



# VO Tools Overview

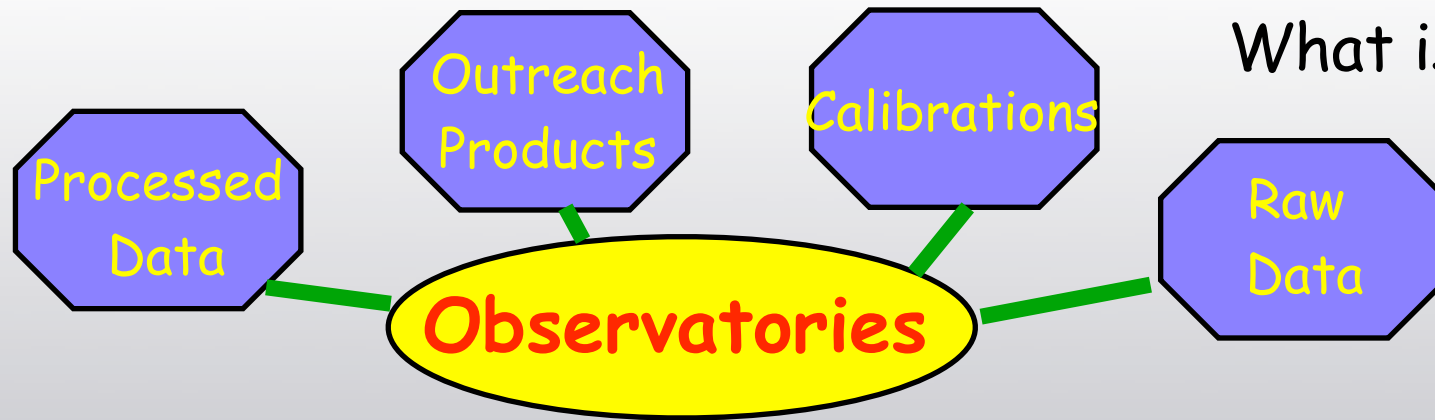
Evanthia Hatziminaoglou,  
Euro-VO Facility Centre Astronomer  
ESO - Garching



# What is the VO?

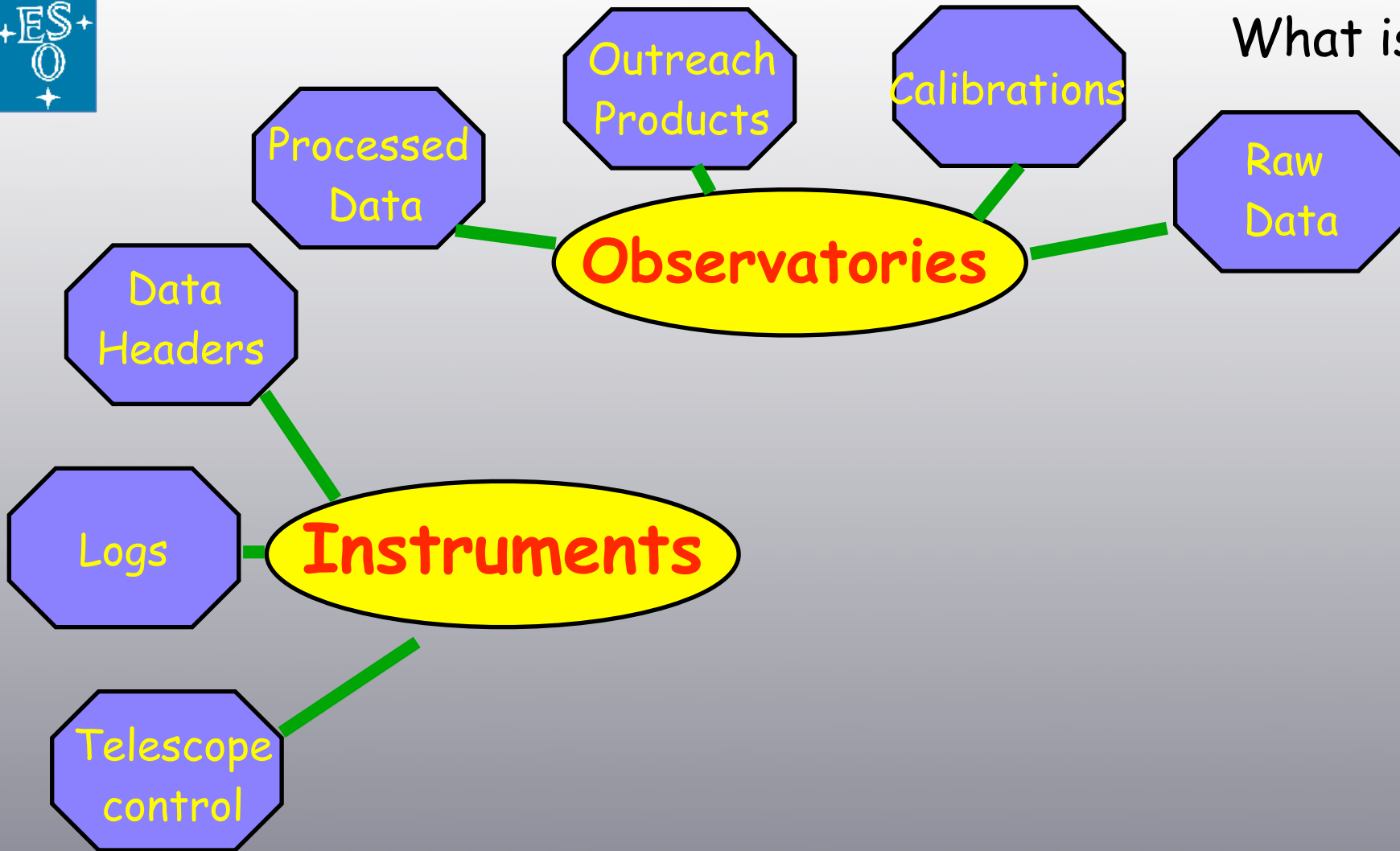


What is the VO?





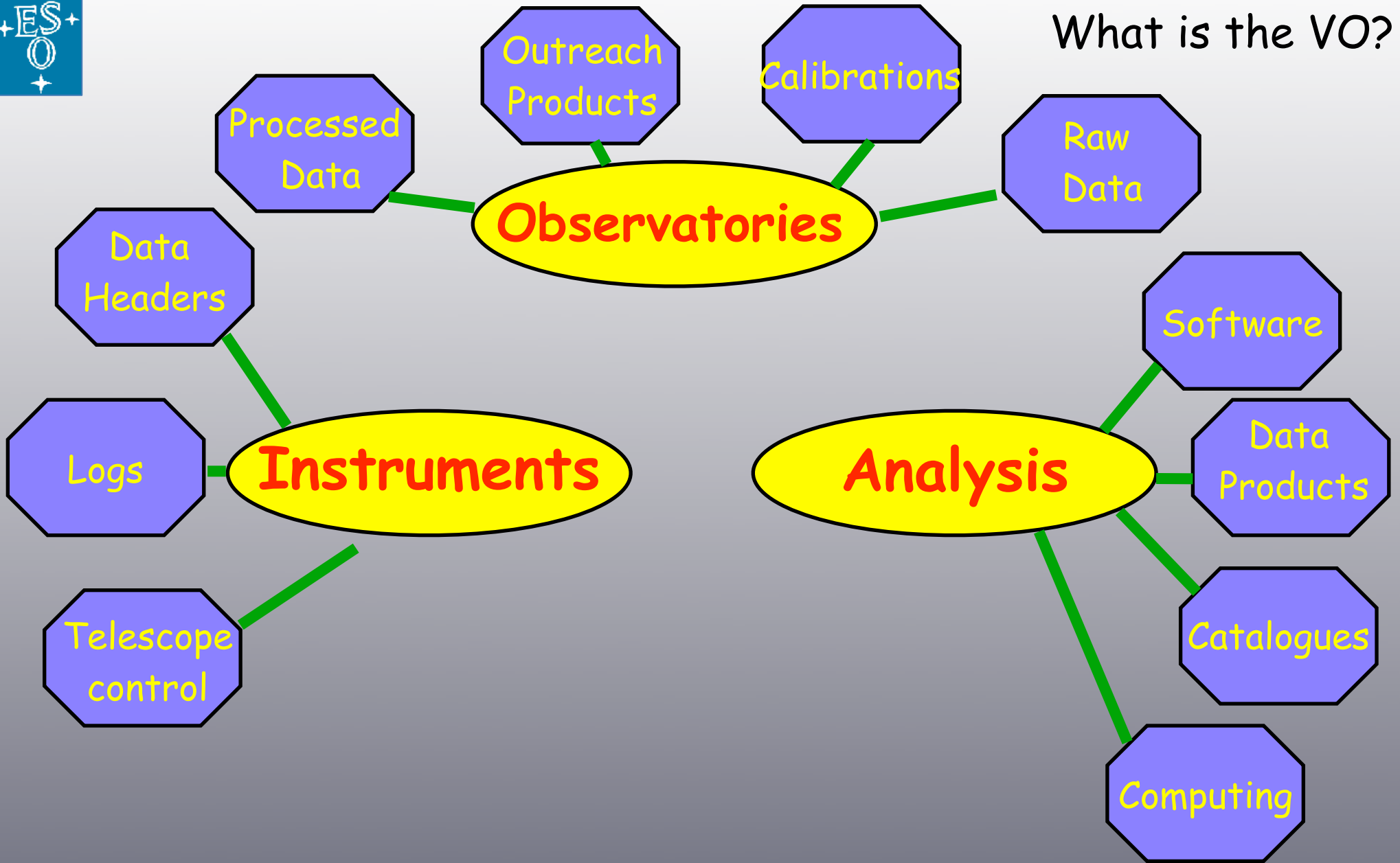
What is the VO?





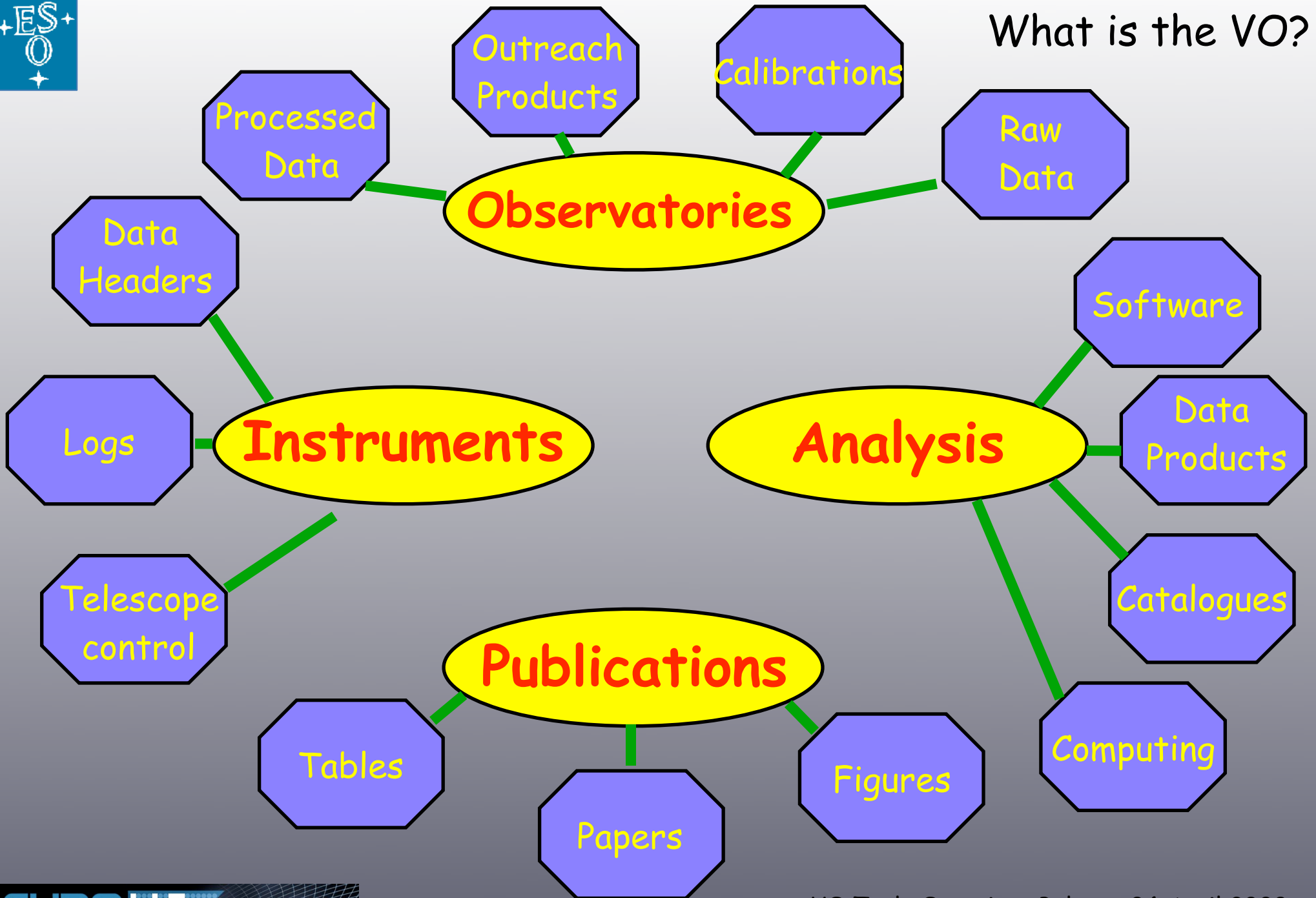


What is the VO?



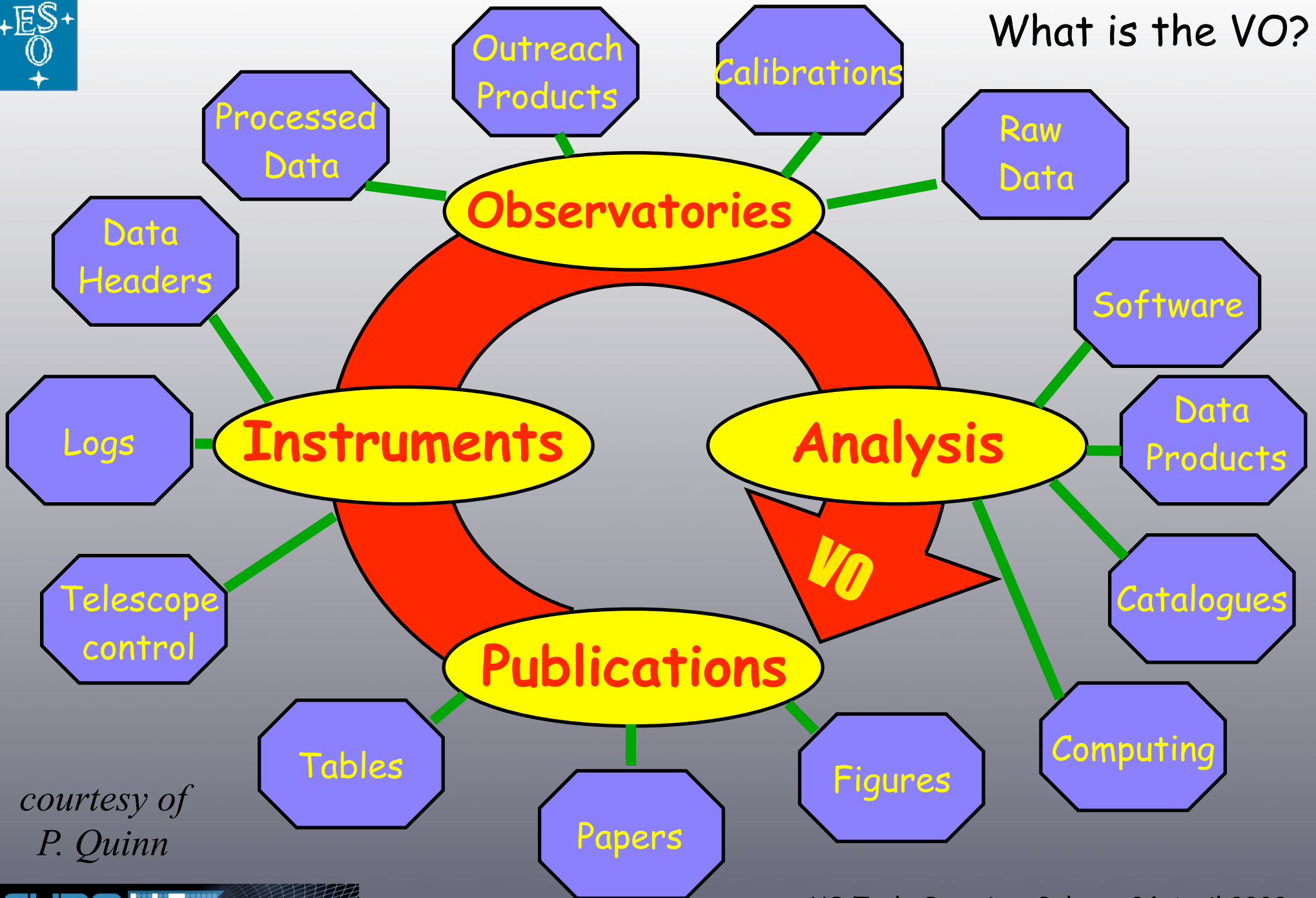


What is the VO?





