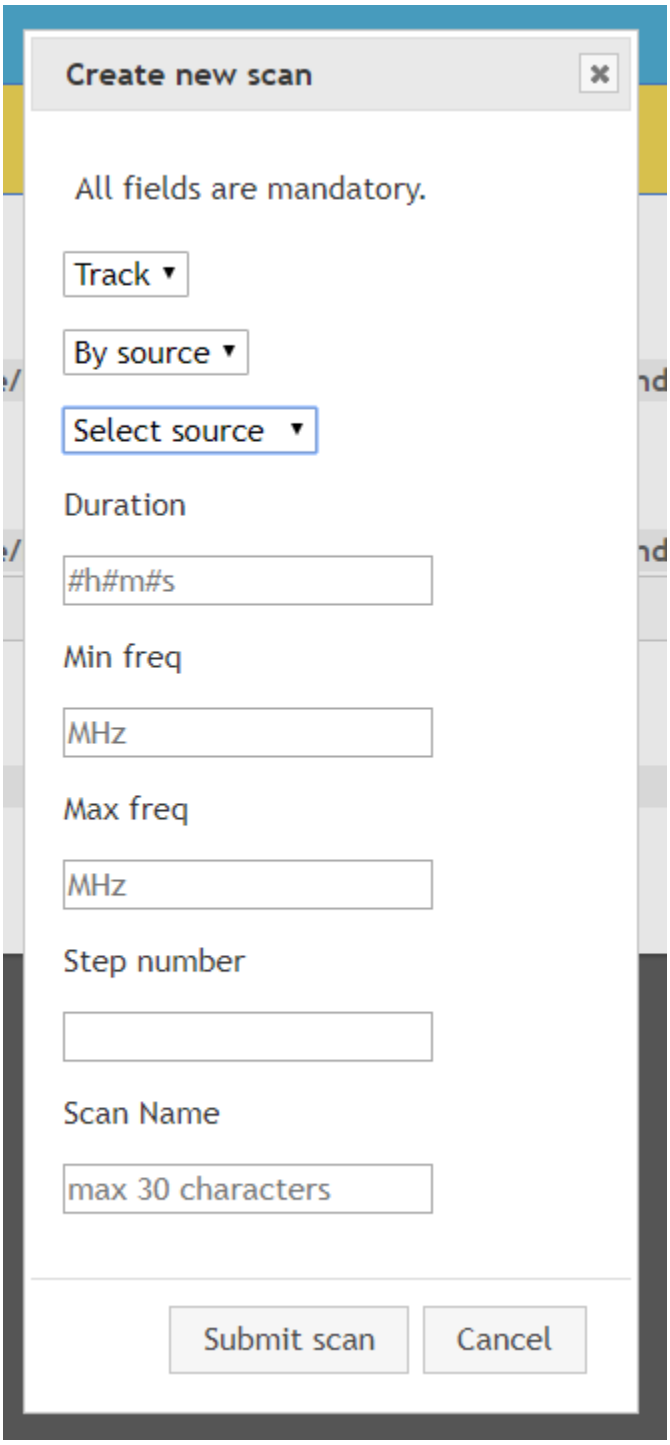


The scan page is divided into four main parts:

