

Astrophysics and Astronomical Measurements: Exploiting Observations

# Exploiting Astronomical Catalogues and Mission Archives

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# Overview

- Network
- Tools
  - VizieR
  - Aladin
  - VOPlot
  - NVO services
  - SDSS
  - RASS photon cone search
- Navigation

# Network

- The International Virtual Observatory Alliance (IVOA)  
[www.ivoa.net](http://www.ivoa.net)
- NVO (National Virtual Observatory)  
[www.us-vo.org](http://www.us-vo.org)
- GAVO (German Astrophysical Virtual Observatory)  
[www.g-vo.org](http://www.g-vo.org)

# CDS



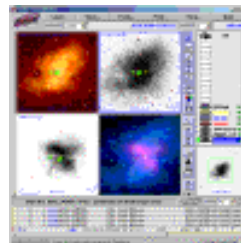
- Centre de Données astronomiques de Strasbourg (CDS)
- <http://cdsweb.u-strasbg.fr/>
- Simbad, VizieR, Aladin
- **VizieR:**
- Fr - Canada - US - Japan - India - UK - Hawaii - China
- Access to the most complete library of published astronomical catalogues and data tables available online
- <http://vizier.u-strasbg.fr/viz-bin/VizieR>





# Aladin

- Sky Atlas of the CDS
- One can plot VizieR data with Aladin
- [Example](#)



Aladin v3.0 multiview

Position: J2000 18:02:13.65 -23:01:02.4 Pixel: full 0.7594

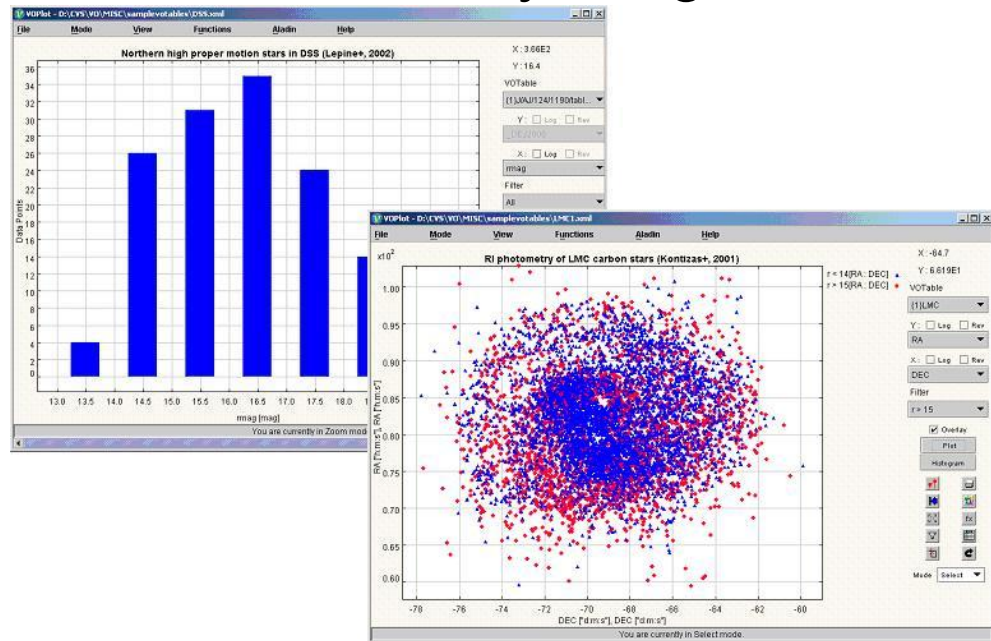
Trifid nebula

Object ID	RA (J2000)	Dec (J2000)	Distance (kpc)	Galactic Longitude (l)	Galactic Latitude (b)	Galactic Height (z)	Galactic Velocity (v)	Galactic Age (Myr)	Galactic Metallicity (Z)	Galactic Mass (M <sub>⊙</sub> )			
0669-0683137	270.586123	-23.039303	1964.9	0	0	2	9.84	10.99	0	0			
0669-0683138	270.596381	-23.033381	2000.0	0	-12	0	8.64	8.66	8.65	8.68	0	0	
0669-0683139	270.598134	-23.030853	2000.0	-2	-10	0	7.48	7.61	7.55	7.62	7.68	0	0
0669-0683140	270.598778	-23.029200	2000.0	-6	-2	0	10.53	11.48	11.12	11.50	11.71	0	0