What is the VO?



*courtesy of  
P. Quinn*





# What is the VO?



## What is the VO?

“A virtual observatory is a collection of interoperating data archives and software tools which utilize the internet to form a scientific research environment in which astronomical research programs can be conducted.”



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Wikipedia



What is the VO?

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Wikipedia



# Why do we need the VO?





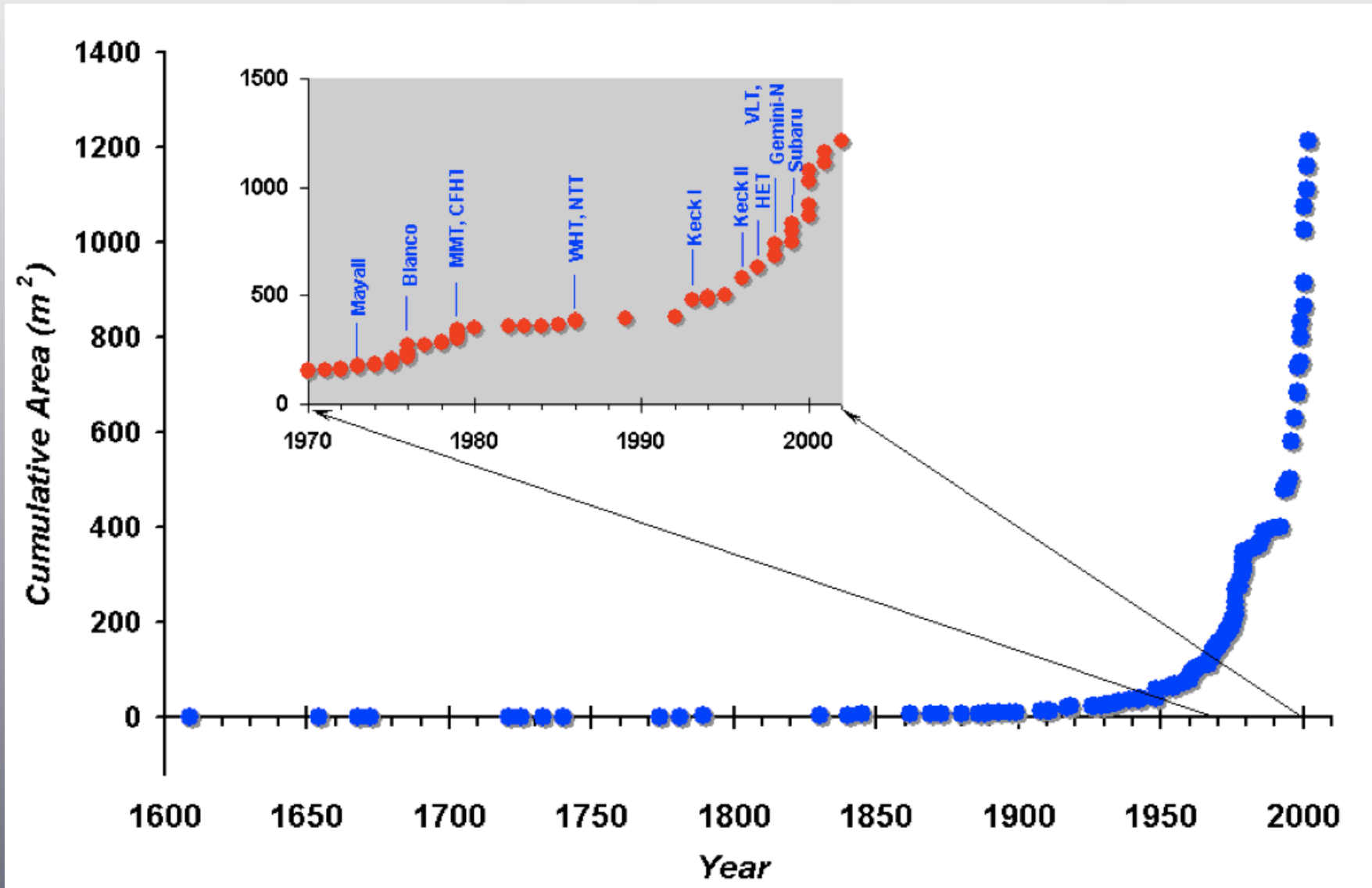
# Telescope Collective Area Increase

Why do we need the VO?



Why do we need the VO?

# Telescope Collective Area Increase





# Why do we need the VO?



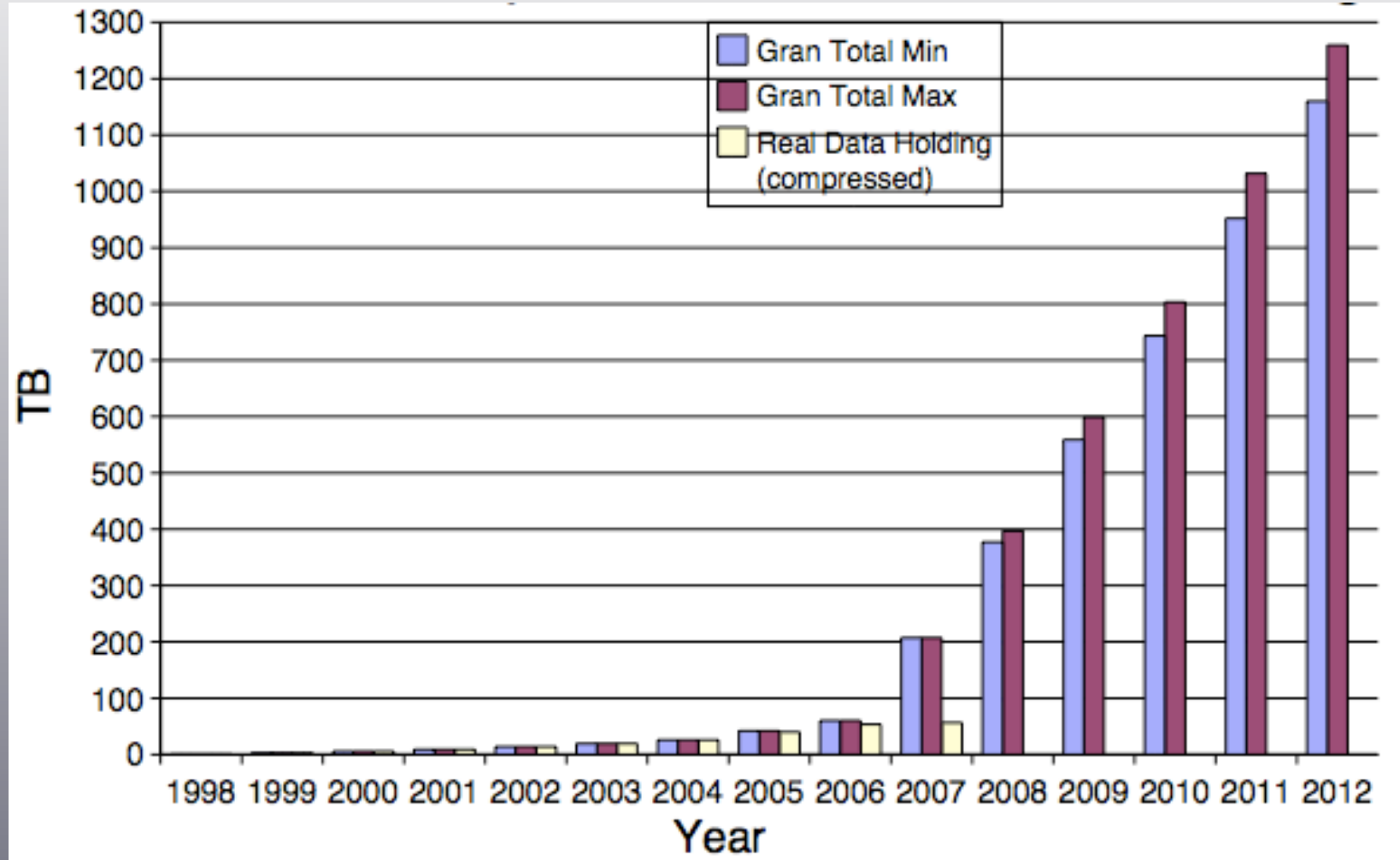
## ESO Archive Growth

Why do we need the VO?



# ESO Archive Growth

Why do we need the VO?





# Why do we need the VO?



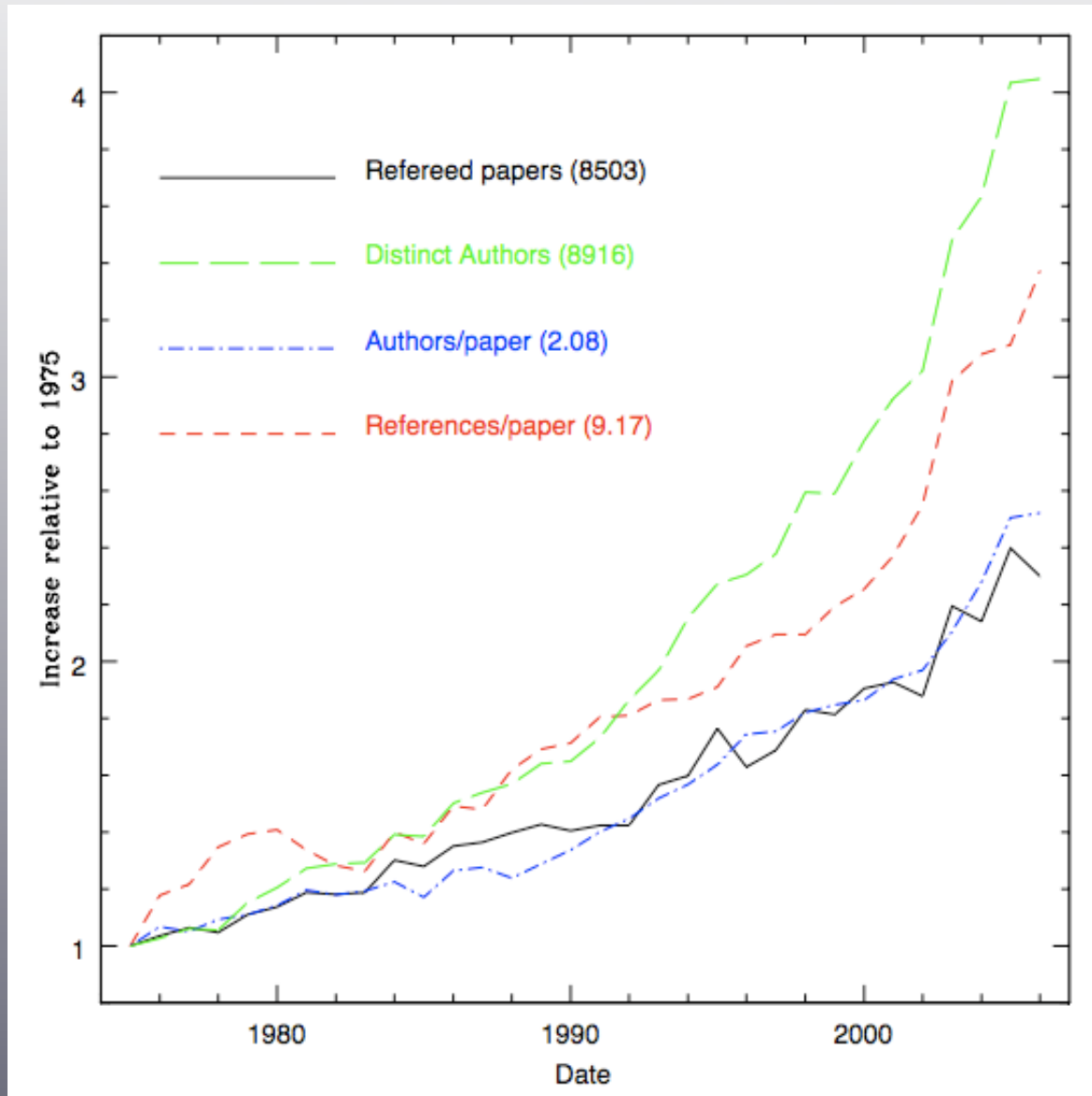
## Astronomical Publications Growth

Why do we need the VO?



# Astronomical Publications Growth

Why do we need the VO?



White 2007





# Dictionary

# Dictionary

- **Registry**: the yellow pages of the VO

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- **PLASTIC**: PLatform for AStronomy Tool InterConnection

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- **PLASTIC**: PLatform for AStronomy Tool InterConnection
- **MySpace**: virtual space storage

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# Dictionary

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- **PLASTIC**: PLatform for AStronomy Tool InterConnection
- **MySpace**: virtual space storage
- **VOTable**: data stored in XML format
- **SIA**: Simple Image Access
- **SSA**: Simple Spectral Access








Data Discovery			
Aladin			
VO Desktop			
<i>Datascope</i>			
Octet			
<i>OpenSkyQuery</i>			
<i>VoEventNet</i>			
<i>ASPID</i>			
<i>NED</i>			

Data Discovery	Spectral Analysis		
Aladin	SPLAT		
VO Desktop	VOSpec		
<i>Datascope</i>	Specview		
Octet	Euro-3D		
<i>OpenSkyQuery</i>	<i>NVO Spectrum</i>		
<i>VoEventNet</i>			
<i>ASPID</i>			
<i>NED</i>			

Data Discovery	Spectral Analysis	Data visualisation and handling	
Aladin	SPLAT	TopCat	
VO Desktop	VOSpec	STILTS	
<i>Datascope</i>	Specview	VOPlot	
Octet	Euro-3D	VisIVO	
<i>OpenSkyQuery</i>	<i>NVO Spectrum</i>	VOCat	
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<i>NED</i>		<i>NVO Footprint</i>	

Data Discovery	Spectral Analysis	Data visualisation and handling	SED building and fitting
Aladin	SPLAT	TopCat	VOSED
VO Desktop	VOSpec	STILTS	Yafit
<i>Datascope</i>	Specview	VOPlot	easy-z
Octet	Euro-3D	VisIVO	GOSSIP
<i>OpenSkyQuery</i>	<i>NVO Spectrum</i>	VOCat	<i>NVO Filter</i>
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# Aladin Sky Atlas

<http://aladin.u-strasbg.fr/>



# Aladin Sky Atlas

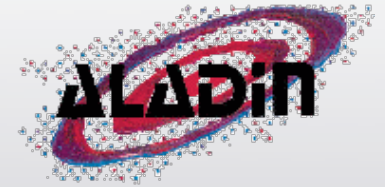
<http://aladin.u-strasbg.fr/>



*Description*

# Aladin Sky Atlas

<http://aladin.u-strasbg.fr/>



*Description* Aladin is an interactive software sky atlas allowing the user to visualize digitized astronomical images, superimpose entries from astronomical catalogues or databases, and interactively access related data and information from the Simbad database, the VizieR service and other archives for all known sources in the field.