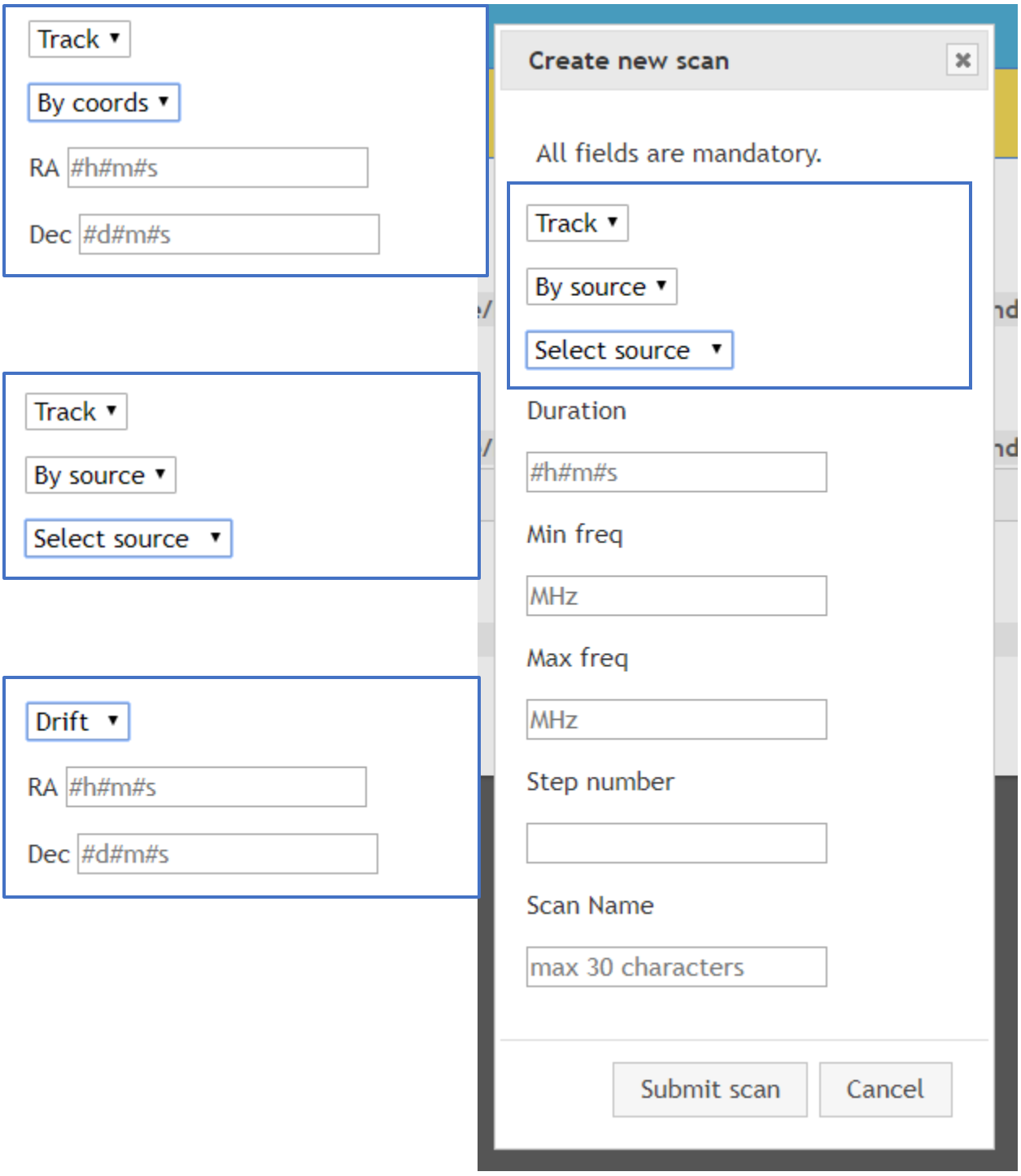
- The active scan and scan schedule, at the top. These tables give information on any currently-running scan and scans that have been scheduled to run, respectively.
- The scan creation window, opened with the ‘Create scan’ button. This window is used to create and submit a scan to be scheduled by the server.
- The scan history, immediately below the schedule. This table gives information about scans that have finished running, were cancelled, or failed to either run or be scheduled due to errors.
- The scan search window, opened with the ‘Search scans’ button. This window is used to search for and download the FITS data files produced by scans.

Scan – Creating a Scan

To create a new scan, click the ‘Create scan’ button beneath the scan schedule. This opens the scan creation window, shown to the right. The first three selection menus give options for choosing the type of scan and the source or coordinates for the scan. The following fields are for entering the duration (in hours, minutes, and seconds), the frequency range bounds (in MHz), number of steps to take in the frequency range, and name of the scan.



