Source Catalog Tool

This presentation is an introduction to the EVLA SSS Group's Source Catalog Tool (SCT).

This presentation is geared toward those users who are helping us modify the tool to make it useful to the observing community.

By the time we have implemented the suggestions of those users, much of this presentation is expected to be out of date.

Purposes of SCT

Allow Observers To

- Create and maintain personal catalog(s) of target and calibrator sources.
- View and copy sources from standard calibrator catalogs.
- Share catalog(s) with other observers via text export / import.
- Select sources for use in proposals and observations.

Overview of SCT

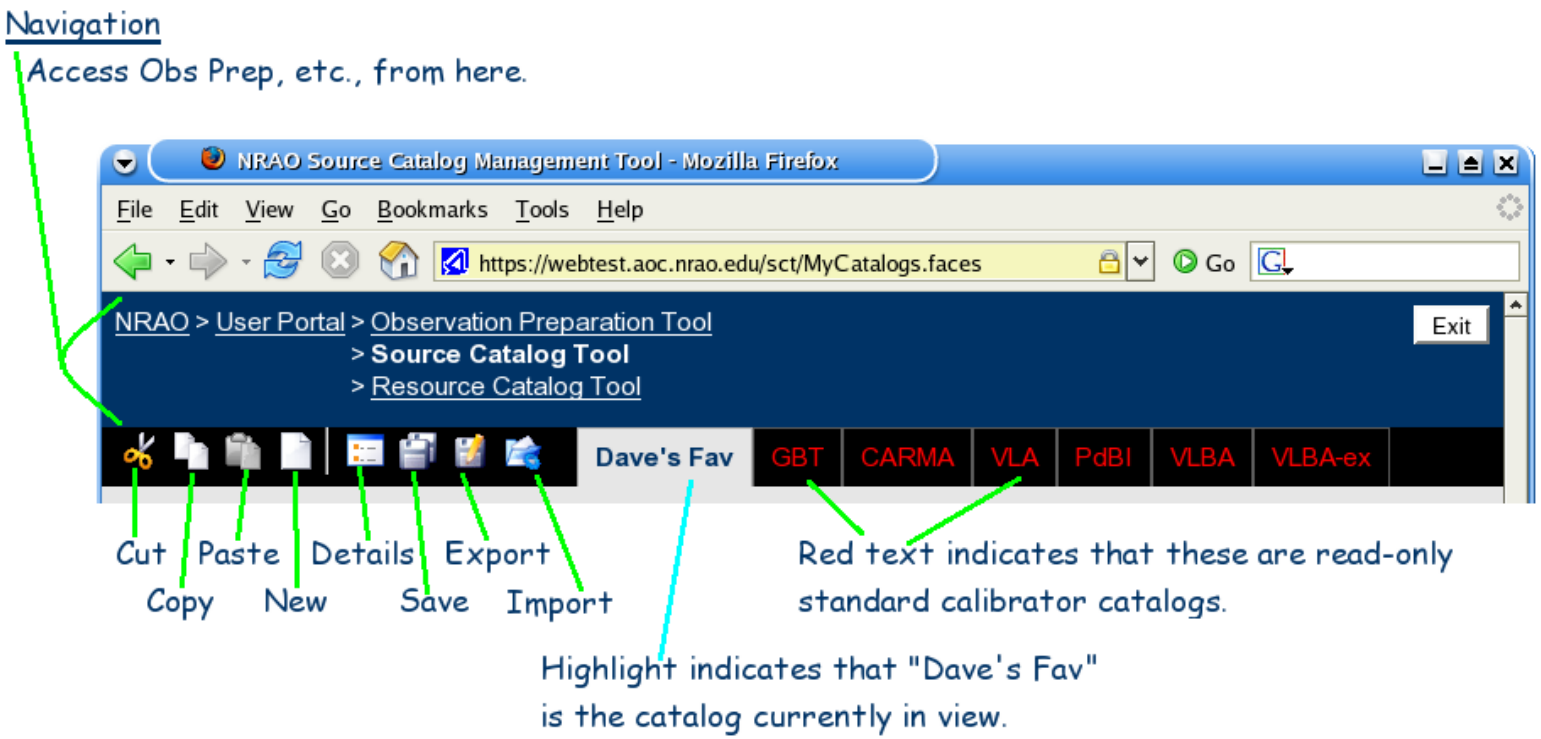
This screenshot shows the opening page for a user who has one personal catalog (Dave's Fav) and read-only access to six standard calibrator catalogs.

The next few screens will look at the various sections of this web page.

The test version is available at http://webtest.aoc.nrao.edu/sct/.

More information is available on the SSS Documentation Pages.

Top of Page



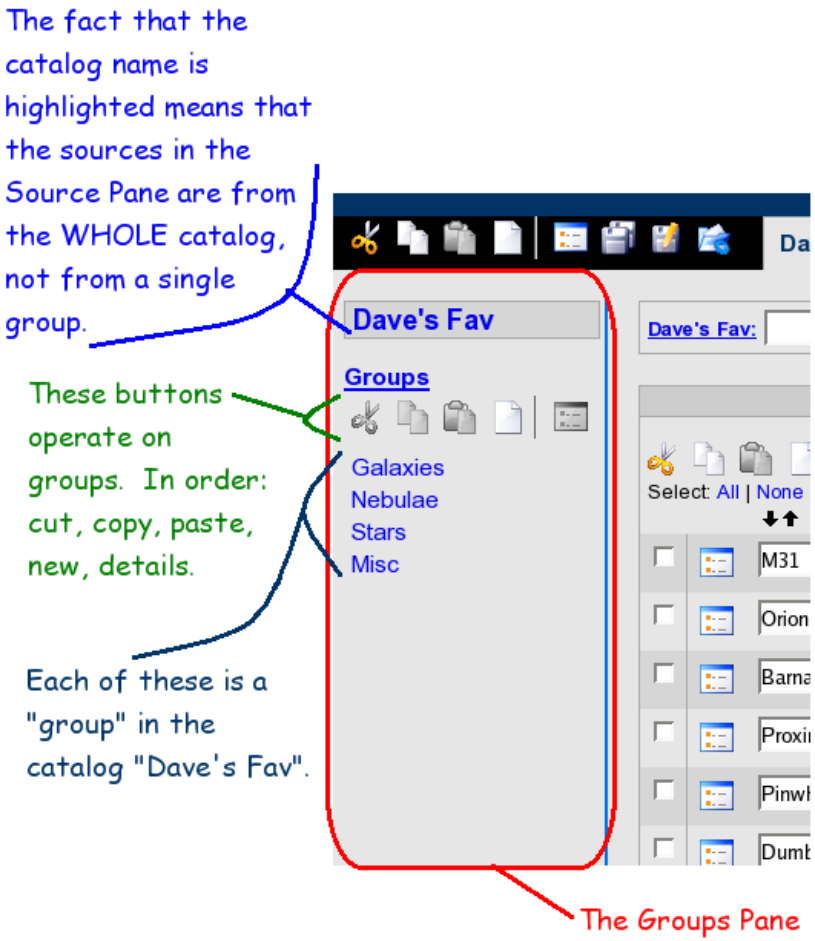
A couple of points:

- The New button at this level creates a new catalog.
- The Details button allows you to change the name of the catalog in view.

