

## Find source catalogs, image archives, and other astronomical resources registered with the NVO

A Registry is a distributed database of Virtual Observatory resources: primarily access services for catalog, image, and spectral data, but also descriptions of organizations and data collections. There are several coordinated registry implementations that share information by harvesting each other's resources. This registry is at STScI in Baltimore, MD.



Searches for resources can be done by keyword, or advanced queries can be expressed in the SQL language. The registry is open for humans through web forms, or machines through SOAP web services.



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**On the web at** <http://www.us-vo.org/apps>

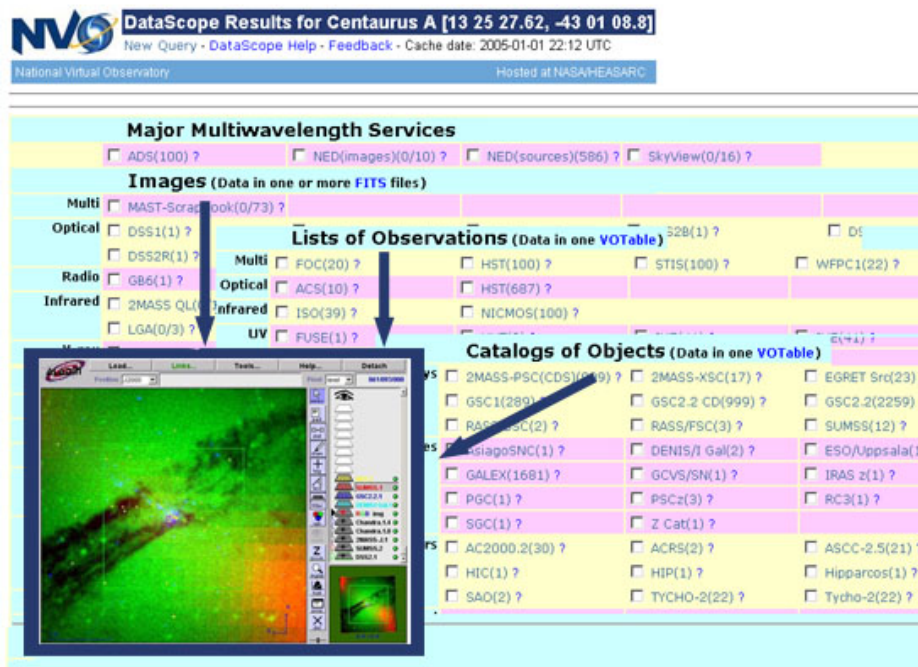
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## Discover and explore data in the Virtual Observatory

Using the NVO DataScope scientists can discover and explore hundreds of data resources available in the Virtual Observatory. Users can immediately discover what is known about a given region of the sky: they can view survey images from the radio through the X-ray, explore archived observations from multiple archives, find recent articles describing analysis of data in the region, find known

interesting or peculiar objects and survey datasets that cover the region. A summary page provides a quick précis of all of the available data. Users can download images and tables for further analysis on their local machines, or they can go directly to a growing set of VO enabled analysis tools, including Aladin, OASIS, VOPlot and VOSTat.