The different types of scans are tracking by coordinates, tracking by a named source, and drifting at set coordinates. Tracking scans update the telescope’s position throughout the scan to track the position of the given coordinates or the coordinates of a named source. Drifting scans set the telescope at a fixed position and take measurements as the sky drifts across that position.

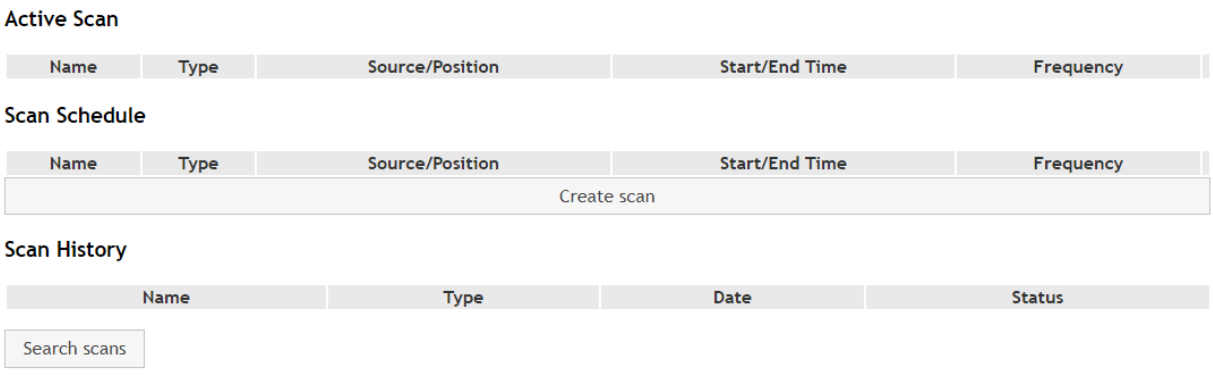

Track
By coords
RA #h#m#s
Dec #d#m#s
Track
By source
Select source
Drift
RA #h#m#s
Dec #d#m#s
Create new scan
All fields are mandatory.
Track
By source
Select source
Duration
#h#m#s
Min freq
MHz
Max freq
MHz
Step number
Scan Name
max 30 characters
Submit scan
Cancel

Coordinates are in right ascension (RA) and declination (Dec). RA is entered in hours, minutes, and seconds in a string with no spaces. Dec is entered in degrees, minutes, and seconds, again in a string with no spaces. Examples are the strings “16h14m30s” or “23d50m0s”. Duration is entered using a similarly formatted string.

After entering all fields in the form, click “Submit scan” to send the scan to the server for scheduling.

