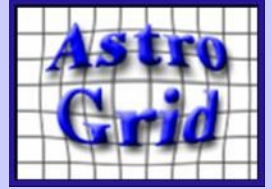


# The AstroGrid Desktop Suite

Release 2008



- what it is
- what you can do
- short demo (wireless permitting...)

# AstroGrid History

- 2002 Phase A study
  - NAM 2002 : "vision" talk : six years to VO ?
- 2003-4 Phase B development
- 2005-7 Phase C/D construction
  - prototype system releases
- 2008-9 Operations
  - Full Release 2008.1

# Whats being released

- AstroGrid Desktop Suite
  - VODesktop 1.0; Topcat 3.2; Astrogrid Python 1.01
- Links to other VO tools
  - Aladin; SPLAT-VO; VOSpec
- Working Services
  - Registry; VOSpace; Community
- Worldwide Data Services
  - 12,000 resources

# where to get it

- [www.astrogrid.org](http://www.astrogrid.org)
  - download and run
  - platform independent Java
  - documentation online and pdf
  - helpdesk

**HOME**   **INSTALL**   **HELP**   **SUPPORT**

## Welcome to AstroGrid

AstroGrid is the doorway to the Virtual Observatory (VO). We provide a suite of desktop applications to enable astronomers to explore and bookmark resources from around the world, find data, store and share files in VOspace, query databases, plot and manipulate tables, cross-match catalogues, and build and run scripts to automate sequences of tasks. Tools from other Euro-VO projects inter-operate with AstroGrid software, so you can also view and analyse images and spectra located in the VO.




These web pages hold our software for downloading, as well as links to other people's software. They also provide the help documentation, and other support material such as FAQs and the Helpdesk ticket system.

Our new software (V2008.1) is released on April 1st 2008. Previous releases will still be available for some time : see [previous releases](#).

**GETTING STARTED**

Read a little [about the Virtual Observatory](#)  
Read a little [about the AstroGrid Desktop suite](#).  
Go to the [Install area](#) and download the software.  
Have a look at the documentation in the [Help area](#).  
Start trying it out !

**Acknowledging AstroGrid.** If you make use of the AstroGrid system or tools, we would be grateful if you could acknowledge this use in any resulting publications. You could use these words: *This research has made use of data obtained using, or software provided by, the UK's AstroGrid Virtual Observatory Project, which is funded by the Science & Technology Facilities Council and through the EU's Framework 6 programme* 'Use of any data discovered or accessed through AstroGrid should of course be mentioned as noted by the data providers.

	VO Desktop jar file	Version 2008.1.beta3 19.5MB	This is the core application, and contains several tools : VOExplorer, Astroscope/Helioscope, File Explorer, Task Runner, and Query Builder. It also loads the necessary background software - Astro Runtime and PLASTIC. <a href="#">Read Release Notes</a>
	TOPCAT jar file	Version 3.2 14.5MB	With TOPCAT you can manipulate tables and make plots; crossmatch catalogues; and many more related tasks. <a href="#">Read Release Notes</a>
	AstroGrid Python egg file	Version 1.0.1 0.6MB	With AstroGrid Python you can call VO services inside your own scripts. Requires Astro Runtime to be running, which comes with VO Desktop.

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# what can you do with it ?

- Search registry for resources
- err... what's a resource ?