Groups Pane (1 of 2)

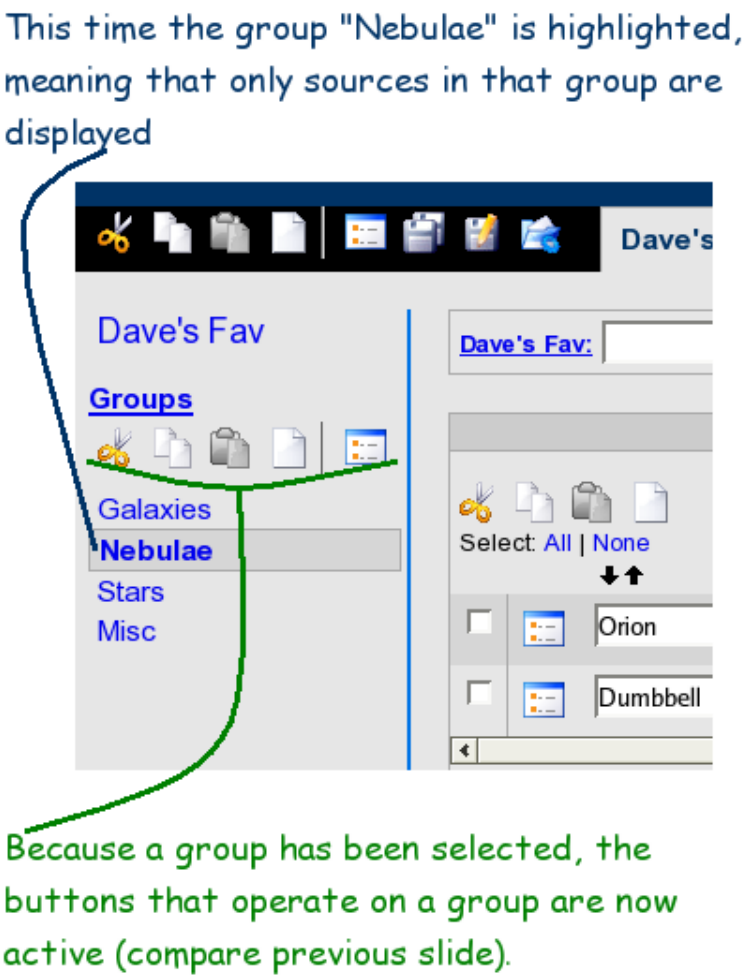
The vertical column on the left of the web page is used for creating and selecting source “groups”. A group is nothing more than a logical (to the owner of the catalog, at least) collection of sources. A given source in a catalog can belong to no groups, one group, or many groups. This particular catalog shows sources grouped by type-of-source.

In this example the whole catalog is selected, not a particular group. See the next slide for a counter example.