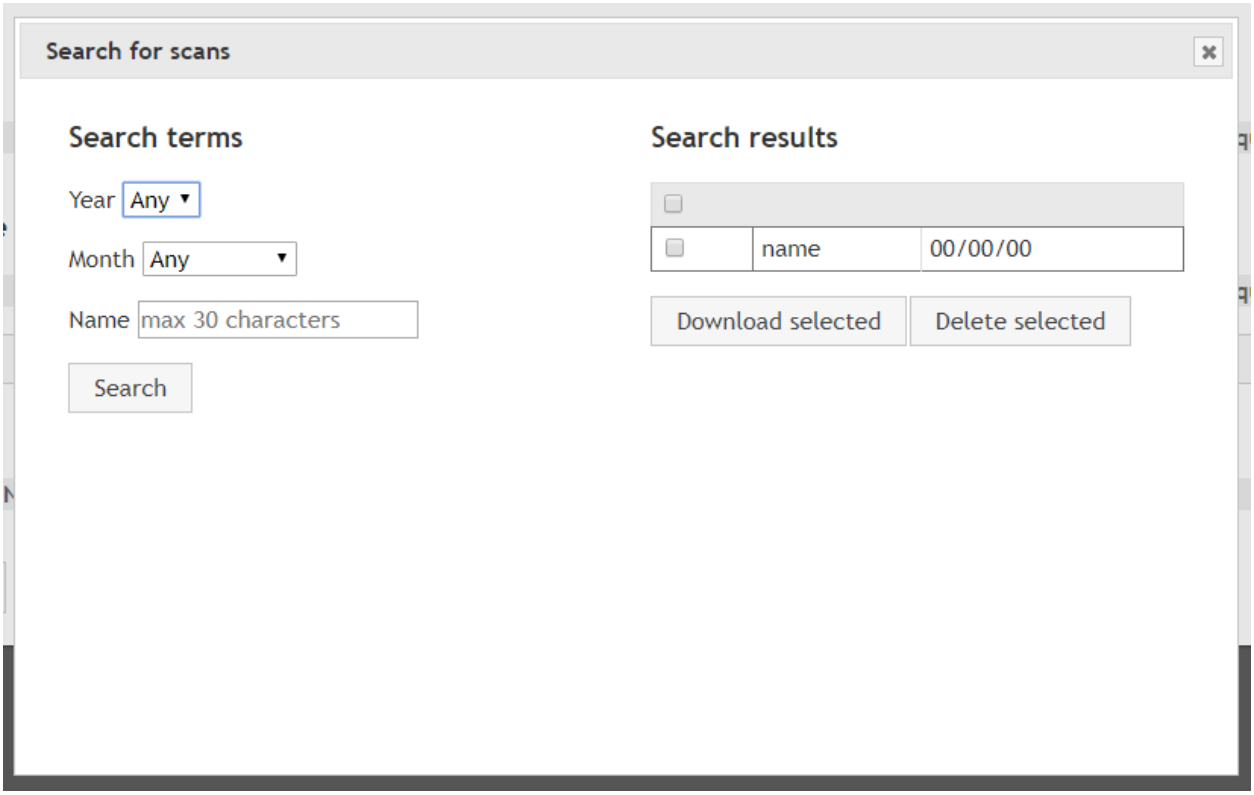
Scan – Cancelling a Scan

To cancel a scan, for any reason, simply click the “x” button on the right side of the scan’s table entry. Cancelling a scan that is active will end it early and store the data it has collected so far. Cancelling a scan that is scheduled but not running will simply remove it from the schedule. Cancelled scans will appear in the scan history, labelled as “cancelled.”



Scan – Searching and Downloading Scans

To access the data collected from scans, you must search for the scan in the server's database. To do so, click on the "Search scans" button beneath the scan history list. This will bring up a search box. Scans can be search for by year, month, and name. Any scan(s) matching

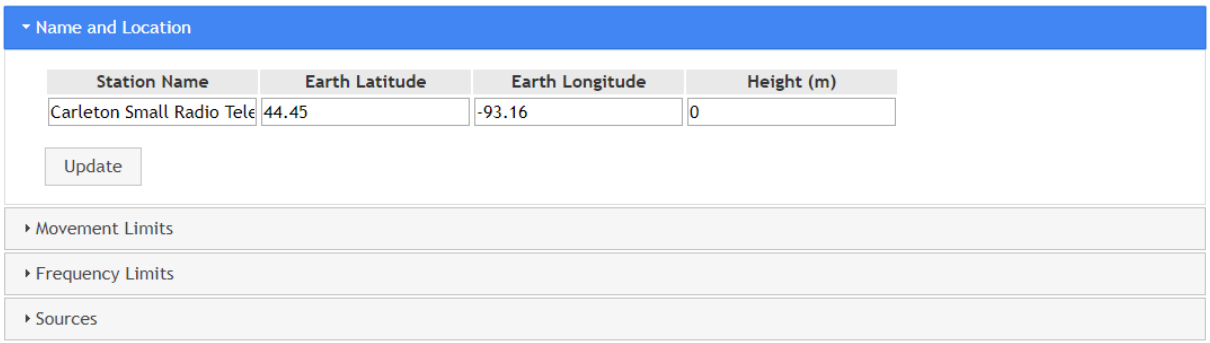


the search criteria will appear in the search results table with its name and date. After selecting scans with the check boxes on the left (all check boxes can be ticked or unticked with the topmost box), clicking "Download selected" will download the FITS files for those scans in a zip file. Admins have access to the "Delete selected" option, which deletes the FITS files of the selected scans from the server's database. Be sure to download any files you want to keep before deleting them, as they are not recoverable after deleting.