The Aladin sky atlas is available in three modes: a Java Standalone application, a Java applet interface and a simple previewer.

Aladin v4.0

ALADIN
Load...
Save...
Tools...
Plugins...
Print...
Help...
Quit

Position ICRS
Pixel full


**Aladin - v4.0**

ALADIN is an interactive software sky atlas developed by the CDS, allowing one to visualize digitized images of any part of the sky, to superimpose entries from astronomical catalogs, and to interactively access related data and information.

**To start**

- 1) Click on the "LOAD" menu;
- 2) Click on a data provider logo;
- 3) Fill up the form (target or filename or ...);
- 4) Click on the "SUBMIT" bouton;

repeat steps 2, 3 and 4 to superimpose additional data.

















CDS  
CENTRE DE DONNÉES  
ASTRONOMIQUES DE STRASBOURG

Aladin is developed by Pierre Fernique,  
Thomas Boch and François Bonnarel.  
(c) ULP/CNRS 1999-2007

multiview

Zoom 1x

select
pan
zoom
dist
draw
tag
text
filter
rgb
assoc
rsamp
cont
mglss
pixel
prop
del

(c)1999-2007 ULP/CNRS - Centre de Donnees astronomiques de Strasbourg

Aladin v4.0

Load... Save... Tools... Plugins... Print... Help... Quit

Position [ICRS] Pivel [Full]

### Server selector

Others: File all VO FOV SExtractor

**Images**

- Aladin images
- SkyView
- Sloan
- MAST
- CADZ
- DSS...
- VLA...
- Others...

#### VizieR catalog service ?

Specify a target, and a catalog name or identification...

Target

Catalog  Radius   Get all columns

... don't know which catalog ? Select the potentially interesting ones with words/keywords !

Author, free text...:

Wavelength	Mission	Astronomy
Radio	ANS	Nonstellar
IR	ASCA	Novae
optical	BeppoSAX	Obs_Log
UV	CGRO	Open_Clusters
EUV	COBE	Orbits
X-ray	Chandra	Parallaxes
Gamma-ray	Copernicus	Photometry
	EUVE	Photometry:interme
	EXOSAT	Photometry:narrow-
	Einstein	Photometry:surface
	EUVE	Photometry:wide

**Catalogs**

- All VizieR
- Surveys
- Missions
- SIMBAD
- NED
- SkyBot
- Others..



### Server selector

Others: File all VO FOV SExtractor

**VizieR catalog service** ?

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Target

**Catalogs**

- All VizieR
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- Others..

### 438 catalog(s) found

Catalogs			
V/27	optic	1	Proper Motions and UBV Photometry in h+{chi} Per
V/28	optic	1	Proper Motions, UBV Photometry, Four Open Clusters
V/52	optic	1	Photometry and Proper Motions in M67 (Frolov+
V/80	optic	1	Low-Mass Stars' Membership in Alpha Persei Cluster
V/96	optic	1	Catalogue of open cluster parameters from UBV-
VII/5A	optic	1	Star Clusters and Associations, Selected Data
VII/92A	optic	1	Open Cluster Data 5th Edition (Lynga 1987)
VII/101A	optic	1	Star Clusters/Associations. III. Open Clusters
VII/106	optic	1	Open Cluster Interstellar Matter Database
VII/183	optic	1	The Cluster System of the LMC (Kontizas+ 1990)
<b>VII/229A</b>	<b>optic</b>	<b>1</b>	<b>Optically visible open clusters and Candidates</b>
J/ApJ/325/798	X-ray	1	Einstein survey of stars in the Hyades (Micela+,
J/ApJ/348/557	X-ray	1	X-ray studies of stars in the Pleiades (Micela+,
J/ApJ/351/492	X-ray	1	X-ray emission in the Ursa Major stream. (Schmitt
J/ApJ/446/622	UV	1	UV and optical imagery of LH 52 and LH 53 (Hill+
J/ApJ/448/179	optic	1	HST photometry in R136 (Hunter+ 1995)
J/ApJ/448/683	optic	1	Hyades RASS observations (Stern+ 1995)
J/ApJ/449/164	optic	1	Variable Stars in MC Clusters. II (Sebo+ 1995)
J/ApJ/483/826	optic	1	BVI CCD photometry of Berkeley 17 (Phelps 1997)
J/ApJ/497/736	IR	1	The young cluster IC 348. (Herbig, 1998)

Aladin v4.0

Load... Save... Tools... Plugins... Print... Help... Quit

Position ICRS Pixel full

VII.229A

Images Aladin images SkyView Tar

Catalogs

V/27	optic
V/28	optic
V/52	optic
V/80	optic
V/96	optic
VII/5A	optic
VII/92A	optic
VII/101A	optic
VII/106	optic
VII/183	optic
VII/229A	optic
J/ApJ/325/798	X-ray
J/ApJ/348/557	X-ray
J/ApJ/351/492	X-ray
J/ApJ/446/622	UV
J/ApJ/448/179	optic
J/ApJ/448/683	optic
J/ApJ/449/164	optic
J/ApJ/483/826	optic
J/ApJ/497/736	IR

select pan zoom dist draw tag text filter rgb assoc rsamp cont mqlss pixel prop del

238.55 x 238.55

15 92.16 x 0.0

- VII.229A

Zoom 1x

Get info.

(c)1999-2007 ULP/CN

TIPS: \*\*\* Draw a cut graph via the "Dist" tool \*\*\*

1 plane, 1 view, 5Mb

Server selector

Others:  File  all VO  FOV  SExtractor

Images



Aladin image server

>>> Step 1: Specify a target/radius and press SUBMIT

Target

Radius

Step 2: load one or several images  by list or  tree

Default image format:  JPEG  FITS

Catalogs



Reset

Clear

History

SUBMIT

Close

Server selector

Others:  File  all VO  FOV  SExtractor

Images



Aladin image server ?

Step 1: Specify a target/radius and press SUBMIT

Target

Radius

>>> Step 2: load one or several images  by list or  tree

	SURVEY	COLOR	SIZE	OBS ID	RE
<input type="checkbox"/>	SERC	ER(optical R)	12.8 'x12.8 '	DSS2.831	1.
<input type="checkbox"/>	SERC	I(optical I)	12.8 'x12.8 '	DSS2.831	1.
<input type="checkbox"/>	POSSI	O	12.8 'x12.8 '	DSS2.590	1.
<input type="checkbox"/>	POSSII	J(optical B)	12.8 'x12.8 '	DSS2.831	1.
<input type="checkbox"/>	POSSII	F(optical R)	12.8 'x12.8 '	DSS2.831	1.
<input type="checkbox"/>	2MASS	K(IR K)	8.6 'x17.1 '	000901N_KI0930009	1.
<input type="checkbox"/>	2MASS	K(IR K)	8.6 'x13.9 '	000901N_KI0940267	1.
<input type="checkbox"/>	2MASS	K(IR K)	8.6 'x17.1 '	000901N_KI0950009	1.
<input type="checkbox"/>	2MASS	K(IR K)	8.6 'x13.8 '	000901N_KI0960267	1.

Default image format:  JPEG  FITS

Catalogs



Reset

Clear


History

SUBMIT


Close


Aladin v4.0


Load... Save... Tools... Plugins... Print... Help... Quit


Others:  Position ICRS Pixel full


**Images**


 Aladin images


 SkyView


 Sloan

 MAST

 GADC

 DSS...

 VLA...

 Others...

Step

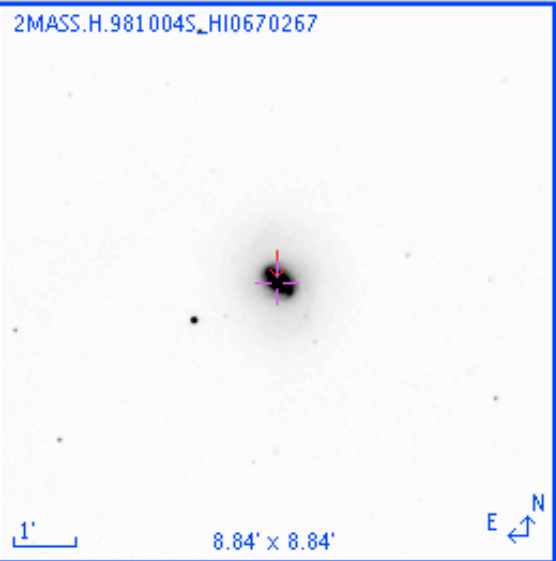
Target

Radius

>>> Step 2: loa

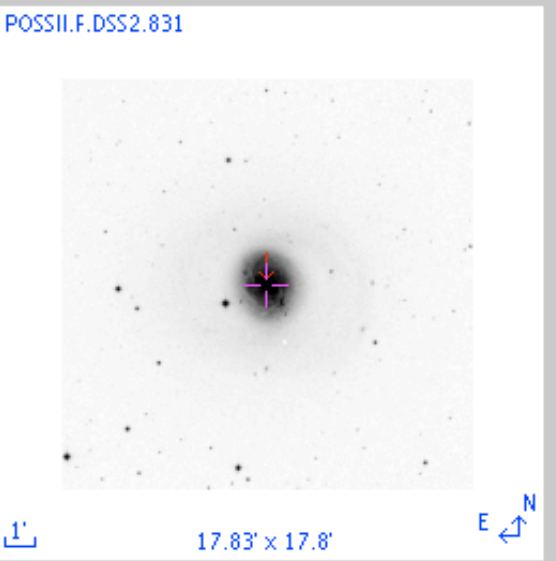
SURVEY

- SERC
- SERC
- POSSI
- POSSII
- POSSII
- 2MASS
- 2MASS
- 2MASS
- 2MASS



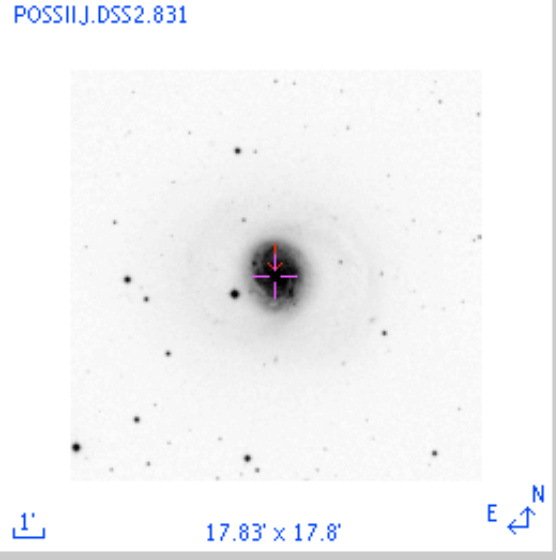
2MASS.H.9810045\_HI0670267

8.84' x 8.84'



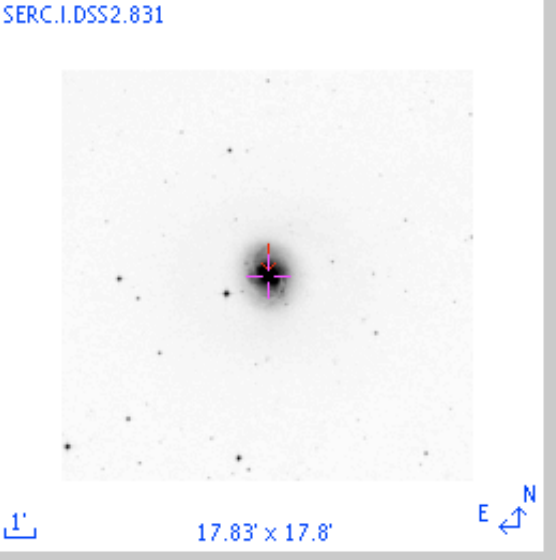
POSSII.F.DSS2.831

17.83' x 17.8'



POSSII.J.DSS2.831

17.83' x 17.8'



SERC.I.DSS2.831

17.83' x 17.8'

select

pan

zoom

dist

draw

tag

text

filter

rgb

assoc

rsamp

cont

mlss

pixel

prop

del

Zoom 1/2x

Reset

multiview

8.54' x 17.07'



Aladin v4.0

Load... Save... Tools... Plugins... Print... Help... Quit

Position ICRS Pixel full

Others: **ALADIN**

Images

- Aladin images
- SkyView
- Sloan
- MAST
- CADC
- DSS...
- VLA...
- Others...

Step

Target

Radius

>>> Step 2: loa

SURVEY

- SERC
- SERC
- POSSI
- POSSII
- POSSII
- 2MASS
- 2MASS
- 2MASS
- 2MASS

Reset

RGB img

select pan zoom dist draw tag text filter rgb assoc rsamp cont mqlss pixel prop del

RGB img

POSSII.F.DSS

POSSII.J.DSS

SERC.I.DSS2

2MASS.H.98

8.54' x 17.07'

4.31' x 4.42'

multiview

- RGB img

Zoom 2x

Others:

Images

- Aladin images
- SkyView
- Sloan
- MAST
- CADC
- DSS...
- VLA...
- Others...

Step

Target

Radius

>>> Step 2: loa

SURVEY

- SERC
- SERC
- POSSI
- POSSII
- POSSII
- 2MASS
- 2MASS
- 2MASS
- 2MASS

Reset

Aladin v4.0

Load... Save... Tools... Plugins... Print... Help... Quit

Position ICRS Pixel full

RGB img

select pan zoom dist draw tag text filter rgb assoc rsamp cont mqlss pixel prop del

Contours RGB img POSSII.F.DSS POSSII.J.DSS SERC.I.DSS2 2MASS.H.98

8.54' x 17.07'

Zoom 2x

multiview - RGB img

Others:

**Images**

- Aladin images
- SkyView
- Sloan
- MAST
- CADC
- DSS...
- VLA...
- Others...

Step

Target

Radius

>>> Step 2: loa

SURVEY

- SERC
- SERC
- POSSI
- POSSII
- POSSII
- 2MASS
- 2MASS
- 2MASS
- 2MASS

Reset

Aladin v4.0

Load... Save... Tools... Plugins... Print... Help... Quit

Position ICRS

RGB img

Aladin Script Console...  
 VOplot (VO-India): 2D plotter for selected objects...  
 Catalog cross match tool...  
 Image astrometrical (re)calibration...  
 Catalog astrometrical (re)calibration...  
 Catalog column calculator...  
 ROI extractor: postage stamp image generation tool...  
 Start Simbad pointer: automatical object discovery  
 Macro controller...  
 User preferences...

tag  
text  
filter  
rgb  
assoc  
rsamp  
cont  
mglss  
pixel  
prop  
del

Contours  
RGB img  
POSSII.F.DSS  
POSSII.J.DSS  
SERC.I.DSS2  
2MASS.H.98

6.54' x 17.07'

4.31' x 4.42'

Tools (console, x-match and recalibration tools, preferences,...)