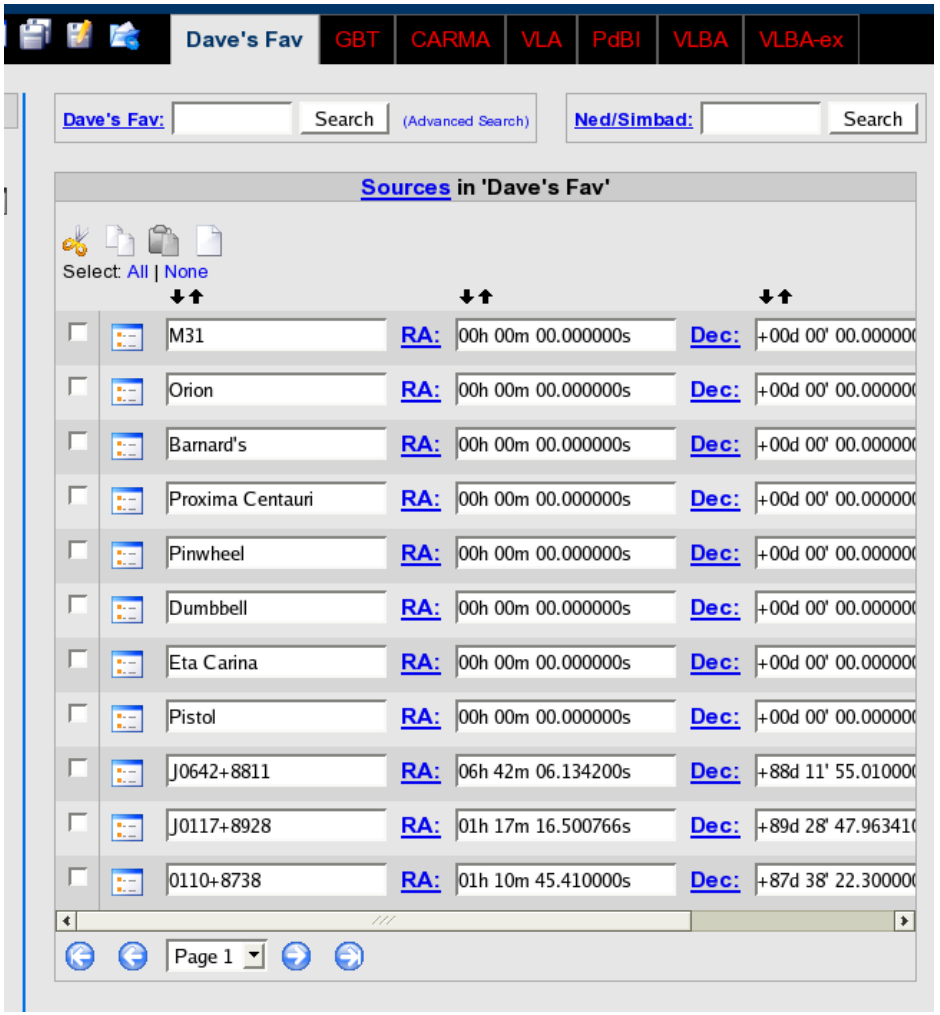


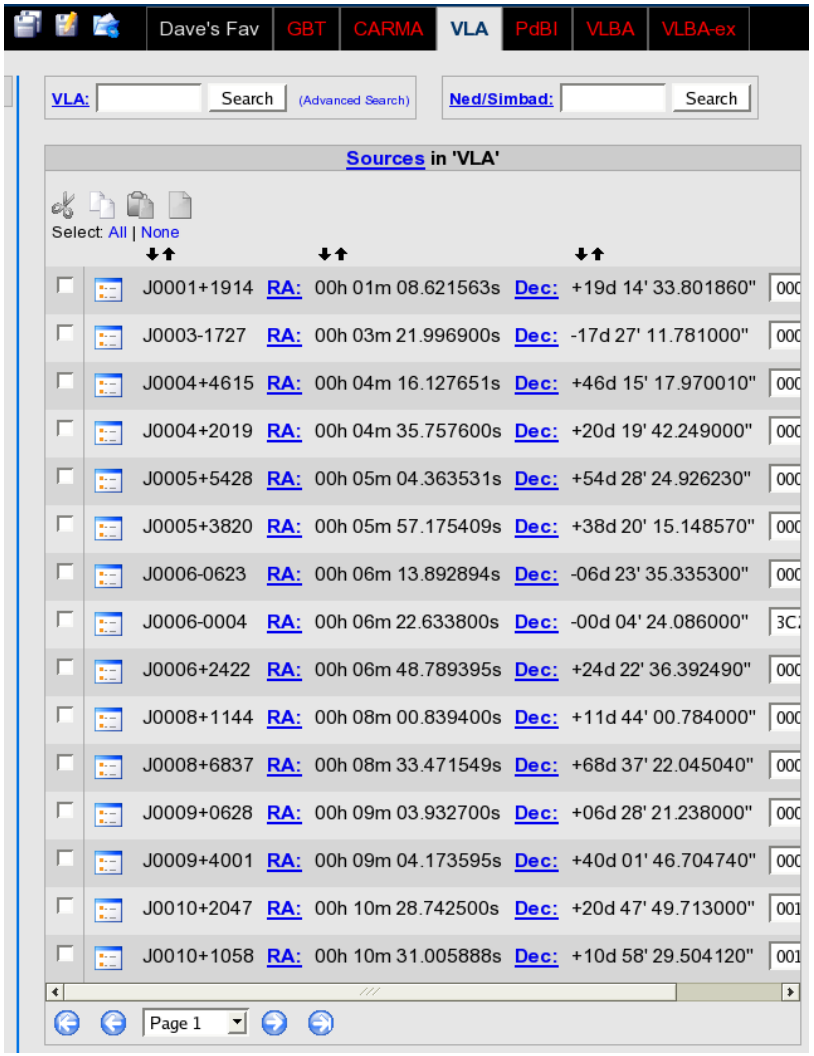
Groups Pane (2 of 2)

In this example one of the groups (“Nebulae”) has been selected, as evidenced by the fact that it is highlighted. This means that the sources displayed in the Source Pane (next slide) will be only those sources that belong to the Nebulae group.



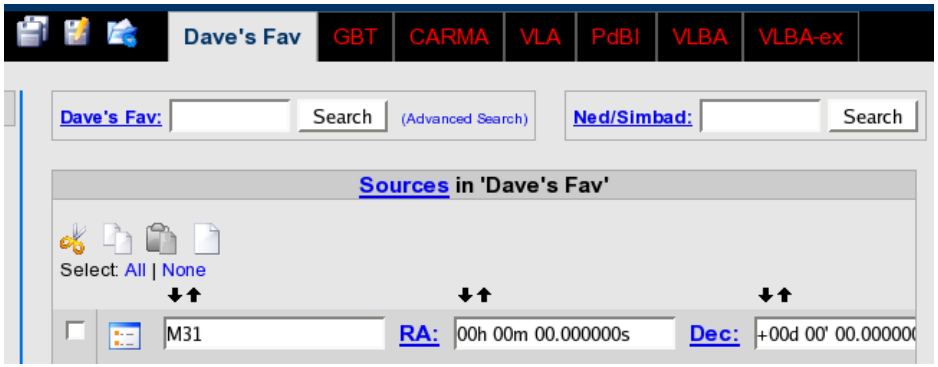
Sources Pane (1 of 4)





Sources Pane (2 of 4)

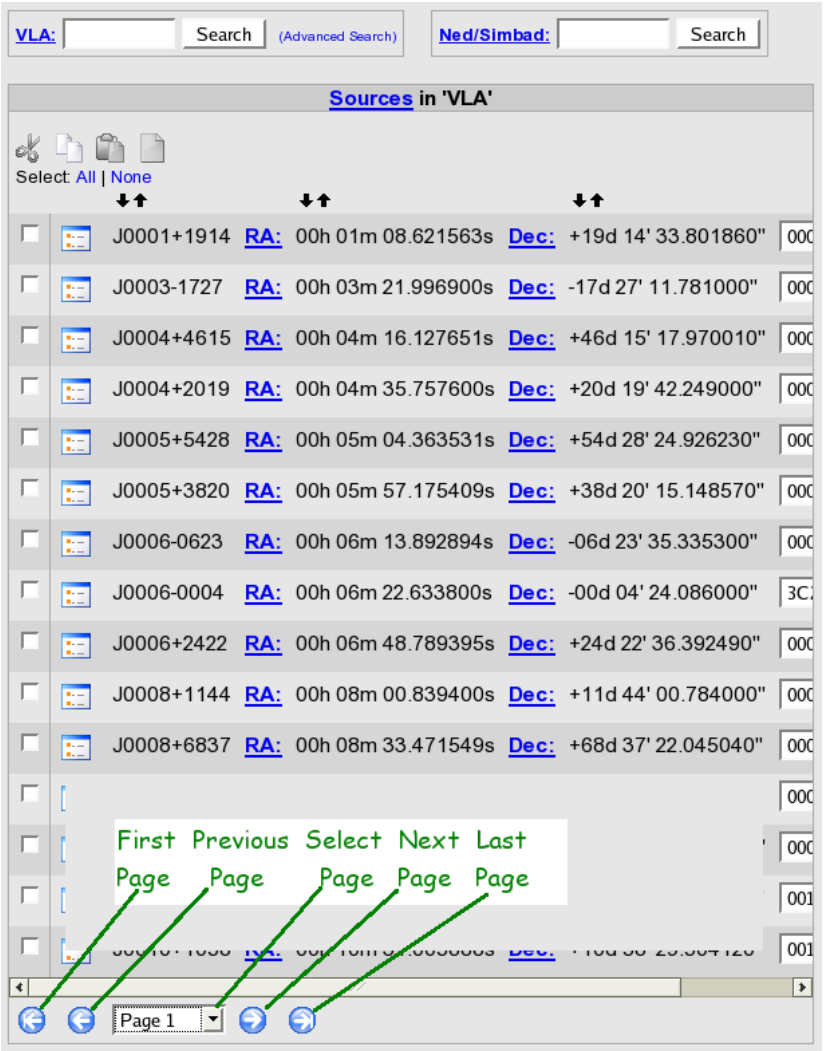
From the previous slide, and from the screenshots below, notice that for one's own catalogs (left panel, below), the name and position of a source can be edited in this pane. For read-only catalogs (right panel, below) the name and position of a source may not be altered.