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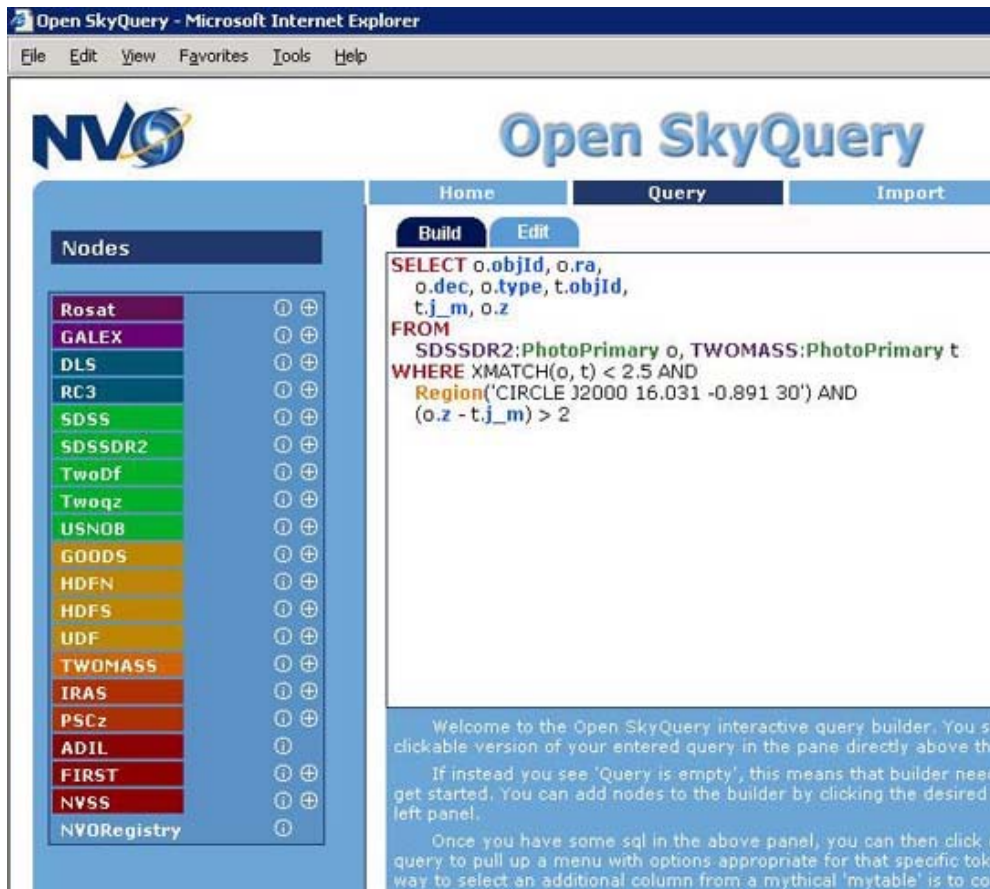
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## Cross-match your data with numerous catalogs



Open SkyQuery allows you to cross-match astronomical catalogs and select subsets of catalogs with a general and powerful query language. You can also import a personal catalog of objects and cross-match it against selected databases. To get started, go to the query page and look at some of the samples.



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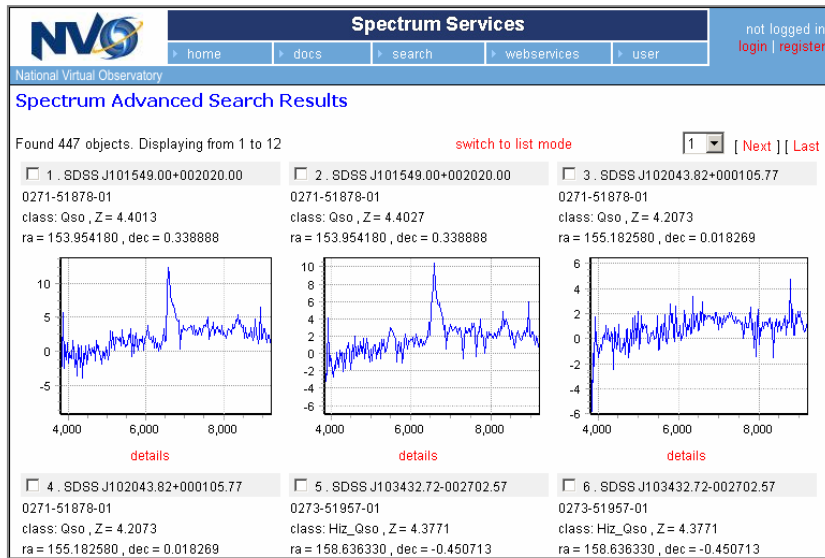


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## Search, plot, and retrieve SDSS, 2dF, and other spectra



The Spectrum Services web site is dedicated to spectrum related VO services developed at The Johns Hopkins University. On this site you will find tools and tutorials on how to access close to 500,000 spectra from the Sloan Digital Sky Survey (SDSS DR1) and the 2 degree Field redshift survey (2dFGRS). The services are open to everyone to publish their own spectra in the same framework. Reading the tutorials on XML Web Services, you can learn how to integrate the 45 GB spectrum and passband database with your programs with few lines of code.