Zoom 2x





# Server selector

Others: File all VO FOV SExtractor

## Images



## Catalogs



VO discovery tool

Target

Radius

Servers  Images  Catalogs  Spectra

Press it to stop the processing =>

Liste des serveurs

Check/uncheck the servers concerned by the ALL VO discovery mode

Select all Unselect all

Image servers

Target	Radio	Server	Status	Action
1)	<input checked="" type="checkbox"/>	The Aladin image server (CDS/Strasbourg) - DSS/MAMA/2MASS/IRAS	not yet used	<input type="button" value="?"/>
2)	<input checked="" type="checkbox"/>	SDSS DR6 images	not yet used	<input type="button" value="?"/>
3)	<input checked="" type="checkbox"/>	Multimission Archive at STScI (MAST)	not yet used	<input type="button" value="?"/>
4)	<input checked="" type="checkbox"/>	MAMA ESO R Atlas - VO-Paris (Fr)	not yet used	<input type="button" value="?"/>
5)	<input checked="" type="checkbox"/>	Canadian Astronomical Data Center (CADC)	not yet used	<input type="button" value="?"/>
6)	<input checked="" type="checkbox"/>	Chandra X-Ray Observatory Data Archive	not yet used	<input type="button" value="?"/>
7)	<input checked="" type="checkbox"/>	SIA Service for Subaru/XMM-Newton Deep Survey 01	not yet used	<input type="button" value="?"/>
8)	<input checked="" type="checkbox"/>	NCSA Astronomy Digital Image Library Simple Image Access	not yet used	<input type="button" value="?"/>
9)	<input checked="" type="checkbox"/>	The IRAS Galaxy Atlas	not yet used	<input type="button" value="?"/>
10)	<input checked="" type="checkbox"/>	Spitzer First Look Survey (FLS) -- Ancillary VLA Data	not yet used	<input type="button" value="?"/>
11)	<input checked="" type="checkbox"/>	2MASS 6X Lockman Hole Ancillary Data Atlas	not yet used	<input type="button" value="?"/>
12)	<input checked="" type="checkbox"/>	The Mid-Infrared Galaxy Atlas	not yet used	<input type="button" value="?"/>
13)	<input checked="" type="checkbox"/>			

R

SUBMIT Close

Images

- Aladin images
- SkyView
- Sloan
- MAST
- CADC
- DSS...
- VLA...
- Others...



# Server selector

Others: File all VO FOV SExtractor

## Images



## Catalogs



VO discovery tool

Target

Radius

Servers  Images  Catalogs  Spectra

Press it to stop the processing =>

# Server selector

Others:



File



all VO



FOV



SExtractor

## Images



## Catalogs



### VO discovery tool ?

Target

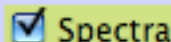
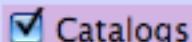
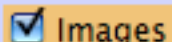
CDF-S

Grab coord

Radius

6'

Servers



Detailed list...

SSA Service for Optical Spectroscopy in the CDF-S

- CDFS X-Ray followup spectroscopy: Target cdfs\_627, RA I
- CDFS X-Ray followup spectroscopy: Target cdfs\_627, RA I
- CDFS X-Ray followup spectroscopy: Target cdfs\_627, RA I
- CDFS X-Ray followup spectroscopy: Target cdfs\_233, RA I
- CDFS X-Ray followup spectroscopy: Target cdfs\_233, RA I
- CDFS X-Ray followup spectroscopy: Target cdfs\_233, RA I
- CDFS X-Ray followup spectroscopy: Target cdfs\_570, RA I
- CDFS X-Ray followup spectroscopy: Target cdfs\_570, RA I
- CDFS X-Ray followup spectroscopy: Target cdfs\_570, RA I

Press it to stop the processing =>

Stop it

Reset

Clear

History

SUBMIT

Close

# Server selector

Others:



File



all VO



FOV



SExtractor

## Images



## Catalogs



## VO discovery tool

?

Target

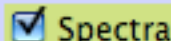
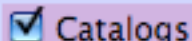
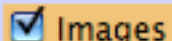
CDF-S

Grab coord

Radius

6'

Servers



Detailed list...

SSA Service for Optical Spectroscopy in the CDF-S

- CDFS X-Ray followup spectroscopy: Target cdfs\_627, RA I
- CDFS X-Ray followup spectroscopy: Target cdfs\_627, RA I
- CDFS X-Ray followup spectroscopy: Target cdfs\_627, RA I
- CDFS X-Ray followup spectroscopy: Target cdfs\_233, RA I
- CDFS X-Ray followup spectroscopy: Target cdfs\_233, RA I
- CDFS X-Ray followup spectroscopy: Target cdfs\_233, RA I
- CDFS X-Ray followup spe... 670, RA I
- CDFS X-Ray followup spe... 670, RA I
- CDFS X-Ray followup spe... 670, RA I

Open with ...

Collapse all

Expand all

Flat view

Press it to stop the processing

Reset

Clear

History

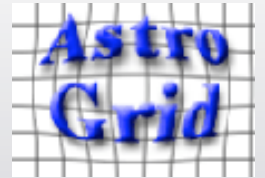
SUBMIT

Close



# Astrogrid VO Desktop

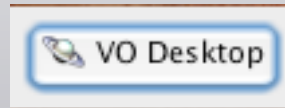
<http://www.astrogrid.org/>





# Astrogrid VO Desktop

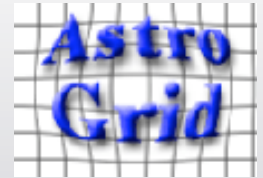
<http://www.astrogrid.org/>





# Astrogrid VO Desktop

<http://www.astrogrid.org/>



VO Desktop

- New VO Explorer
- New File Explorer
- New Task Runner
- New All-VO Astroscope
- New All-VO Helioscope

---

- VO Desktop and Astro Runtime Preferences...
- Run Self Tests
- Show Background Processes

---

- Login to Community... ⌘L
- Logout

---

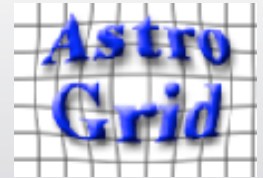
- VO Desktop Help
- About VO Desktop

---

- Exit VO Desktop

# Astrogrid VO Desktop

<http://www.astrogrid.org/>



A screenshot of the VO Desktop application's main menu. The menu is displayed over a dark gray background. At the top is a button labeled "VO Desktop" with a small icon of a telescope. Below it is a list of menu items. The item "New All-VO Astroscope" is highlighted with a blue background. The menu items are: "New VO Explorer", "New File Explorer", "New Task Runner", "New All-VO Astroscope", "New All-VO Helioscope", "VO Desktop and Astro Runtime Preferences...", "Run Self Tests", "Show Background Processes", "Login to Community..." (with a small icon and a keyboard shortcut symbol ⌘L), "Logout" (with a small icon), "VO Desktop Help", "About VO Desktop", and "Exit VO Desktop" (with a red power button icon).

In the old days ...

## 1. Search

Position or Object Name

Search Radius (degs/")

 Degrees  Sexagesimal Images Spectra Catalogues

Search

## 2. Navigate



Go To Top



Clear selection

## 3. Process



Save

Radial

Hyperbolic

Services



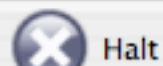
## 1. Search

Position or Object Name

40.670125,-0.013444

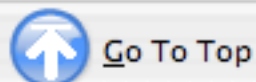
Search Radius (degs/")

0.010000

 Degrees  Sexagesimal Images Spectra Catalogues

Halt

## 2. Navigate



Go To Top

 Clear selection

## 3. Process

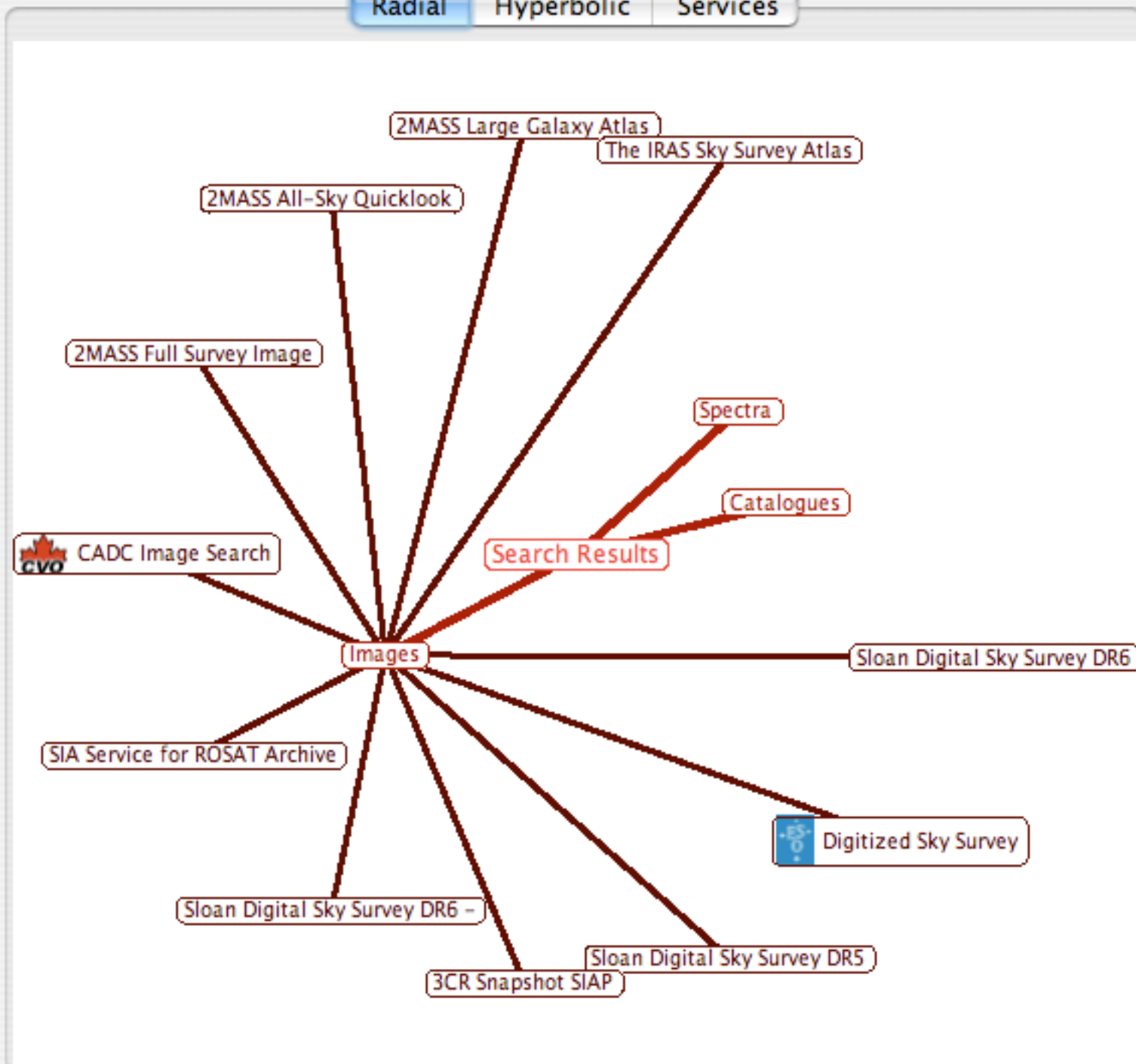


Save

Radial

Hyperbolic

Services









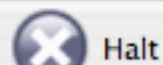
## 1. Search

Position or Object Name

40.670125,-0.013444

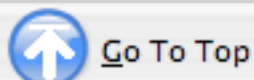
Search Radius (degs/")

0.010000

 Degrees  Sexagesimal Images Spectra Catalogues

Halt

## 2. Navigate



Go To Top

 Clear selection

## 3. Process

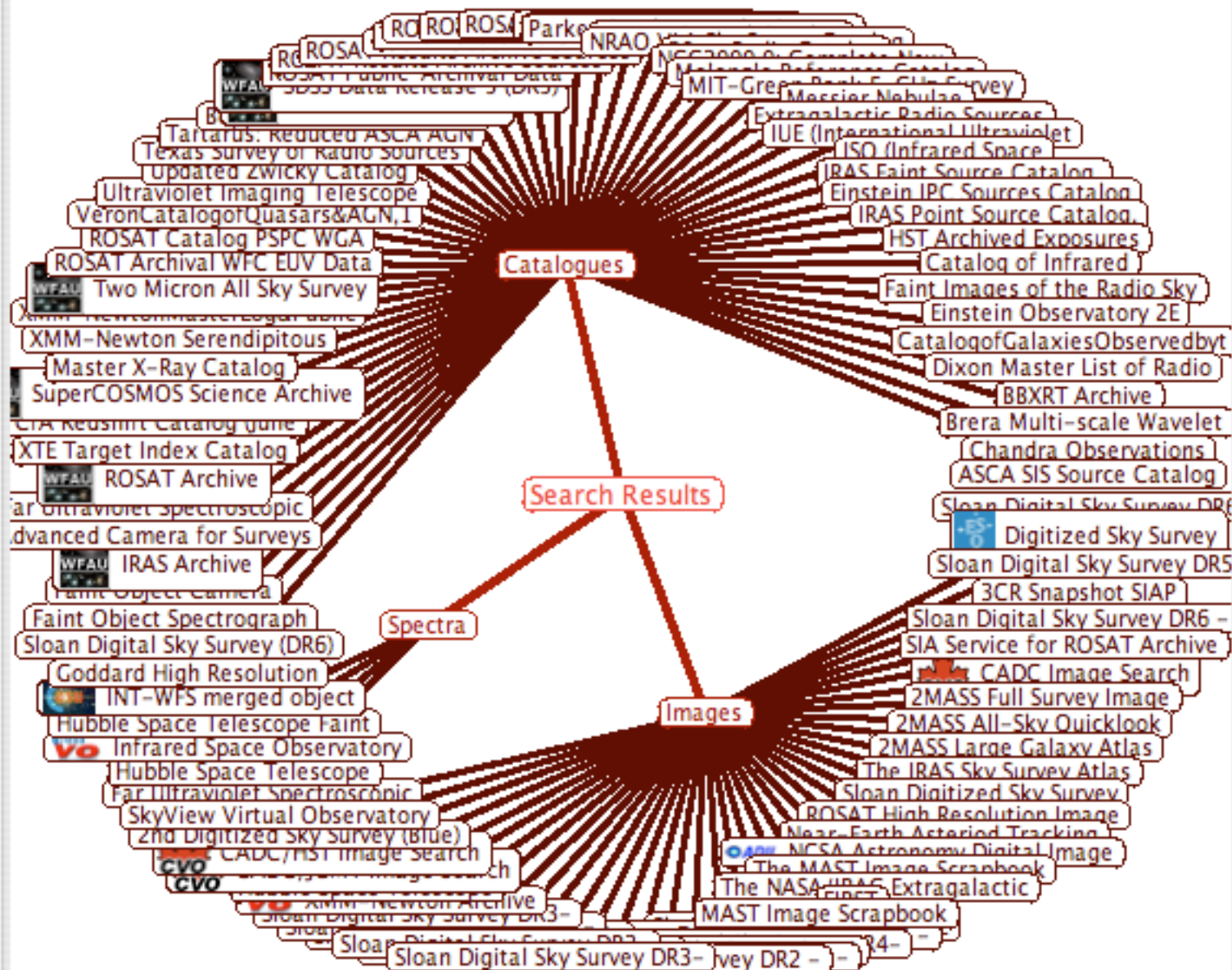


Save

Radial

Hyperbolic

Services





# AstroScope

Radial Hyperbolic Services

## 1. Search

Position or Object Name

40.670125,-0.013444

Search Radius (degs/")