Sources Pane (3 of 4)

There are controls at the bottom of the source pane for navigating through the list of sources.

The sources displayed depend on what was selected on the left side of the page – namely, the whole catalog or a particular group. The concepts of “first page”, “previous page”, etc., likewise pertain to this collection of sources.

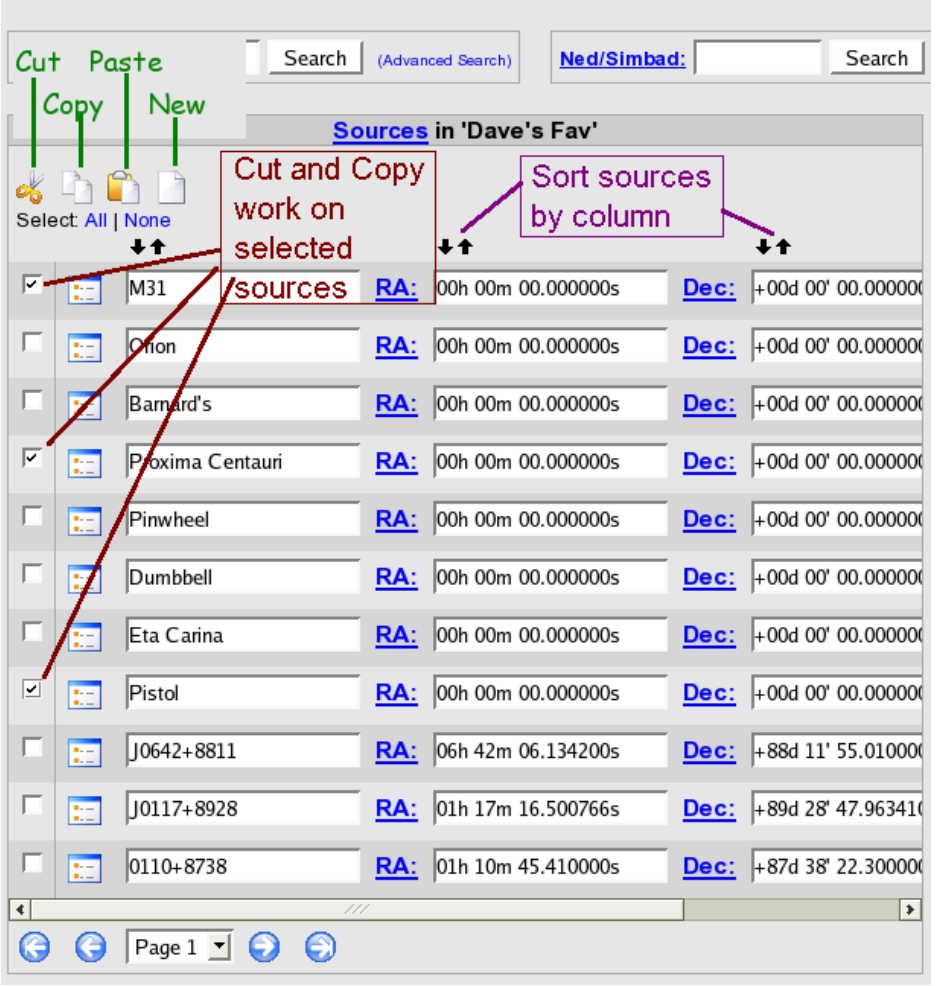


Sources Pane (4 of 4)

As was the case with catalogs and groups, there are buttons to create, cut, copy, and paste sources.

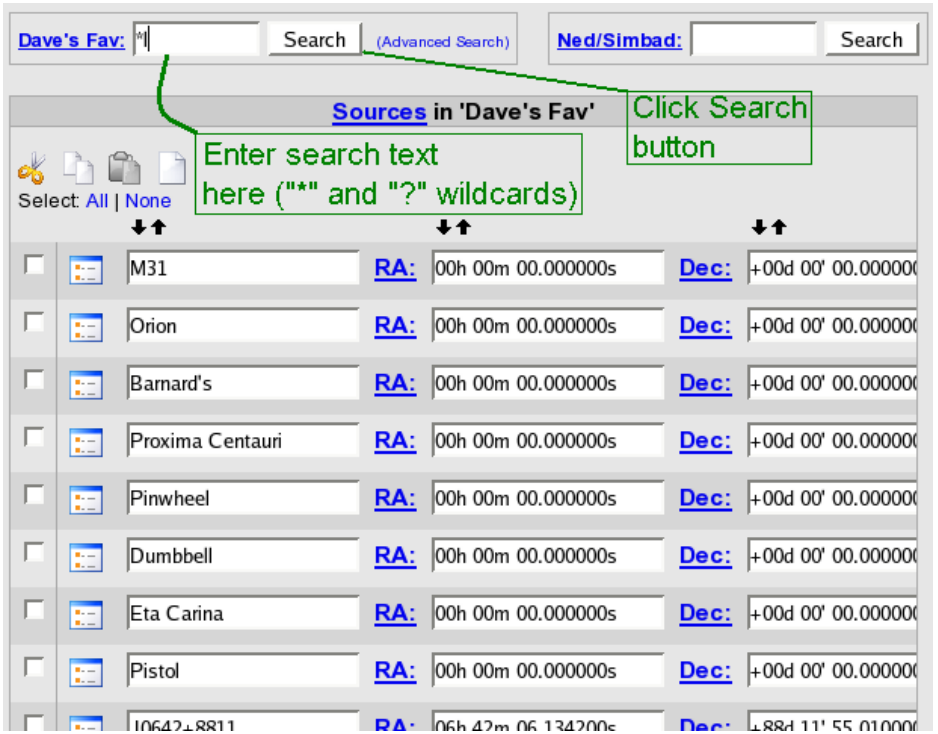
Each source has a selection checkbox; these are used for cut and copy operations. There are also controls to select all (currently displayed) sources and to deselect all sources (in the selected group or catalog).