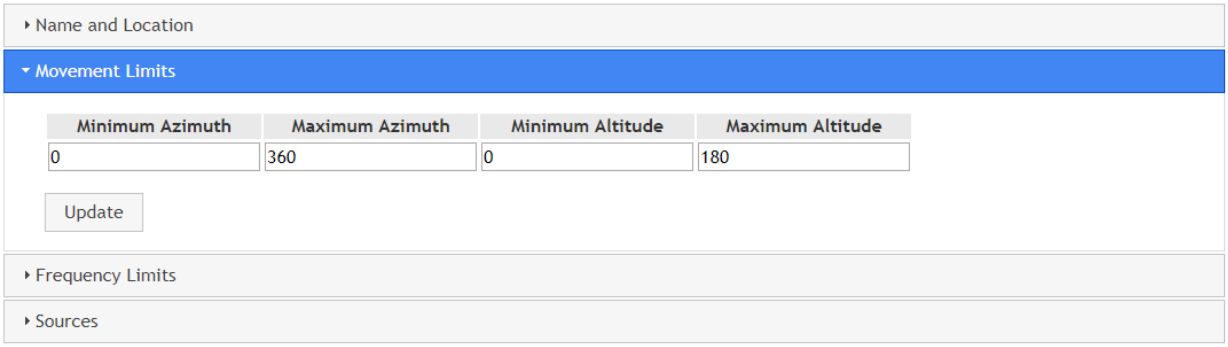
Config

The config page has four tabs for viewing and changing telescope and source data.

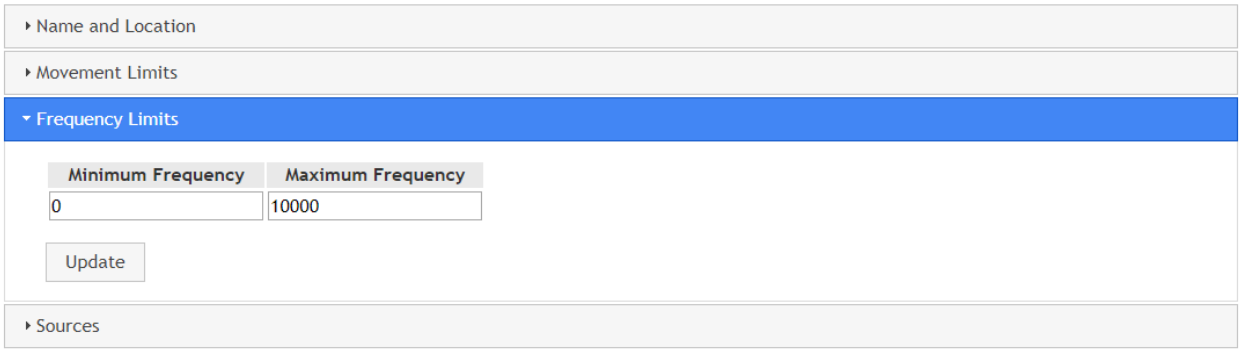
1. The Name and Location tab contains the telescope's name as well as its position information.