0.010000

Degrees  Sexagesimal

Images

Spectra

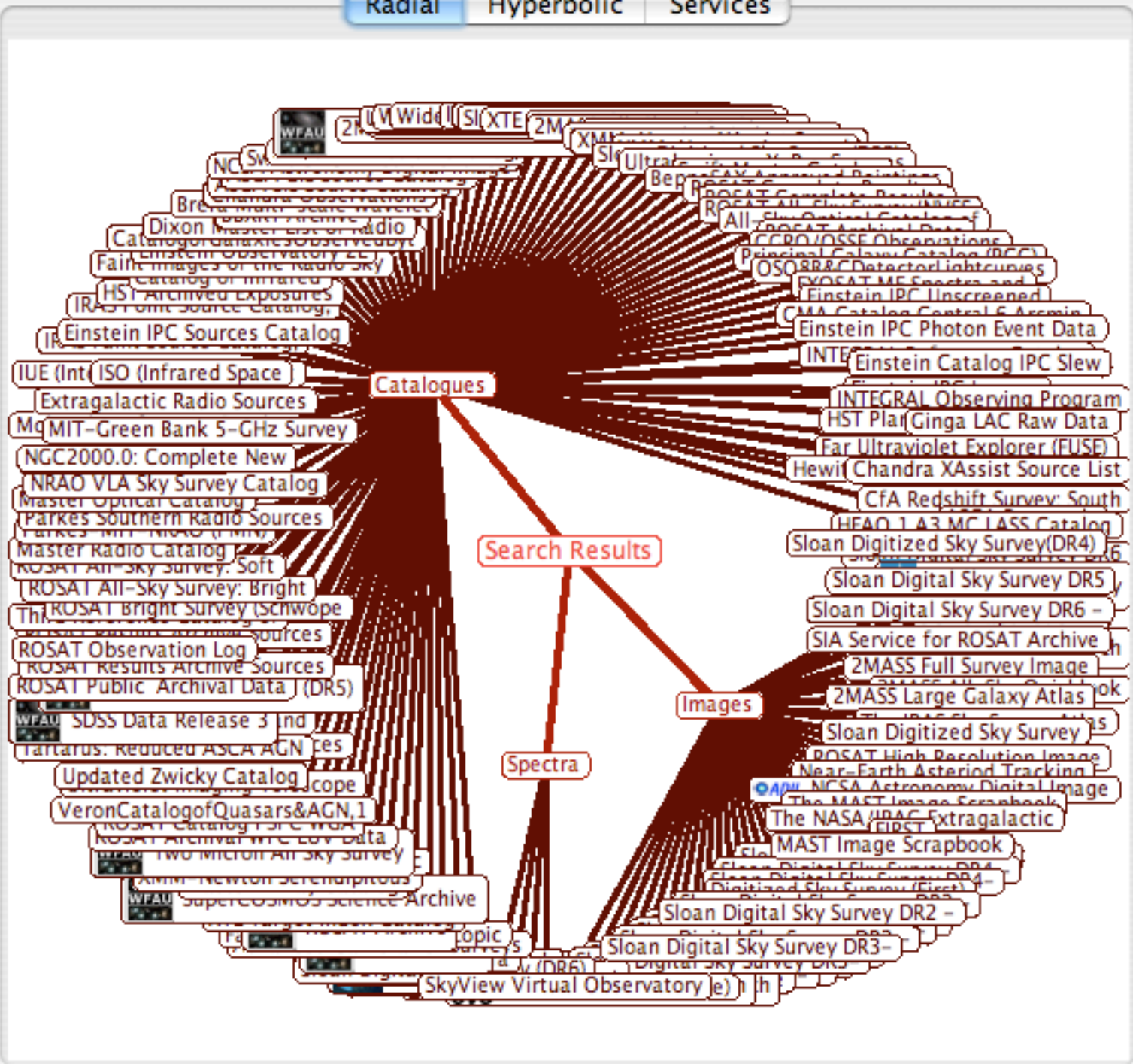
Catalogues

Halt

## 2. Navigate

Go To Top

## 3. Process



Radial

Hyperbolic

Services

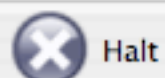
## 1. Search

Position or Object Name

40.670125,-0.013444

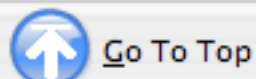
Search Radius (degs/")

0.010000

 Degrees  Sexagesimal Images Spectra Catalogues

Halt

## 2. Navigate



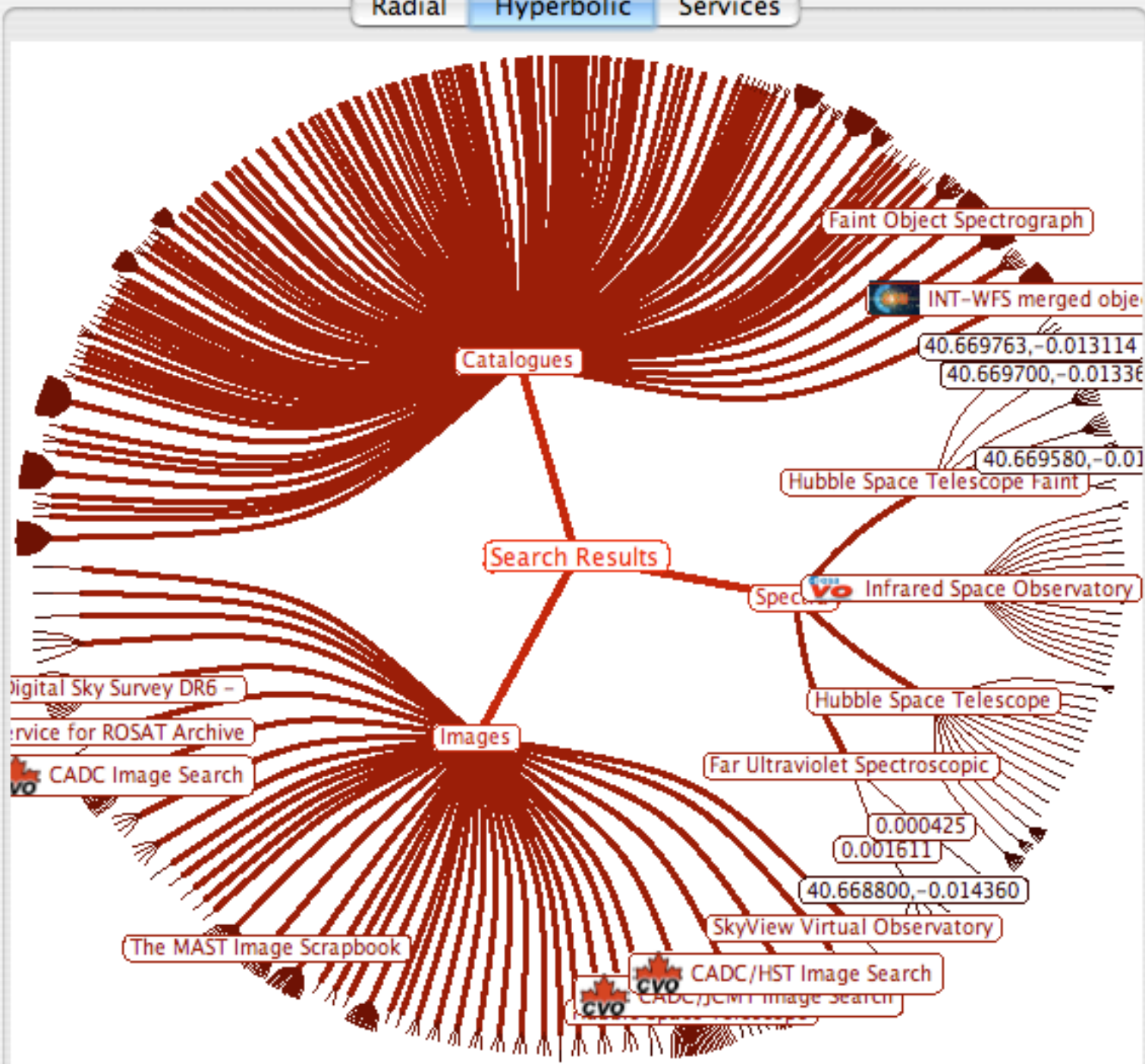
Go To Top

 Clear selection

## 3. Process



Save



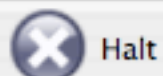
## 1. Search

Position or Object Name

40.670125,-0.013444

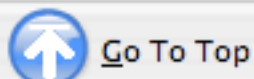
Search Radius (degs/")

0.010000

 Degrees  Sexagesimal Images Spectra Catalogues

Halt

## 2. Navigate



Go To Top

 Clear selection

## 3. Process



Save

Radial

Hyperbolic

Services

Service	Results	Message
<a href="#">sky Survey DR6</a>	1	
<a href="#">Survey</a>	16	
<a href="#">sky Survey DR5</a>	1	
<a href="#">t SIAP</a>	8	
<a href="#">sky Survey DR6 - Images</a>	15	
<a href="#">r ROSAT Archive</a>	42	
<a href="#">Science Data Archive Interoperability System</a>	0	
<a href="#">nage Access service</a>	0	
<a href="#">Survey 2 - Red</a>		ERROR FileNotFoundException http://www-
<a href="#">Survey 2</a>		ERROR FileNotFoundException http://www-
<a href="#">Survey 1</a>		ERROR FileNotFoundException http://www-
<a href="#">Survey 2 - Infrared</a>		ERROR FileNotFoundException http://www-
<a href="#">Survey 2 - Blue</a>		ERROR FileNotFoundException http://www-
<a href="#">ation Image Service</a>	0	
<a href="#">tion Survey with HST</a>	0	
<a href="#">talog Image Service</a>	0	
<a href="#">Image Service</a>	0	
<a href="#">mage Search</a>	0	
<a href="#">Telescope in Space Data Atlas</a>	0	
<a href="#">age Search</a>	0	
<a href="#">e Space Experiment Data Atlas</a>	0	
<a href="#">Search</a>	63	
<a href="#">/ide-area InfraRed Extragalactic Survey</a>	0	
<a href="#">rvey Image Service</a>	24	
<a href="#">ook Survey (FLS) -- NOAO ELAIS N1 -- R</a>	0	
<a href="#">ckman Hole Ancillary Data Atlas</a>	0	
<a href="#">ook Survey (FLS) -- NOAO Extragalactic -- R</a>	0	
<a href="#">y Quicklook Image Service</a>	24	
<a href="#">Galaxy Atlas</a>	3	
<a href="#">ook Survey (FLS) -- Ancillary VLA Data</a>	0	
<a href="#">Survey Atlas</a>	1	





# AstroScope

- Radial
- Hyperbolic
- Services

## 1. Search

Position or Object Name

40.670125,-0.013444

Search Radius (degs/")

0.010000

Degrees  Sexagesimal

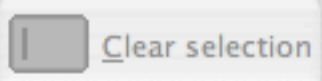
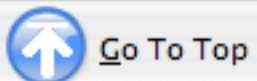
Images

Spectra

Catalogues



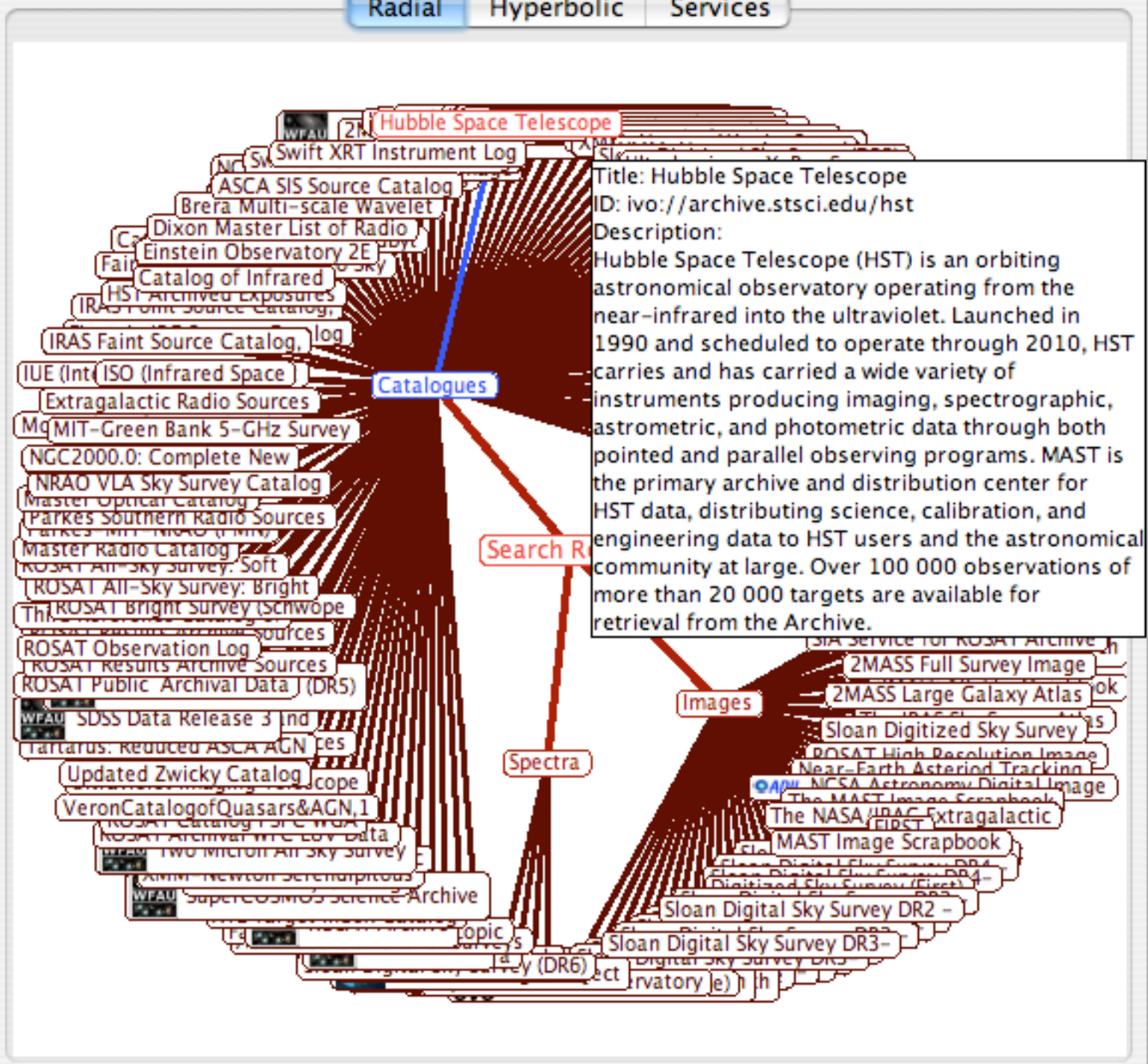
## 2. Navigate



## 3. Process



Save



Title: Hubble Space Telescope  
ID: ivo://archive.stsci.edu/hst  
Description:  
Hubble Space Telescope (HST) is an orbiting astronomical observatory operating from the near-infrared into the ultraviolet. Launched in 1990 and scheduled to operate through 2010, HST carries and has carried a wide variety of instruments producing imaging, spectrographic, astrometric, and photometric data through both pointed and parallel observing programs. MAST is the primary archive and distribution center for HST data, distributing science, calibration, and engineering data to HST users and the astronomical community at large. Over 100 000 observations of more than 20 000 targets are available for retrieval from the Archive.