Sources may be sorted by name, longitude, and latitude.



Source Searches (1 of 5)

This is the source pane for a catalog before the search button is pressed. The user is looking for all sources whose names end with the letter “l” (as in “ball”).

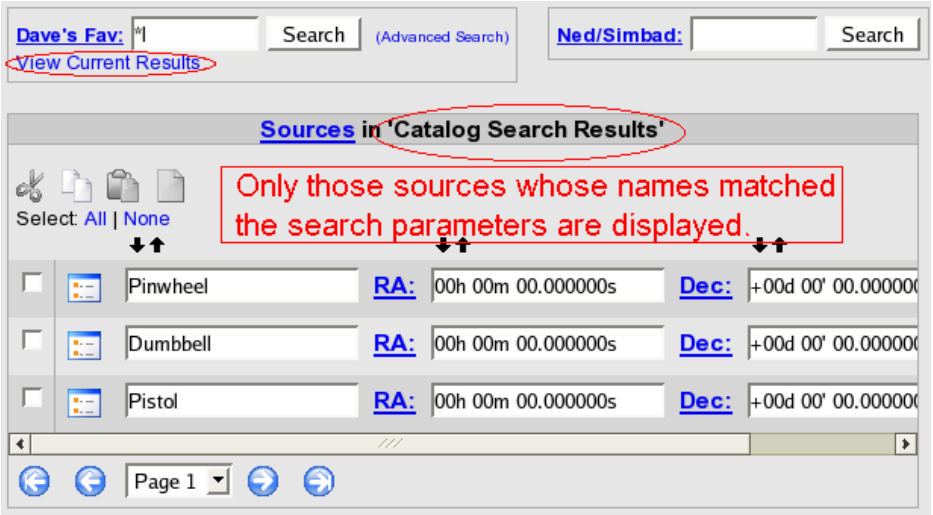


Source Searches (2 of 5)

This is the result of performing the search shown on the previous slide.

In the center of the screen, the display lets us know we're looking at the results of a search.

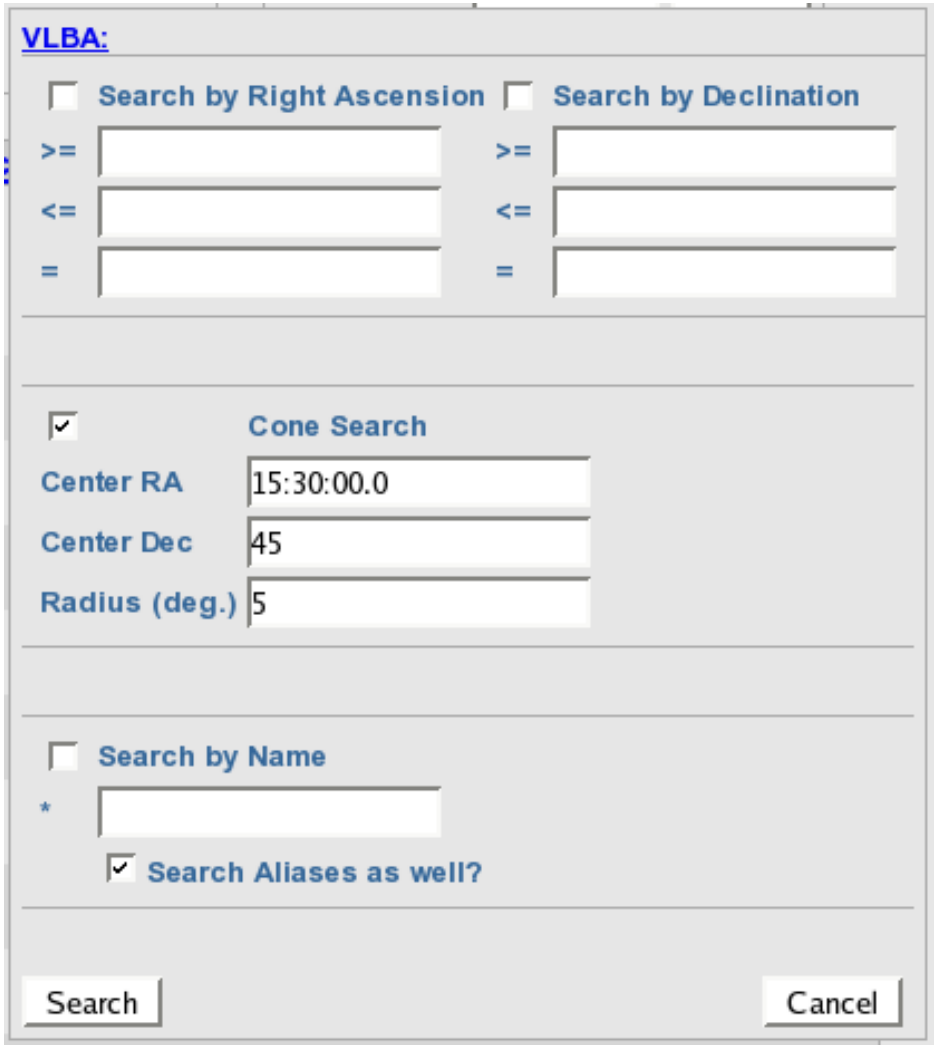
In the top left corner we have a way to quickly return to these results, should we happen to go back to a catalog or one of their groups.



Source Searches (3 of 5)

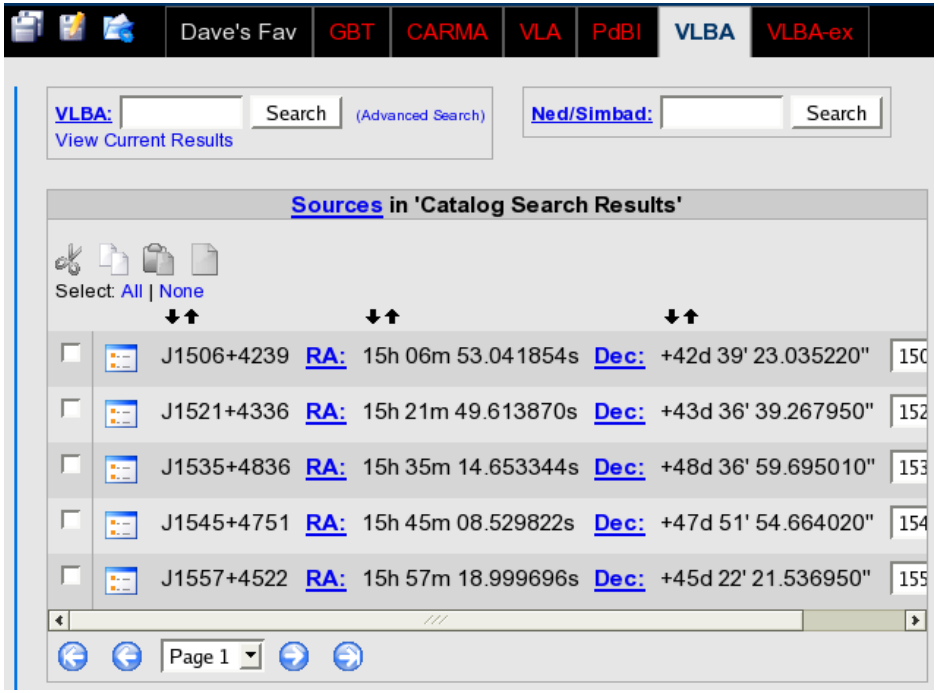
When the “Advanced Search” control is clicked, this window pops up, and the user enters search parameters.