# whats a resource ?

the key  
VO concept ...  
... yellow pages

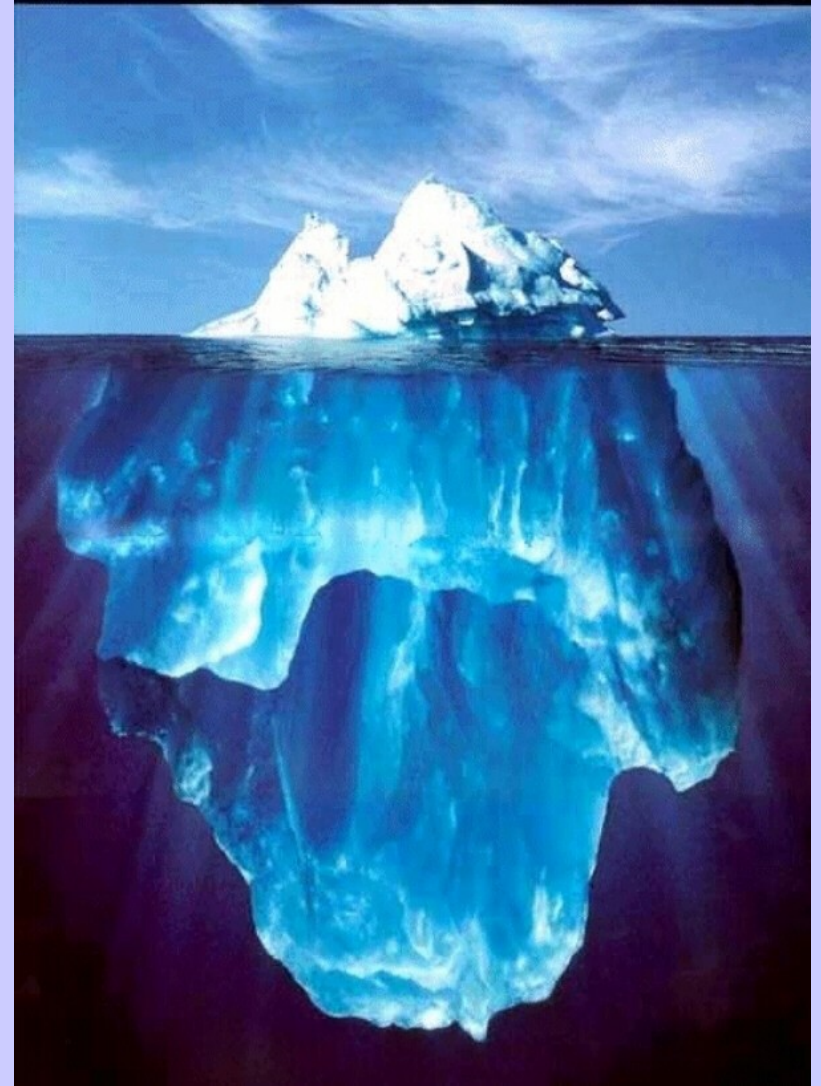
- *A Resource* could be any of :
  - A set of information pages
  - A library of images
  - Tables from papers
  - Queryable catalogue database
  - Invokeable application
- Publish it in a *Registry*
- Advertise its *Capability*
  - *"I'm an application and these are my input parameters"*
- Then applications can *use it*

# what can you do with it ?

- Search registry for resources
- Bookmark and organise resources
- Search resources for data
- Load data straight into applications
- Analyse tables, images, spectra
- Cross match catalogues
- Save and load from VOSpace
- Run remote applications
- Automate tasks with scripting

# The iceberg

- Above the water :  
user applications
- Below the water :  
AstroGrid services
- The water :  
world data services





**screenshot backup**

# searching for resources

VO Explorer - VO taster list

Contents of VO taster list - 12 resources

Flag...	Title	Capability	Date
	2MASS All-Sky Point Source Catalog		2007-04-16
	2dF Galaxy Redshift Survey: object catalogue		2008-03-28
	IPHAS IDR: service		2008-03-17
	IPHAS images		2008-02-22
	MERLIN Imager		2008-03-10
	SIAP Service Hubble Space Telescope preview images		2007-04-11
	STILTS - Starlink Tables Infrastructure Library Tool Set		2008-02-27
	<b>Sloan Digitized Sky Survey</b>		<b>2007-01-16</b>
	SuperCOSMOS Science Archive (SSA)		2008-03-26
	Third Reference Catalog of Bright Galaxies		2007-08-03
	UKIDSS DR1		2008-03-28
	XMM-Newton Serendipitous Source Catalogue (2XMM)		2008-03-26

**Sloan Digitized Sky Survey**

Short Name SDSS ID ivo://nasa.heasarc/skyview/sdss  
Type CatalogService Created 2007-01-16T00:00:00  
Updated 2007-01-16T00:00:00

Content Type archive Subject surveys Level research  
The Sloan Digital Sky Survey is the deepest large scale survey of the sky currently available. SkyView dynamically queries the SDSS archive to retrieve information and resample it into the user requested frame. Further information on the SDSS and many additional services are available at the [SDSS Web site. Further Information...](#)

Relationships service-for [NASA/GSFC Exploration of the Universe Division](#)  
Waveband Coverage optical  
Spatial Coverage All-Sky

[Show Coverage](#)