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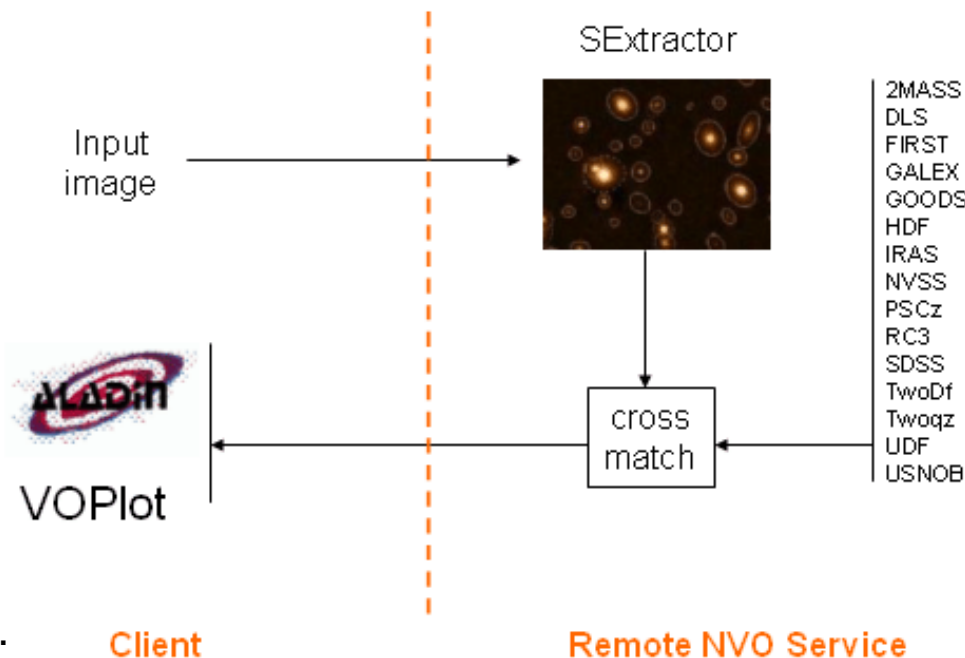
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# Web Enabled Source Identification with Cross-matching

**Upload images to SExtractor and cross-correlate the objects found with selected survey catalogs.**

The Web Enabled Source Identification with Cross Matching (WESIX) service does source extraction and cross-matching for any astrometric FITS image. The client uses the web page (or SOAP API) to upload the FITS image, and the remote service runs the SExtractor software for source extraction. The resulting catalog can be cross-matched with any of several major surveys, and the results returned as VOTable. The web page also allows use of Aladin or VOPlot to visualize results.



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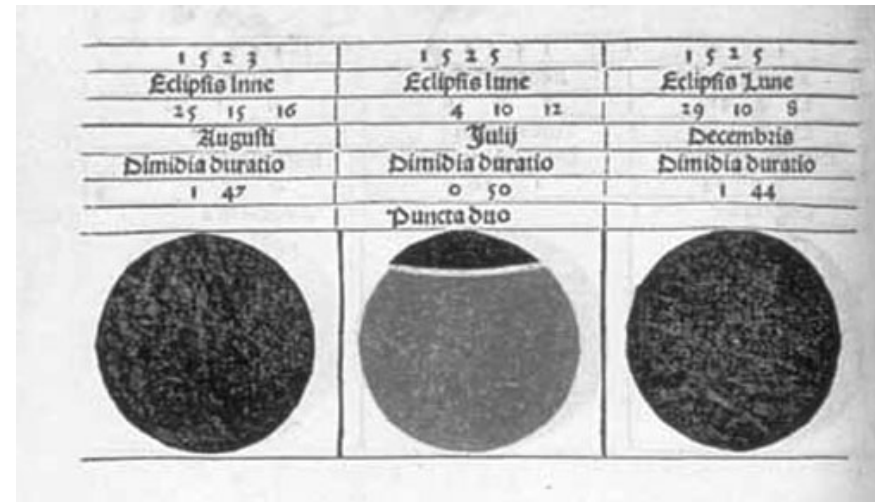
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On the web at <http://www.us-vo.org/apps>

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## Make your data collection available to others

The NVO is a powerful environment for locating and integrating a wide variety of data originating from many different instruments and exploring many different research questions in astronomy. But how does data get into that environment in the first place? Data is exposed to the NVO environment through a process called publishing. This



"how-to" document is aimed anyone who has data and would like to share it with the astronomy community through the NVO. Remember, though, data is not the only thing you can publish—you can also publish services. That is, if you have a piece of software that might be useful to others and would like to make it accessible over the network, publishing it as a service makes it possible for other NVO applications to make use of it.



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