This example shows a cone search centered on RA=15h 30m, Dec = +45d, and a radius of 5.0d.



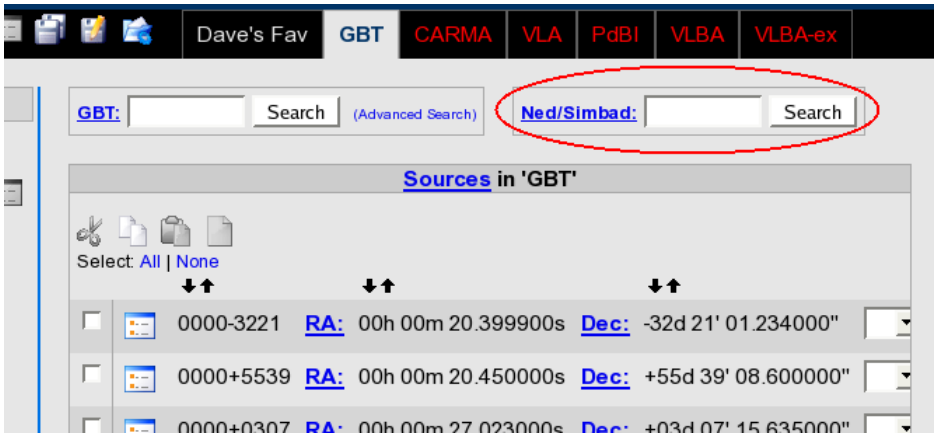
Source Searches (4 of 5)

The results of the search from the prior slide are displayed here.



Source Searches (5 of 5)

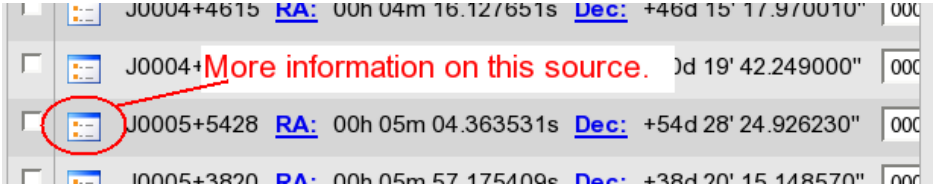
Besides searching the standard NRAO catalogs and a user's own catalogs, observers may search the NED and SIMBAD databases.



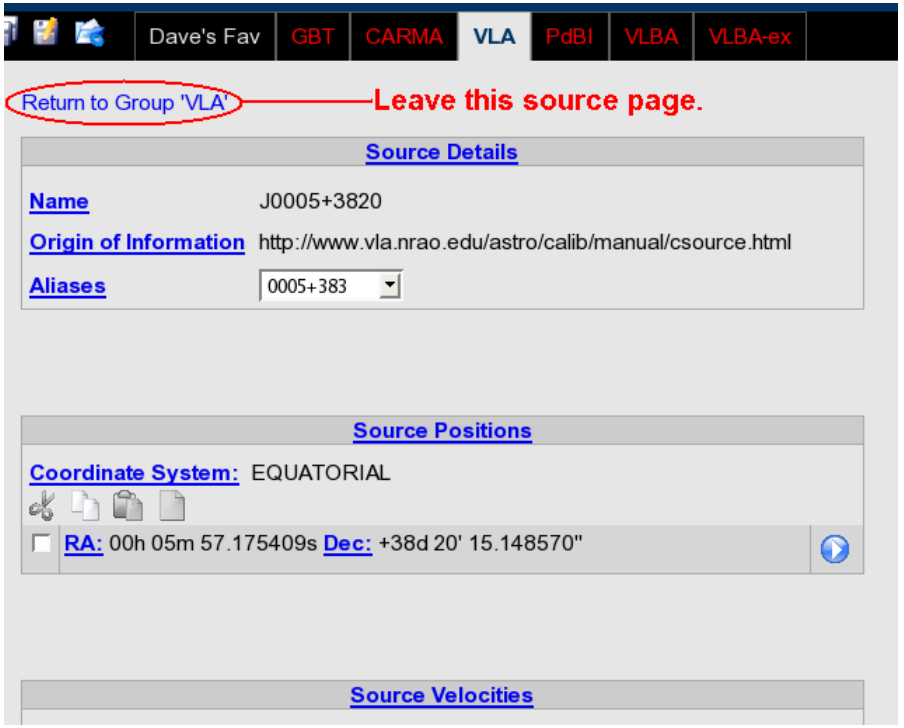
As of July 23, 2007, the XML we're receiving as a result of the search is not conforming to the schema we're using. This means that many searches are not successful right now.

Source Page (1 of 2)

To see more details about a specific source, click the Details control.



Return to catalog or group.



Source Page (2 of 2)

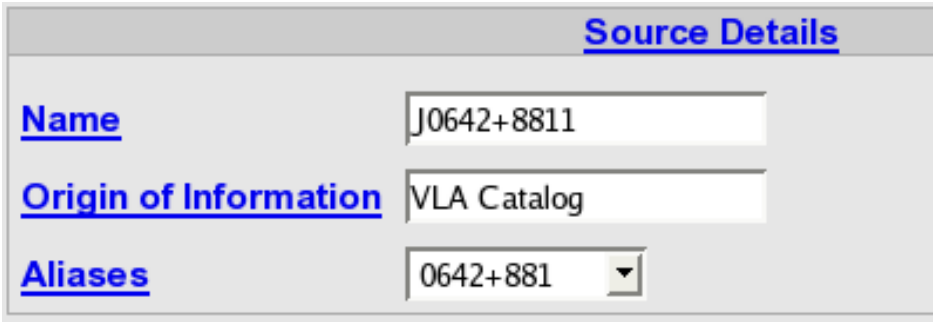
The source page contains several sections, each of which will be shown in subsequent slides. On those slides will be two examples: one from a user's catalog and one from an observatory (read-only) catalog.