1. Search

Position or Object Name

40.670125,-0.013444

Search Radius (degs/")

0.010000

Degrees  Sexagesimal

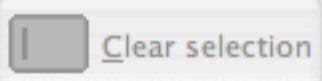
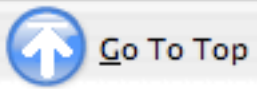
Images

Spectra

Catalogues



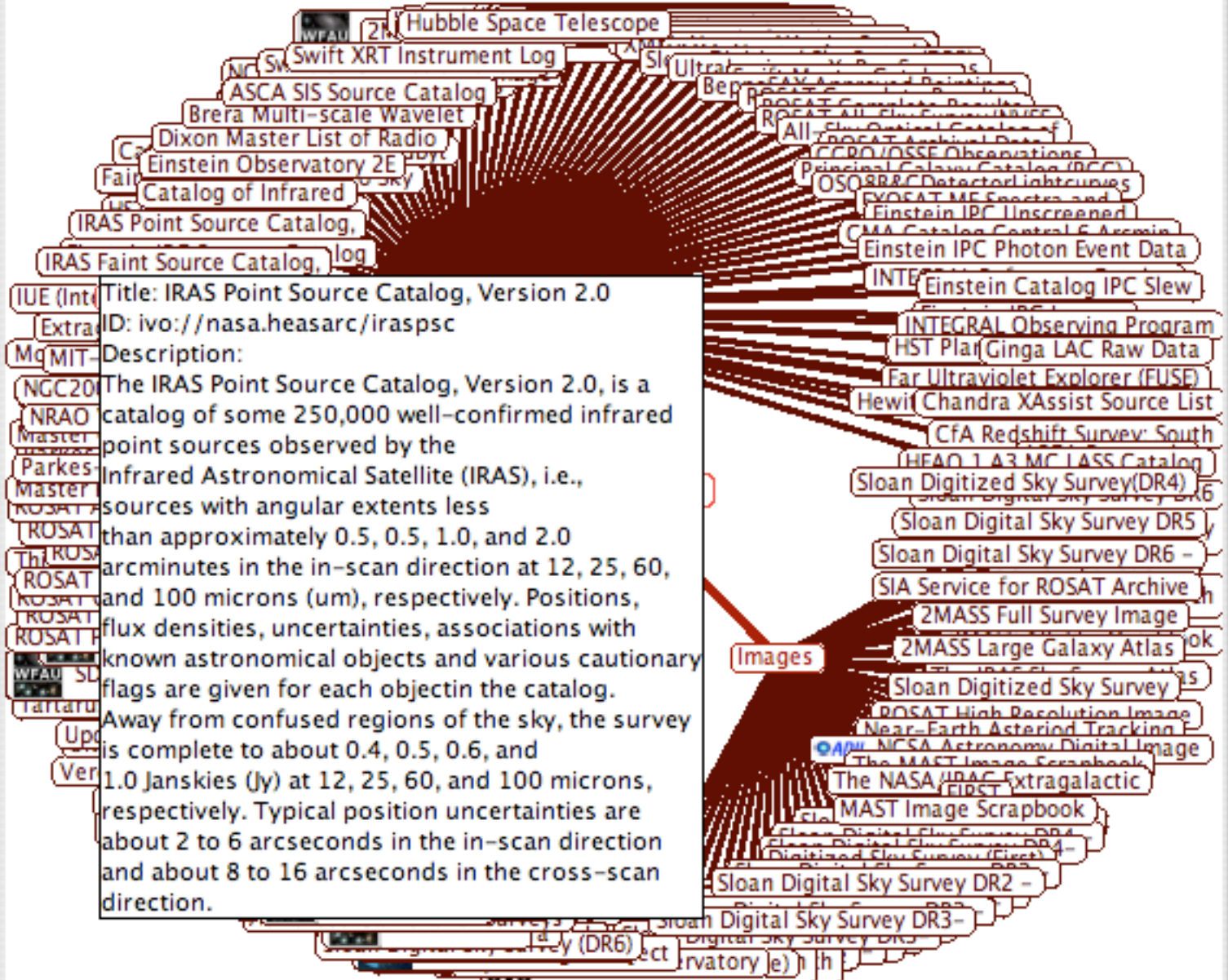
2. Navigate



3. Process



Save



# AstroScope

Radial Hyperbolic Services

## 1. Search

Position or Object Name

40.670125,-0.013444

Search Radius (degs/")

0.010000

Degrees  Sexagesimal

Images

Spectra

Catalogues

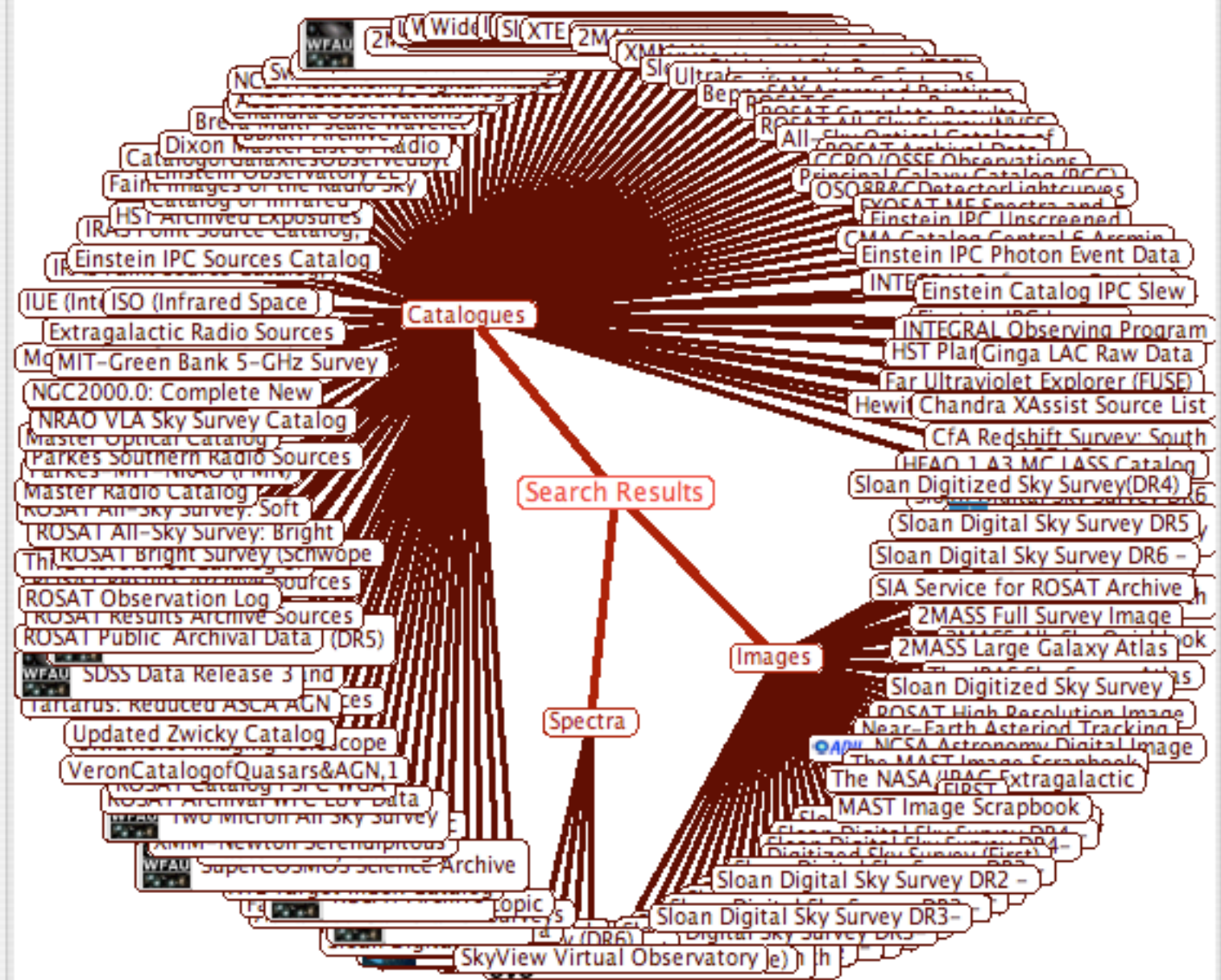
Halt

## 2. Navigate

Go To Top

Clear selection

## 3. Process





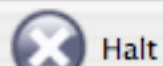
## 1. Search

Position or Object Name

40.670125,-0.013444

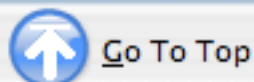
Search Radius (degs/")

0.010000

 Degrees  Sexagesimal Images Spectra Catalogues

Halt

## 2. Navigate



Go To Top

 Clear selection

## 3. Process



View tables in Aladin



View images in Aladin

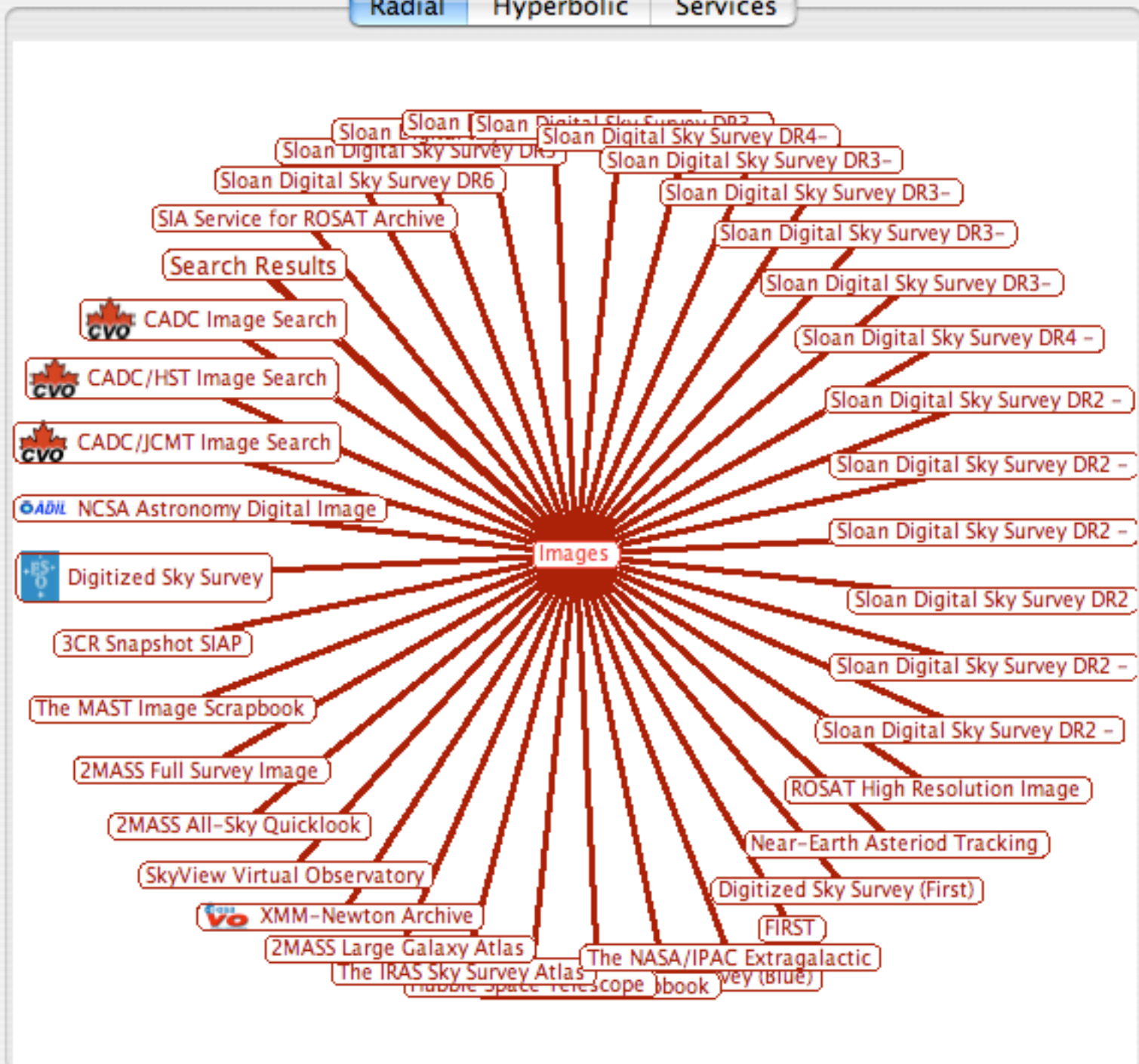


Save

Radial

Hyperbolic

Services





1. Search

Position or Object Name

40.670125,-0.013444

Search Radius (degs/")

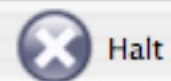
0.010000

Degrees  Sexagesimal

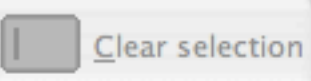
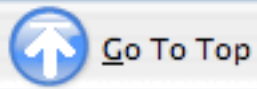
Images

Spectra

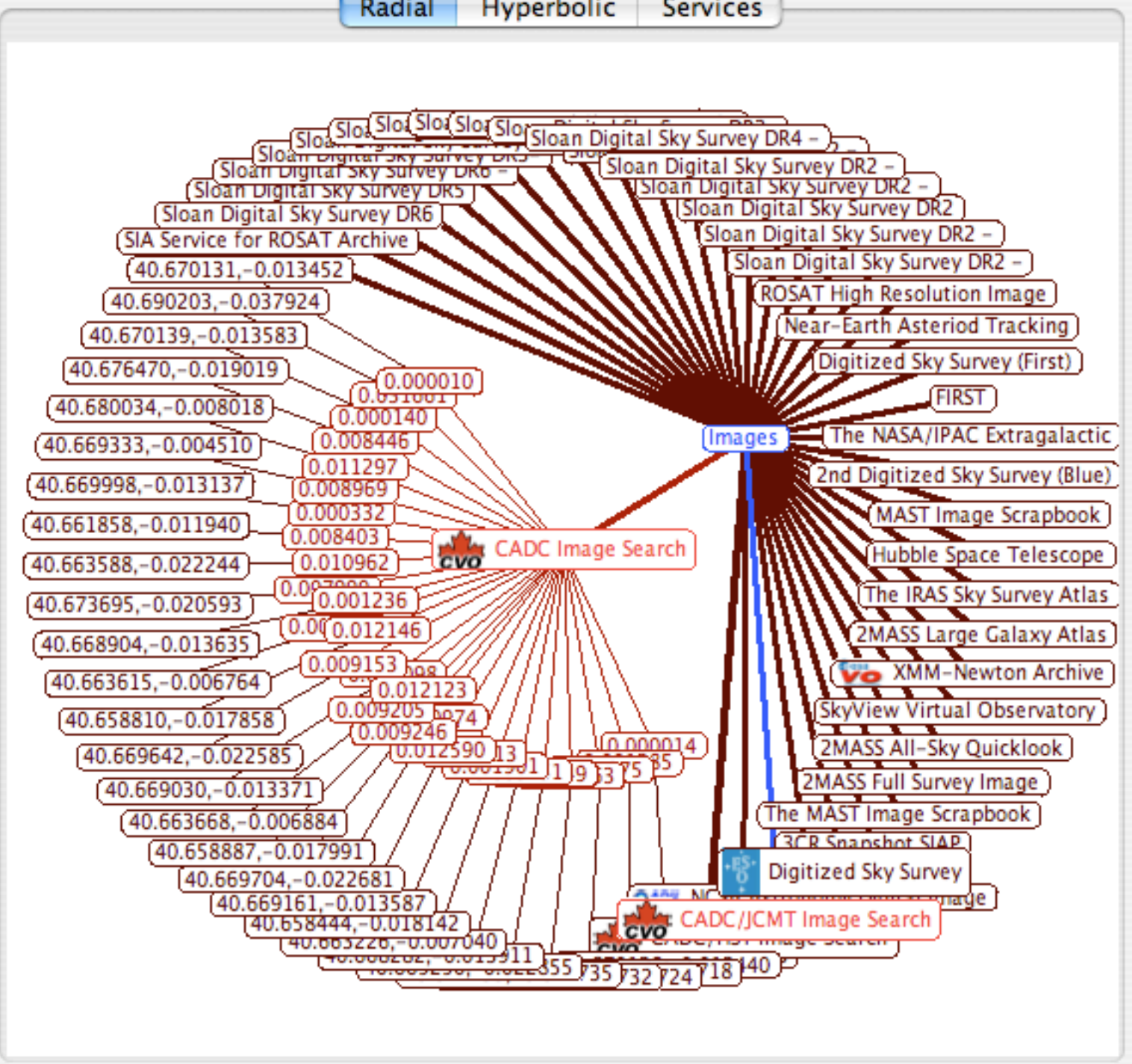
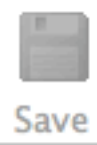
Catalogues