Annotations:  
 Flag   
Highlight

Alternative title  
Notes  
Tags

# grabbing data

VO Explorer - Image access examples

Aladin v5.0

Contents of Image access examples - 9 resources

Flag...	Title	Capa...
	2nd Digitized Sky Survey (Blue)	
	Cut out HDF(N) (GOODS) MERLIN+VLA radio images	
	FIRST	
	H-alpha Full Sky Map	
	IPHAS Images	
	MERLIN Imager	
	NVSS	
	ROSAT All-Sky X-ray Survey 1.5 keV	
	Sloan Digitized Sky Survey	

Information Table Metadata

2nd Digitized Sky Survey (Blue)  
All-VO Astroscope

Search for

Cat. Objects  Images  
 Spectra  Timed Data

At

Position (RA,Dec) or Object Name  
312.750000,+44.366667

Search Radius (deg/s/arcsecs)  
0.100000

Degrees  Sexagesimal

Navigate

Go To Top Clear Selection

Process

Actions

- Download...
- Send tables to Aladin
- Send FITS to Aladin

About

Selected:  
9 application/fits  
2 application/x-votable+xml

hst

HalpHa.Run 368352, CCD 4

9.61' x 18.93'

9.61' x 18.93'

hst gsc  
hst  
cgps  
RGB img...  
Alpha.Run 368  
Sloan-r.Run 368  
Sloan-l.Run 368

Zoom 1/4x

Search

match

ra	decl	error ra...	pmag	pmag error	pmag band	gsc class	plate id	multiple...
312.8125...	44.41653...	0.200000...	11.80000...	0.400000...	1	0	00vv	T
312.8125...	44.41646...	0.200000...	12.13000...	0.400000...	1	0	00c8	T
312.8125...	44.41165...	0.300000...	13.31000...	0.400000...	1	3	00vv	T
312.8125...	44.41161...	0.200000...	13.52999...	0.400000...	1	3	00c8	T
312.8140...	44.41335...	0.300000...	13.46000...	0.400000...	1	3	00vv	T
312.8140...	44.41335...	0.200000...	13.75000...	0.400000...	1	3	00c8	T

NRS - Centre de Données astronomiques de Strasbourg

7 sel / 40 src 86Mb

# database queries

The screenshot displays the VO Explorer interface with the following components:

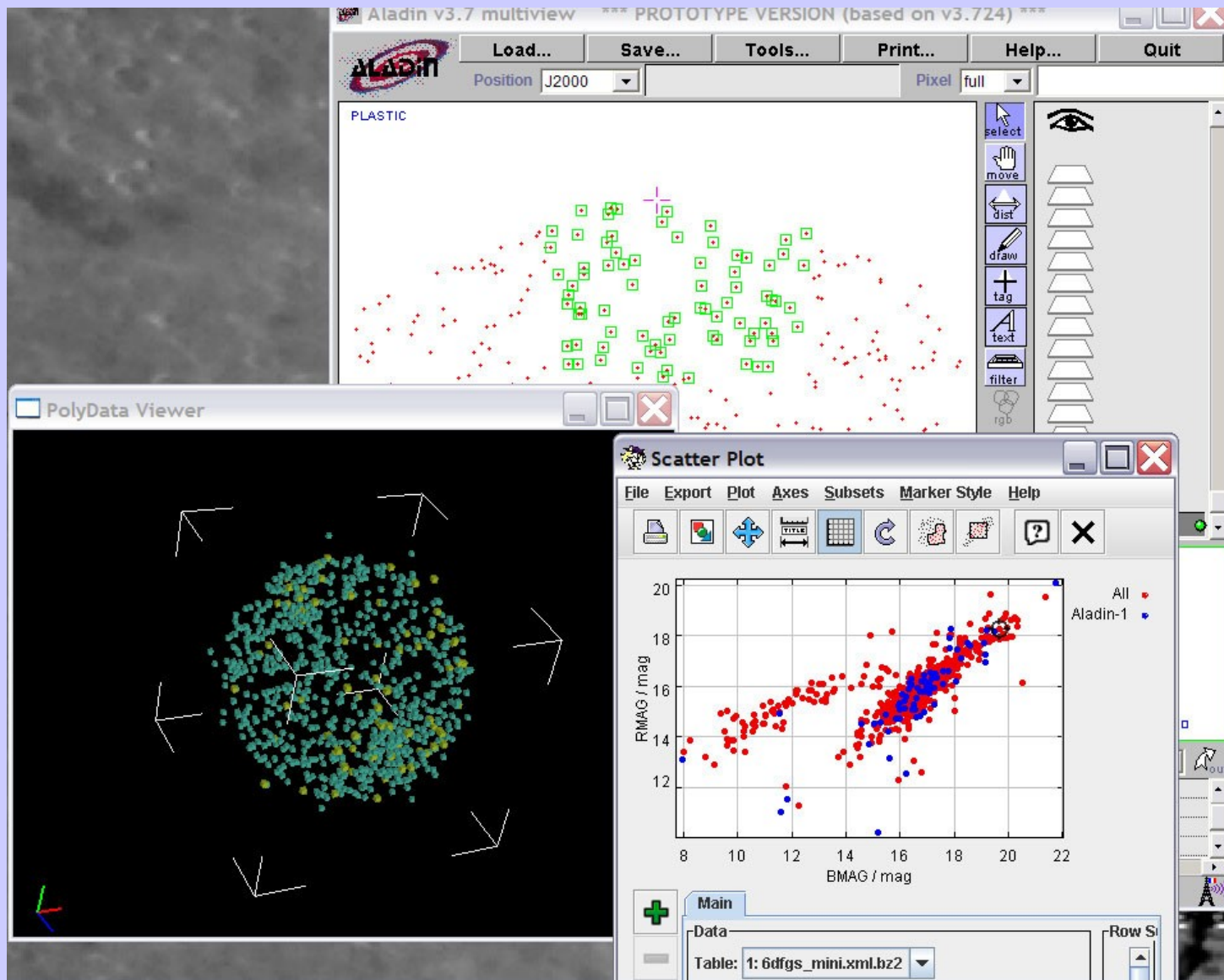
- Resource Lists:** A sidebar on the left showing various astronomical data sources, with 'sdss' selected.
- Contents of sdss - filtering to:** A central pane showing a list of SDSS data releases (DR3, DR4, DR5) and their associated image types.
- Task Runner - untitled:** A window for executing tasks, showing the interface 'adql' and an 'Execute!' button.
- Inputs:** A section for defining query inputs, including a 'Query' field and a 'Format' dropdown set to 'VOTABLE-BINARY'.
- ADQL:** A text area containing the following query:

```
Select a.ra, a."dec", a.psfMag_g, a.psfMag_r From PhotoTag as a Where And Comparison a.ra>110 Comparison a.ra<230 And a."dec">20 And a."dec"<22 And (a.psfMag_g-a.psfMag_r <0.4 ) And a.psfMag_r>20.0 And a.psfMag_g>0 And a.mode=1 And a.probPSF=1
```
- Outputs:** A section for defining query outputs, including a 'Result' field and a 'Browse..' button.
- Execution:** A section showing the execution status of the task, indicating it is running and will re-check in 16 seconds.
- SDSS Data Release 5 (DR5):** A detailed view of the dataset, including a description and a table of columns.

The table of columns for SDSS Data Release 5 (DR5) is as follows:

#	Column Name	Description	Datatype	UCD	Units
1	psfMag_u	PSF flux	double	PHOT_SDSS_U	mag
2	psfMag_i	PSF flux	double	PHOT_SDSS_I	mag
3	psfMagErr_z	PSF flux error	double	PHOT_SDSS...	mag
4	petroMag_z	Petrosian flux	double	PHOT_SDSS_Z	mag
5	petroMagEr	Petrosian flux error	double	PHOT_SDSS...	mag

# tool interoperability



# scripting

```
*siapsearch.py - /data/AstroGrid/ACR-Examples/Python-Scripts/siapsearch.py*
File Edit Format Run Options Windows Help
#!/usr/bin/python
"""
Query a SIAP service and returns a list of images which are loaded into Aladin
Usage:
    python siapsearch.py sdss 180.0 0.0
    python siapsearch.py iphas 312.75 44.37
    python siapsearch.py 2mass 312.75 44.37
"""

import sys
from math import cos, radians
import time
from astrogrid import acr
from astrogrid import Applications, DSA, MySpace, SiapSearch

while not acr._connected:
    print 'Connecting to AR...'
    time.sleep(10)

ssiap = {'sdss': 'ivo://sdss.jhu/services/SIAPDR6-images',
         'iphas': 'ivo://uk.ac.cam.ast/IPHAS/images/SIAP',
         '2mass': 'ivo://irsa.ipac/2MASS-QL'}

s = sys.argv[1]
ra, dec = sys.argv[2:4]
siap = SiapSearch(ssiap[s])
res = siap.execute(ra, dec, 0.5 )

try:
    acr.plastic.broadcast(res)
except:
    print 'Failed to send table to Aladin.'

Ln: 34 Col: 0
```



**end**