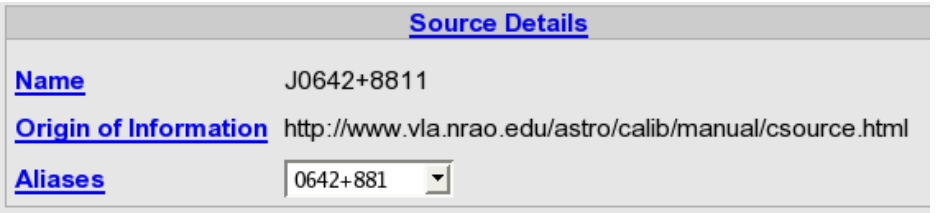
In general, data fields may be altered in catalogs owned by the user, but not in catalogs maintained by the observatory.

Source Details

Notes on Data Fields

- Catalogs should not use the same name for multiple sources.



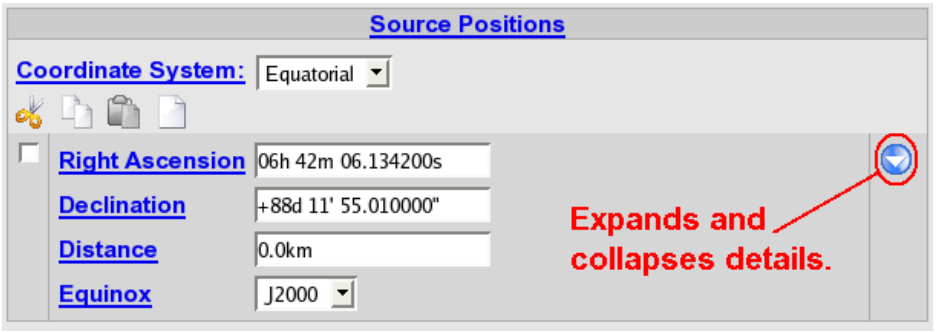


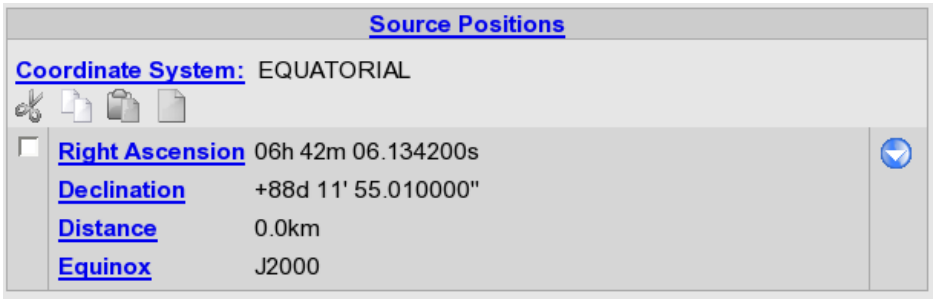
Source Positions

Supported Position Types

- Single longitude / latitude (in equatorial, galactic, ecliptic, and horizontal coordinate systems) pair.
- Table of positions, where each entry has lon/lat and motion terms.
- Ephemeris table.
- Name of a solar system body.

Discuss entry of quantities (RA, Dec, etc.)

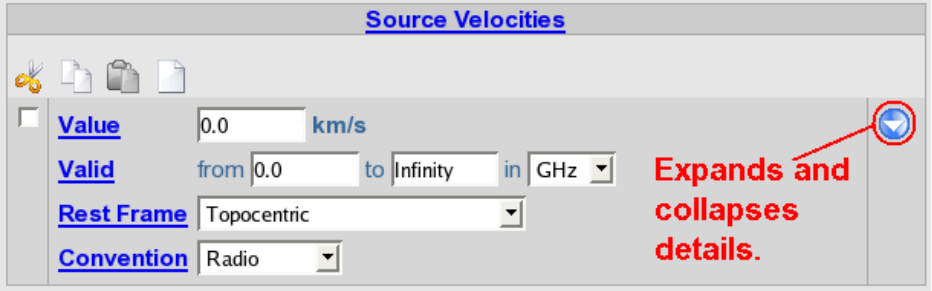




Source Velocities

It may be that none of our standard catalogs have velocity information.

Velocity here is the component of the velocity directly away from, or toward, the observer.

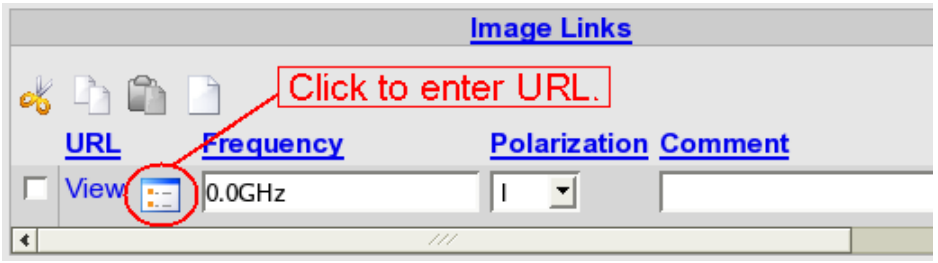


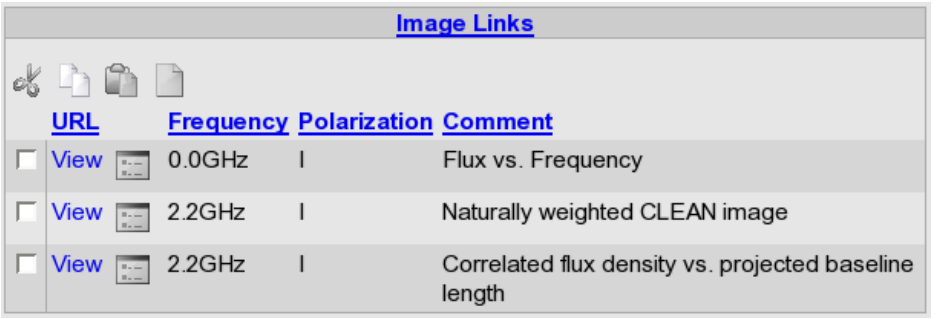
No Example Available

Image Links

Users may add links to images for their sources.

Clicking “View” will trigger the browser to either display the image or handle the file type some other way (save to disk, open with xyz application).