2. Navigate



3. Process



# AstroScope

Radial Hyperbolic Services

## 1. Search

Position or Object Name

40.670125,-0.013444

Search Radius (degs/")

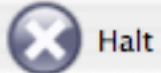
0.010000

Degrees  Sexagesimal

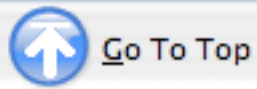
Images

Spectra

Catalogues



## 2. Navigate



Clear selection

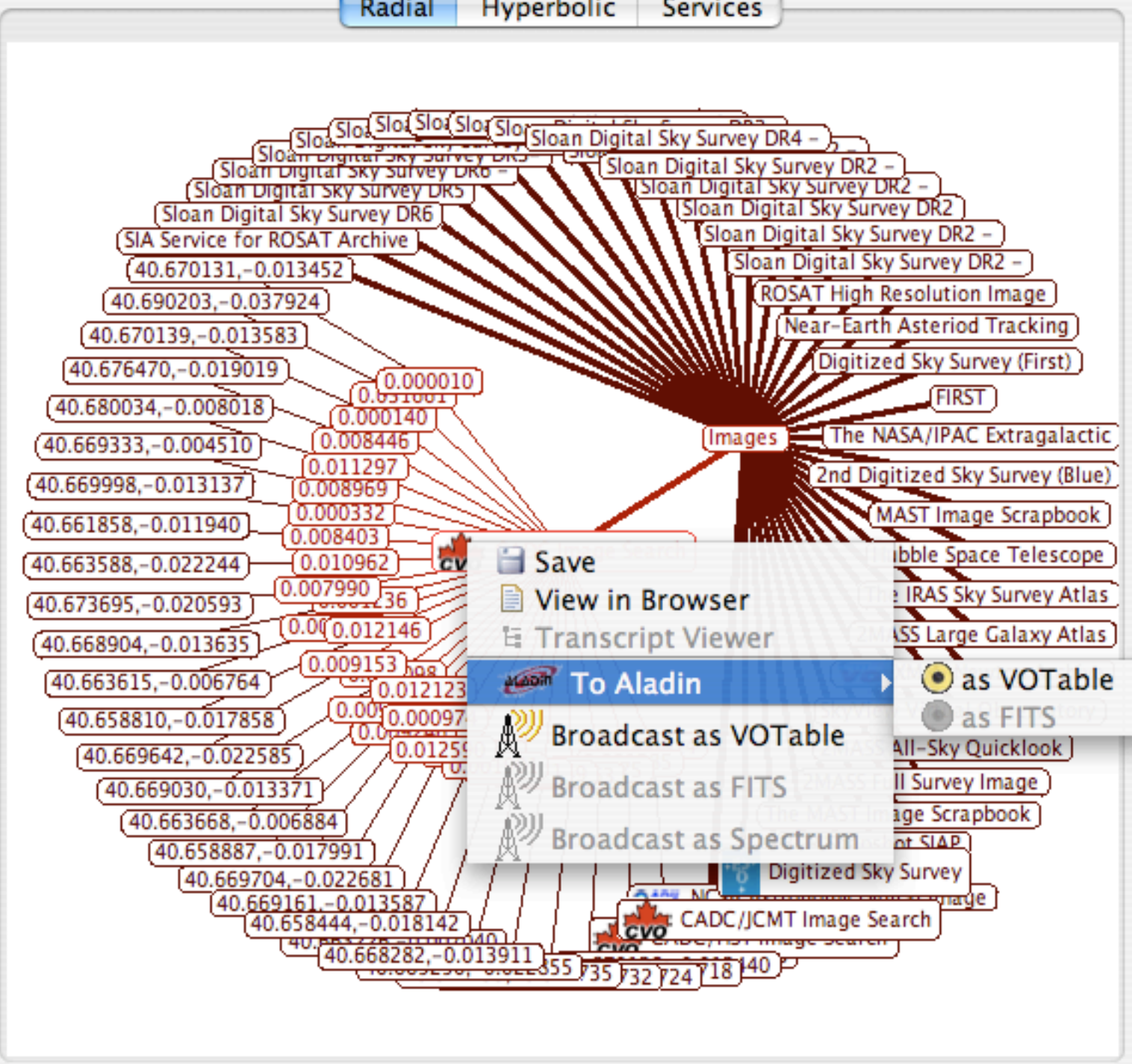
## 3. Process

View tables in Aladin

View images in Aladin



Save



# Server selector

Others:



File



all-VO



FOV



SExtractor

## Images



## Catalogs



User data access (image/table/script/dir) ?

Specify a filename or an URL and press the SUBMIT button

Browse..

- F658N
  - J8MX02010 1.7 'x1.7 '
  - U2M30106B 36.5 "x36.5 "
  - U2M30106B 1.2 'x31.9 "
  - U2M30106B 32.6 "x33.1 "
  - U2M30106B 33.3 "x1.2 '
- F550M
  - J8DM01E9Q 1.7 'x1.6 '
  - J8DM01EAQ 1.7 'x1.6 '
  - J8DM01EDQ 1.7 'x1.6 '
  - J8DM01EEQ 1.7 'x1.6 '
  - J8DM01EJO 1.7 'x1.6 '

Reset

Clear

History

SUBMIT

Close



Aladin v4.0

Load... Save... Tools... Plugins... Print... Help... Quit

Position ICRS Pixel full

Images

- Aladin images
- SkyView
- Sloan
- MAST
- CADC
- DSS...
- VLA...
- Others...

Us

Specify a

F658  
 J  
 U  
 U  
 U  
 U  
 F550  
 J  
 J  
 J  
 J  
 J

Reset

multiview

F375N.U2M30108B  
 48.273" x 48.252"  
 1"

F502N.U2M301048  
 48.273" x 48.252"  
 1"

F658N.U2M301068-1  
 26.397" x 26.371"  
 1"

F658N.U2M301068  
 48.273" x 48.252"  
 1"

F375N.U2M  
 F502N.U2M  
 F658N.U2M  
 F658N.U2M

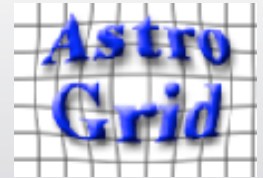
select  
 pan  
 zoom  
 dist  
 draw  
 tag  
 text  
 filter  
 rgb  
 assoc  
 rsamp  
 cont  
 mglss  
 pixel  
 prop  
 del


Zoom 1/4x

4 planes, 4 views, 8Mb

# Astrogrid VO Desktop



<http://www.astrogrid.org/>




 VO Desktop

- New VO Explorer
- New File Explorer
- New Task Runner
- New All-VO Astroscope**
- New All-VO Helioscope

- VO Desktop and Astro Runtime Preferences...
- Run Self Tests
- Show Background Processes

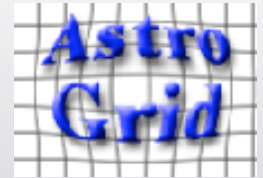
-  Login to Community... ⌘L
-  Logout

- VO Desktop Help
- About VO Desktop

-  Exit VO Desktop

# Astrogrid VO Desktop

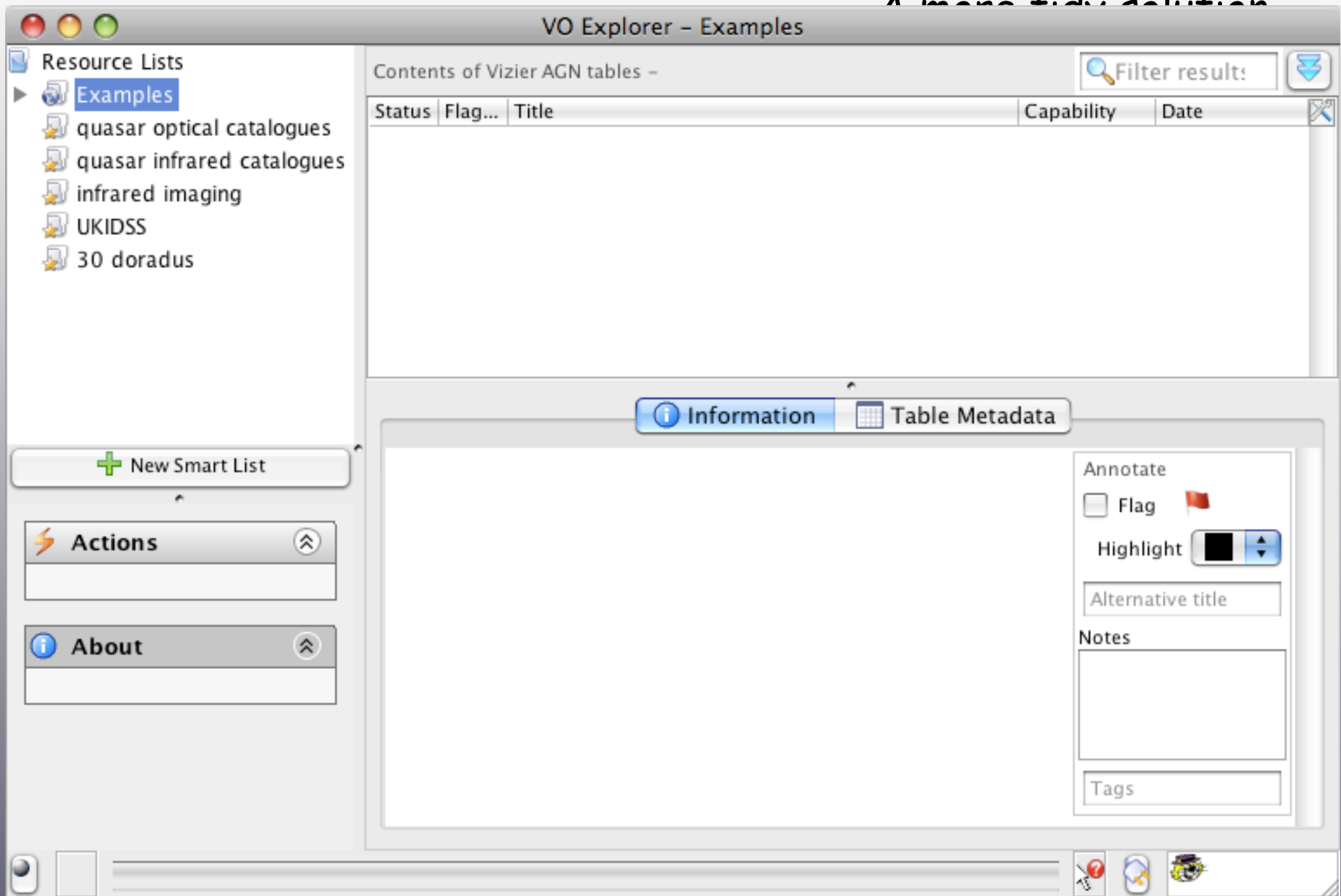
<http://www.astrogrid.org/>



VO Desktop

- New VO Explorer
- New File Explorer
- New Task Runner
- New All-VO Astroscope
- New All-VO Helioscope
- VO Desktop and Astro Runtime Preferences...
- Run Self Tests
- Show Background Processes
- Login to Community... ⌘L
- Logout
- VO Desktop Help
- About VO Desktop
- Exit VO Desktop

A more tidy solution
































VO Explorer - Vizier AGN tables

Contents of Vizier AGN tables - 334 resources

Filter result!



Status	Flag...	Title	Capability	Date
●		Optical spectroscopy of radio sources (Stickel+, ...	  	2008-01-12
●		Optical spectroscopy of radio sources (Stickel+, ...	  	2008-01-12
●		Optical spectroscopy of radio sources (Stickel+, ...	  	2008-01-12
●		Optically bright AGN in ROSAT-FSC (Veron-cetty...	  	2008-01-13
●		Optically bright AGN in ROSAT-FSC (Veron-cetty...	  	2008-01-13
●		Optically bright AGN in ROSAT-FSC (Veron-cetty...	  	2008-01-13
●		Optically faint obscured quasars (Padovani+, 2...	  	2008-01-13
●		Positions of 790 AGNs (Veron-Cetty+, 1996) - ...	  	2008-01-13
●		Positions of 790 AGNs (Veron-Cetty+, 1996) - ...	  	2008-01-13

Information Table Metadata

**Optically faint obscured quasars (Padovani+, 2004) - Typ 2 AGNs (tables 1, 2 and 4 of paper)**

Short Name J/A+A/424/545/ag ID ivo://CDS/VizieR/J/A+A/424/545/agn2  
 Type CatalogService Created 2008-01-13T05:42:33  
 Updated 2008-01-13T05:42:33

Content Type catalog Subject agn, qsos Level research  
 We use Virtual Observatory (VO) tools to identify optically faint, obscured (i.e., type 2) active galactic nuclei (AGN) in the two Great Observatories Origins Deep Survey (GOODS) fields. By employing publicly available X-ray and optical data and catalogues we discover 68 type 2 AGN candidates. [Further Information...](#)

Annotate  
 Flag   
 Highlight   
 Alternative title  
 Notes  
 Tags

About  
 Selection: CatalogService

Recent Changes  
 VO taster list  
 Cone search example  
 Image access exampl  
 Spectrum access exar  
 Remote applications  
 Queryable database e  
 IR redshift  
 Solar services  
 SWIFT follow up  
 Radio images  
 Vizier AGN tables  
 + New Smart List  
 Web interfa...  
 Send table...  
 Send tabl...  
 Send res...  
 Download...

VO Explorer - Vizier AGN tables

Contents of Vizier AGN tables - 334 resources

Filter result!