(c)1999-2005 ULP/CNRS - Centre de Données astronomiques de Strasbourg 8 planes, 4 views, 30Mb

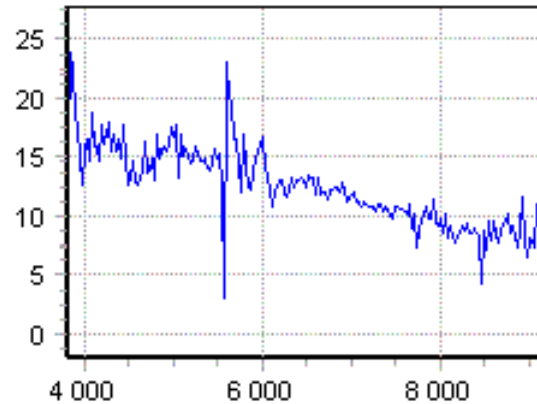
# VOPlot

- VOPlot has been developed as a part of the Virtual Observatory – India
- In collaboration with CDS and is fully integrated with VizieR
- [Example](#)



# NVO services

- [NVO](#)
- [NVO Datascope](#)
- [Spectral Services](#)
- Spectra from SDSS
- [OpenSkyQuery](#)  
[SkyQuery.net](#)





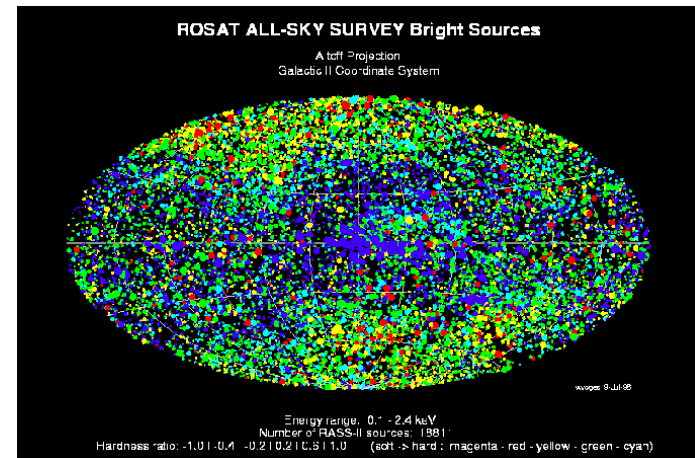
# SDSS

- Sloan Digital Sky Survey (1998)
  - Mapping one quarter of the entire sky
- Apache Point Observatory
  - Sacramento Mountains in New Mexico
  - 2790 m above sea level
- [SkyServer](#)
- [www.sdss.org](http://www.sdss.org)



# ROSAT All-Sky Survey (RASS)

- ROSAT Mission (1990-1999), x-ray Satellite
- [RASS](#)
- GAVO has implemented standard cone searches on catalogues derived from the ROSAT All-Sky Survey:
- [RASS photons cone search](#)



# Navigation

- [www.ivoa.net](http://www.ivoa.net)
  - Members
- [www.us-vo.org](http://www.us-vo.org)
  - Datascope
  - OpenSkyQuery
  - SpectralServices
  - [www.sdss.org](http://www.sdss.org)
  - Make your data collection available to NVO users.
- [www.g-vo.org](http://www.g-vo.org)
  - Vizier
  - Aladin
  - VOPlot