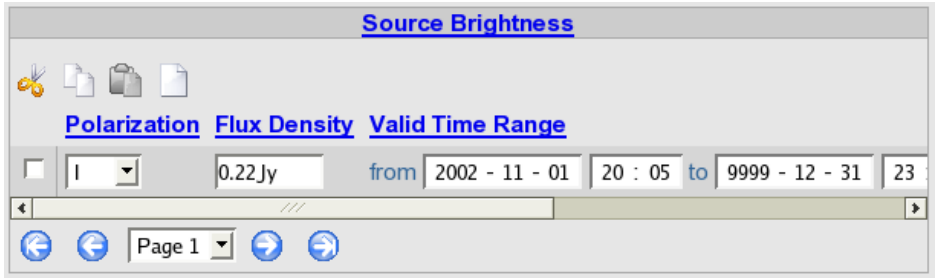


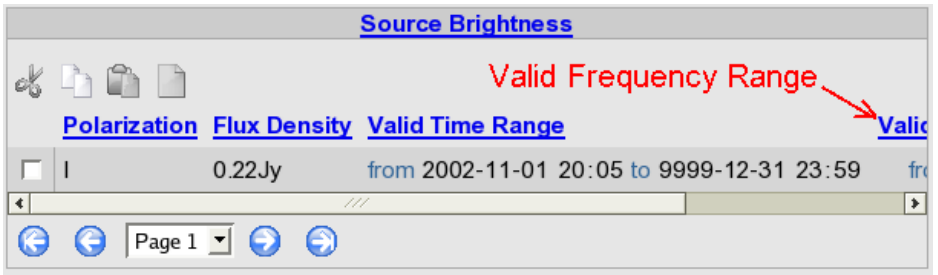


Source Brightness

This area is unsettled. *(I could have said it's in "flux".)*

We may create an interaction with the VLA's Flux Density History Database. There is also a "Cal DM" being examined right now, and it might lead to a new location for storing flux densities.





Catalog Import / Export (1 of 2)

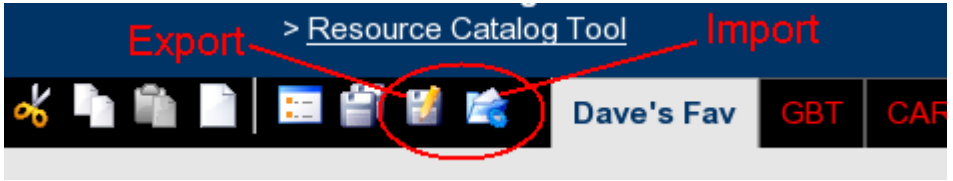
The SCT supports the ability to import and export catalogs. We either currently, or plan to, support the import of text files in the following formats:

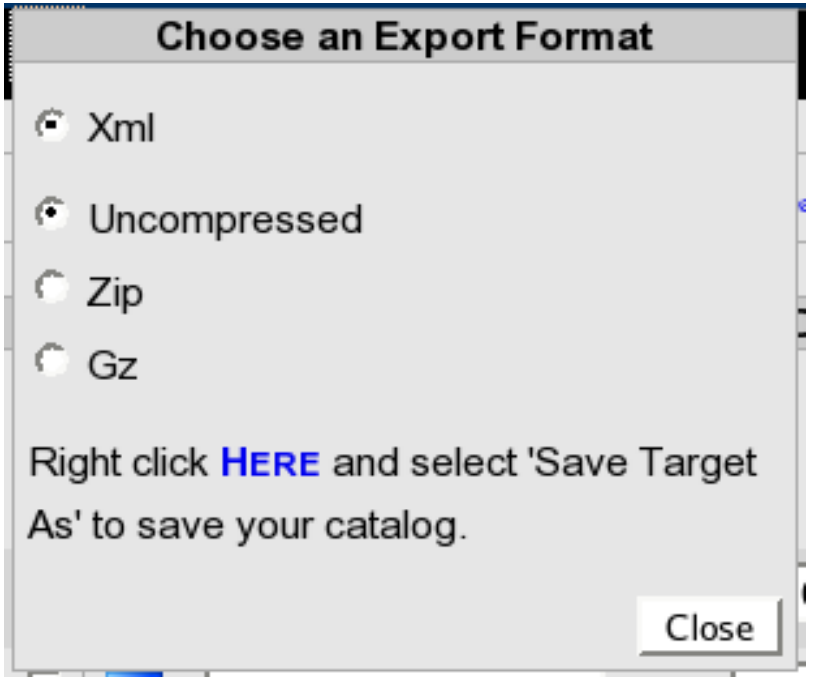
- XML (compressed or uncompressed)
- GBT (see Users Guide for Astrid Source Catalogs)
- VLA (format of calibrator catalog; not expected to be used)
- VLBA (similar to vlbaCalib.txt, but modified recently by Ed Fomalant)

The only format currently supported for exports is XML.

To share a catalog with another observer, export your catalog to XML, send it to the observer, and ask the observer to import it.

Catalog Import / Export (2 of 2)





Charge to Group

- Everything is open for discussion.
  - Changes to Source Model?
  - Page Organization.
  - Navigation.
  - Color Scheme.
  - More Features? *(Call things like import/export a "feature")*
  - Interaction with other data sources?
- It is better to offer blunt, constructive, criticism now than to be polite and let us produce a tool that no one likes or uses.
- Communicate lots of ideas early in process.
  - Group can weed and refine.
  - Programmers will contribute ease-of-implementation analysis for each suggestion.
  - Group looks at cost / benefit.

What's Next?

- Review Purpose of SCT (slide 2).
- Become familiar with current SCT by playing with it.
- Decide how ideas and progress are tracked.
  - See next slide.
- Start making suggestions right away.
- Need meetings? Periodic? Ad hoc?
  - Email and written issue-tracking (next slide) enough?

Tracking Changes

- SSS would like to use JIRA.
  - A web-based issue-tracking tool.
  - David can get everyone an account and act as tutor as needed.
- Quick turn-around desired.
  - Tackle small chunks and get user feedback quickly, as opposed to working for weeks only to learn we missed the mark.
  - Requires group to be committed to give frequent attention to SCT.
- Life cycle of an issue:
  - Member of user group creates an issue
  - Members and programmers add comments (optional step)
  - Programmer starts progress
  - Programmer logs work
  - Programmer “resolves” (says they're done)
  - Member of group tests work (can also log this work)
  - Member of user group closes (approves the work done by programmer)

Last Words

- Where may I find this presentation?
  - PDF here: http://www.aoc.nrao.edu/asg-internal/software/sss/sct/sctIntro.pdf
  - User Manual section of http://www.aoc.nrao.edu/asg-internal/software/sss/sct/sssSct.shtml

- Thanks a bunch for volunteering (or, if you were drafted, for being a good sport)!