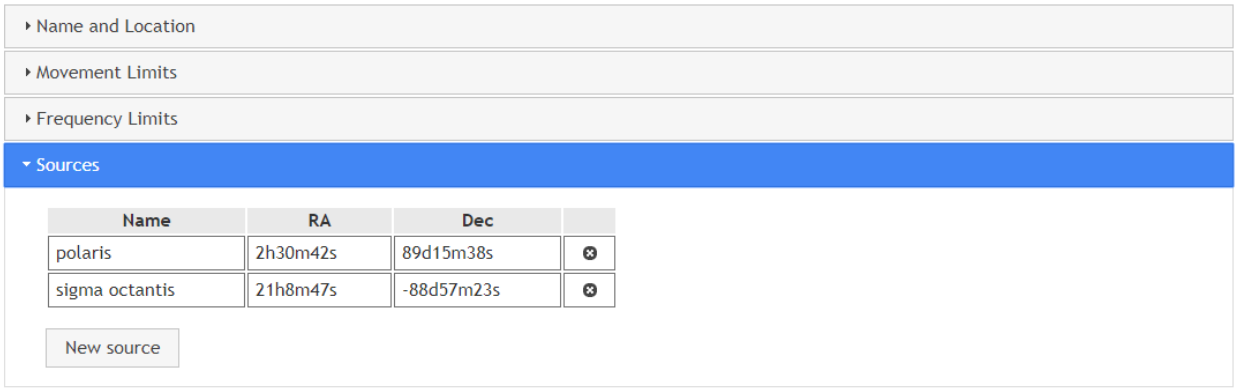
2. The Movement Limits tab contains the minimum and maximum bounds for the telescope's position in azimuth and altitude.



3. The Frequency Limits tab contains the minimum and maximum bounds for frequencies the telescope can scan.



4. The Sources tab contains the list of sources in the telescope's database along with controls for adding and removing sources.

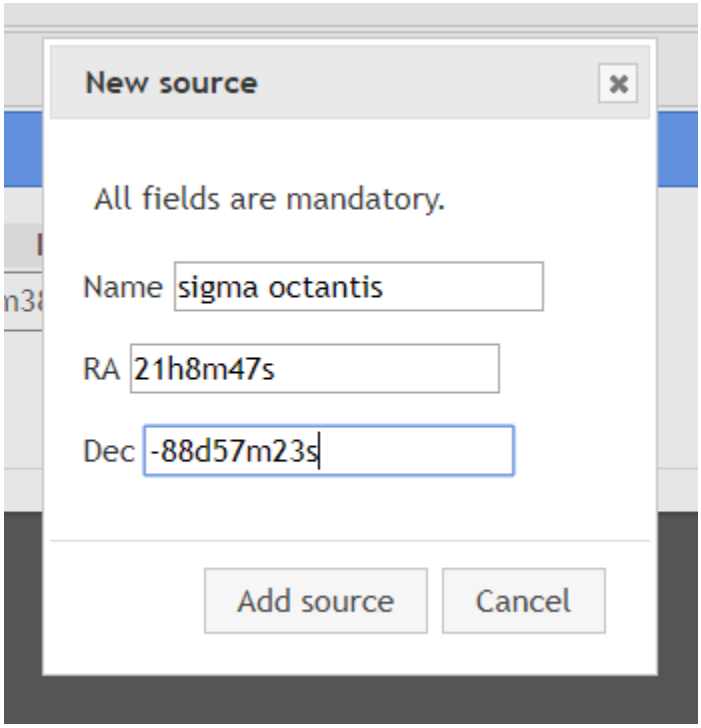


Config – Updating Values

To update the value of any field in the first three tabs of the config page, simply rewrite the value in the box and click "Update." The values in all the boxes of that tab will be sent to the server and stored as the new values for those fields.

Config – Sources

To add a new source to the telescope's database, click on "New source." This will bring up a window for specifying the source's name and position in RA and Dec. The position fields follow the same pattern as other RA/Dec position fields on the website. Additionally, every source's name must be unique; when adding a source with the same name as one already in the database, the server will instead update that source to the newly specified coordinates. After entering the source's name and position, click "Add source" to send the information to the server. Once the server has processed the new source, it will appear on the list of sources.



To remove a source, simply click on the "x" button for that source and the server will remove it from the database. Keep in mind that there is no way to recover the source after deleting it; you will have to manually re-enter the information if you want the source in the database again.