Status	Flag...	Title	Capability	Date
●		Optical spectroscopy of radio sources (Stickel+, ...		2008-01-12
●		Optical spectroscopy of radio sources (Stickel+, ...		2008-01-12
●		Optical spectroscopy of radio sources (Stickel+, ...		2008-01-12
●		Optically bright AGN in ROSAT-FSC (Veron-cetty...		2008-01-13
●		Optically bright AGN in ROSAT-FSC (Veron-cetty...		2008-01-13
●		Optically bright AGN in ROSAT-FSC (Veron-cetty...		2008-01-13
●		<b>Optically faint obscured quasars (Padovani+, 2...</b>		2008-01-13
●		Positions of 790 AGNs (Veron-Cetty+, 1996) - ...		2008-01-13
●		Positions of 790 AGNs (Veron-Cetty+, 1996) - ...		2008-01-13

Information Table Metadata

### Optically faint obscured quasars (Padovani+, 2004) - Typ 2 AGNs (tables 1, 2 and 4 of paper)

Short Name J/A+A/424/545/ag ID ivo://CDS/VizieR/J/A+A/424/545/agn2  
Type CatalogService Created 2008-01-13T05:42:33  
Updated 2008-01-13T05:42:33

Content Type catalog Subject agn, qsos Level research

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Annotate  
 Flag   
Highlight

Alternative title

Notes

Tags

About  
Selection: CatalogService

VO Explorer - Vizier AGN tables

Contents of Vizier AGN tables - 334 resources

Filter results!

Status	Flag...	Title	Capability	Date
●		Optical spectroscopy of radio sources (Stickel+, ...		2008-01-12
●		Optical spectroscopy of radio sources (Stickel+, ...		2008-01-12
●		Optical spectroscopy of radio sources (Stickel+, ...		2008-01-12
●		Optically bright AGN in ROSAT-FSC (Veron-cetty...		2008-01-13
●		Optically bright AGN in ROSAT-FSC (Veron-cetty...		2008-01-13
●		Optically bright AGN in ROSAT-FSC (Veron-cetty...		2008-01-13
●		<b>Optically faint obscured quasars (Padovani+, 2004) - Typ 2 AGNs (tables 1, 2 and 4 of paper)</b>		2008-01-13
●		Positions of 790 AGNs (Veron-Cetty+, 1996) - ...		2008-01-13
●		Positions of 790 AGNs (Veron-Cetty+, 1996) - ...		2008-01-13

Information Table Metadata

### Optically faint obscured quasars (Padovani+ 2004) - Typ 2 AGNs (tables 1, 2 and 4 of paper)

Short Name J/A+A/424/545/ag ID ivo://CDS/VizieR/J/A+A/424/545/agn2  
Type CatalogService Created 2008-01-13T05:42:33  
Updated 2008-01-13T05:42:33

Content Type catalog Subject agn, qsos Level research

We use Virtual Observatory (VO) tools to identify optically faint, obscured (i.e., type 2) active galactic nuclei (AGN) in the two Great Observatories Origins Deep Survey (GOODS) fields. By employing publicly available X-ray and optical data and catalogues we discover 68 type 2 AGN candidates. [Further Information...](#)

Annotate  
 Flag   
Highlight

Alternative title

Notes

Tags

About  
Selection: CatalogService



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

- Left Panel:** A list of resources including 'Recent Changes', 'VO taster list', 'Cone search example', 'Image access example', 'Spectrum access example', 'Remote applications', 'Queryable database example', 'IR redshift', 'Solar services', 'SWIFT follow up', 'Radio images', and 'Vizier AGN tables' (highlighted).
- Top Panel:** 'Contents of Vizier AGN tables - 334 resources' with a search filter.
- Table:** A table listing AGN resources with columns for Status, Flag, Title, Capability, and Date. The row for 'Optically faint obscured quasars (Padovani+, 2004) - Type 2 AGNs' is selected.
- Bottom Panel:** Detailed information for the selected table, including metadata and a description.

Status	Flag...	Title	Capability	Date
●		Optical spectroscopy of radio sources (Stickel+, ...	[Icons]	2008-01-12
●		Optical spectroscopy of radio sources (Stickel+, ...	[Icons]	2008-01-12
●		Optical spectroscopy of radio sources (Stickel+, ...	[Icons]	2008-01-12
●		Optically bright AGN in ROSAT-FSC (Veron-cetty...	[Icons]	2008-01-13
●		Optically bright AGN in ROSAT-FSC (Veron-cetty...	[Icons]	2008-01-13
●		Optically bright AGN in ROSAT-FSC (Veron-cetty...	[Icons]	2008-01-13
●		<b>Optically faint obscured quasars (Padovani+, 2004) - Type 2 AGNs</b>	[Icons]	2008-01-13
●		Positions of 790 AGNs (Veron-Cetty+, 1996) - ...	[Icons]	2008-01-13
●		Positions of 790 AGNs (Veron-Cetty+, 1996) - ...	[Icons]	2008-01-13

**Optically faint obscured quasars (Padovani+, 2004) - Type 2 AGNs (tables 1, 2 and 4 of paper)**

Short Name J/A+A/424/545/ag ID ivo://CDS/VizieR/J/A+A/424/545/agn2  
Type CatalogService Created 2008-01-13T05:42:33  
Updated 2008-01-13T05:42:33

Content Type catalog Subject agn, qsos Level research  
We use Virtual Observatory (VO) tools to identify optically faint, obscured (i.e., type 2) active galactic nuclei (AGN) in the two Great Observatories Origins Deep Survey (GOODS) fields. By employing publicly available X-ray and optical data and catalogues we discover 68 type 2 AGN candidates. [Further Information...](#)

The screenshot shows the VO Explorer application window titled "VO Explorer - VizieR AGN tables". The interface is divided into several sections:

- Left Panel:** A sidebar with a list of resources. "VizieR AGN tables" is selected and highlighted in blue. Other items include "Recent Changes", "VO taster list", "Cone search example", "Image access example", "Spectrum access example", "Remote applications", "Queryable database example", "IR redshift", "Solar services", "SWIFT follow up", "Radio images", "New Smart Lists", "Web interface...", "Send table...", "Send tabl...", "Send res...", and "Download...".
- Table View:** A table titled "Contents of VizieR AGN tables - 334 resources". The table has columns for "Status", "Flag...", "Title", "Capability", and "Date". The row for "Optically faint obscured quasars (Padovani+, 2004) - Type 2 AGNs (tables 1, 2 and 4 of paper)" is selected and highlighted in blue.
- Information Panel:** Below the table, there are tabs for "Information" (selected) and "Table Metadata". The "Information" panel displays details for the selected table:
  - Title:** Optically faint obscured quasars (Padovani+, 2004) - Type 2 AGNs (tables 1, 2 and 4 of paper)
  - Short Name:** J/A+A/424/545/ag
  - ID:** ivo://CDS/VizieR/J/A+A/424/545/agn2
  - Type:** CatalogService
  - Created:** 2008-01-13T05:42:33
  - Updated:** 2008-01-13T05:42:33
  - Content Type:** catalog
  - Subject:** agn, qsos
  - Level:** research
  - Description:** We use Virtual Observatory (VO) tools to identify optically faint, obscured (i.e., type 2) active galactic nuclei (AGN) in the two Great Observatories Origins Deep Survey (GOODS) fields. By employing publicly available X-ray and optical data and catalogues we discover 68 type 2 AGN candidates. [Further Information...](#)
- Right Panel:** A panel for "Annotate" with options for "Flag" (checkbox), "Highlight" (color selector), "Alternative title" (text input), and "Notes" (text area).

The screenshot shows the VO Explorer application window titled "VO Explorer - Vizier AGN tables". The main content area displays a table of resources with columns for Status, Flag, Title, Capability, and Date. The resource "Optically faint obscured quasars (Padovani+, 2004) - Type 2 AGNs (tables 1, 2 and 4 of paper)" is selected and highlighted in blue. Below the table, there are tabs for "Information" and "Table Metadata". The "Information" tab is active, showing details for the selected resource, including its Short Name, ID, Type, Created, and Updated dates. The main text area contains a description of the resource, mentioning the use of Virtual Observatory (VO) tools to identify optically faint, obscured (Type 2) active galactic nuclei (AGN) in the GOODS fields. The application also features a sidebar on the left with a list of resources, including "Recent Changes", "VO taster list", "Cone search example", "Image access example", "Spectrum access example", "Remote applications", "Queryable database example", "IR redshift", "Solar services", "SWIFT follow up", "Radio images", and "Vizier AGN tables". At the bottom of the sidebar, there are buttons for "New Smart List", "Web interface...", "Send table...", "Send tabl...", "Send res...", and "Download...". The bottom of the application window shows a status bar with "Selection: CatalogService" and a small toolbar with icons for "Send table...", "Send tabl...", and "Send res...".

Status	Flag...	Title	Capability	Date
●		Optical spectroscopy of radio sources (Stickel+, ...		2008-01-12
●		Optical spectroscopy of radio sources (Stickel+, ...		2008-01-12
●		Optical spectroscopy of radio sources (Stickel+, ...		2008-01-12
●		Optically bright AGN in ROSAT-FSC (Veron-cetty...		2008-01-13
●		Optically bright AGN in ROSAT-FSC (Veron-cetty...		2008-01-13
●		Optically bright AGN in ROSAT-FSC (Veron-cetty...		2008-01-13
●		Optically faint obscured quasars (Padovani+, 2004) - ...		2008-01-13
●		Positions of 790 AGNs (Veron-Cetty+, 1996) - ...		2008-01-13
●		Positions of 790 AGNs (Veron-Cetty+, 1996) - ...		2008-01-13

**Optically faint obscured quasars (Padovani+ 2004) - Type 2 AGNs (tables 1, 2 and 4 of paper)**

Short Name J/A+A/424/545/ag ID ivo://CDS/VizieR/J/A+A/424/545/agn2  
Type CatalogService Created 2008-01-13T05:42:33  
Updated 2008-01-13T05:42:33

Content Type catalog Subject agn, qsos Level research  
We use Virtual Observatory (VO) tools to identify optically faint, obscured (i.e., type 2) active galactic nuclei (AGN) in the two Great Observatories Origins Deep Survey (GOODS) fields. By employing publicly available X-ray and optical data and catalogues we discover 68 type 2 AGN candidates. [Further Information...](#)

And now what?



And now what?

VO Explorer - Vizier AGN tables

Contents of Vizier AGN tables - 334 resources

Filter result: [ ]

Status	Flag...	Title	Capability	Date
●		Optical spectroscopy of radio sources (Stickel+, ...	[grid] [server] [globe]	2008-01-12
●		Optical spectroscopy of radio sources (Stickel+, ...	[grid] [server] [globe]	2008-01-12
●		Optical spectroscopy of radio sources (Stickel+, ...	[grid] [server] [globe]	2008-01-12
●		Optically bright AGN in ROSAT-FSC (Veron-cetty...	[grid] [server] [globe]	2008-01-13
●		Optically bright AGN in ROSAT-FSC (Veron-cetty...	[grid] [server] [globe]	2008-01-13
●		Optically bright AGN in ROSAT-FSC (Veron-cetty...	[grid] [server] [globe]	2008-01-13
●		<b>Optically faint obscured quasars (Padovani+, 2...</b>	[grid] [server] [globe]	<b>2008-01-13</b>
●		Positions of 790 AGNs (Veron-Cetty+, 1996) - ...	[grid] [server] [globe]	2008-01-13
●		Positions of 790 AGNs (Veron-Cetty+, 1996) - ...	[grid] [server] [globe]	2008-01-13

Information | Table Metadata

### Optically faint obscured quasars (Padovani+, 2004) - Typ 2 AGNs (tables 1, 2 and 4 of paper)

Short Name J/A+A/424/545/ag ID ivo://CDS/VizieR/J/A+A/424/545/agn2  
Type CatalogService Created 2008-01-13T05:42:33  
Updated 2008-01-13T05:42:33

Content Type catalog Subject agn, qos Level research

We use Virtual Observatory (VO) tools to identify optically faint, obscured (i.e., type 2) active galactic nuclei (AGN) in the two Great Observatories Origins Deep Survey (GOODS) fields. By employing publicly available X-ray and optical data and catalogues we discover 68 type 2 AGN candidates. [Further Information...](#)

Annotate  
 Flag   
Highlight

Alternative title [ ]

Notes [ ]

Tags [ ]

About  
Selection: CatalogService

Recent Changes  
VO taster list  
Cone search example  
Image access exampl  
Spectrum access exar  
Remote applications  
Queryable database e  
IR redshift  
Solar services  
SWIFT follow up  
Radio images  
Vizier AGN tables

+ New Smart List

Web interfa...  
Send table...  
Send tabl...  
Send res...  
Download...

VO Explorer icons: [help] [home] [VO] [CDS]



And now what?

VO Explorer - Vizier AGN tables














Contents of Vizier AGN tables - 334 resources

Filter result:

Content - Subject Coverage - Waveband Resource Type

agn unknown  
bl\_lac\_objects gamma-ray  
clusters\_of\_galaxies infrared  
equivalent\_widths optical  
extinction radio  
galaxies uv  
galaxies:markarian x-ray  
galaxies:spectra

CatalogService



Status	Flag...	Title	Capability	Date
●		Optical spectroscopy of radio sources (Stickel+, ...	  	2008-01-12
●		Optical spectroscopy of radio sources (Stickel+, ...	  	2008-01-12
●		Optical spectroscopy of radio sources (Stickel+, ...	   	2008-01-12
●		Optically bright AGN in ROSAT FSC (Véron cat)	  	2008-01-12

Information Table Metadata

**Optically faint obscured quasars (Padovani+, 2004) - Typ 2 AGNs (tables 1, 2 and 4 of paper)**

Short Name J/A+A/424/545/ag ID ivo://CDS/VizieR/J/A+A/424/545/agn2  
Type CatalogService Created 2008-01-13T05:42:33  
Updated 2008-01-13T05:42:33





Content Type catalog Subject agn, qsos Level research

Annotation:  Flag   
Highlight   
Alternative title   
Notes

About

Selection: CatalogService

Recent Changes  
VO taster list  
Cone search example  
Image access example  
Spectrum access example  
Remote applications  
Queryable database example  
IR redshift  
Solar services  
SWIFT follow up  
Radio images  
Vizier AGN tables  
New Smart List  
Web interface  
Send table...  
Send tabl...  
Send res...  
Download...

VO Explorer icons:    

And now what?

VO Explorer - Vizier AGN tables

Contents of Vizier AGN table - 334 resources

Filter result!

Content - Subject Coverage - Waveband Resource Type

agn unknown  
bl\_lac\_objects gamma-ray  
clusters\_of\_galaxies infrared  
equivalent\_widths optical  
extinction radio  
galaxies uv  
galaxies:markarian x-ray  
galaxies:spectra

Status	Flag...	Title	Capability	Date
●		Optical spectroscopy of radio sources (Stickel+, ...		2008-01-12
●		Optical spectroscopy of radio sources (Stickel+, ...		2008-01-12
●		Optical spectroscopy of radio sources (Stickel+, ...		2008-01-12
●		Optically bright AGN in ROSAT FSC (Véron, 1997)		2008-01-12

Information Table Metadata

**Optically faint obscured quasars (Padovani+, 2004) - Typ 2 AGNs (tables 1, 2 and 4 of paper)**

Short Name J/A+A/424/545/ag ID ivo://CDS/VizieR/J/A+A/424/545/agn2  
Type CatalogService Created 2008-01-13T05:42:33  
Updated 2008-01-13T05:42:33

Content Type catalog Subject agn, qsos Level research

Annotation:  Flag  Highlight

Alternative title

Notes

And now what?

VO Explorer - Vizier AGN tables

















Contents of Vizier AGN tables - filtering to 65 of 334 resources

Filter result:

Content - Subject Coverage - Waveband Resource Type

planets+asteroids infrared  
polarization optical  
positional\_data radio  
qsos uv  
redshifts x-ray  
seyfert\_galaxies  
spectrophotometry  
spectroscopy



CatalogService

Status	Flag...	Title	Capability	Date
●		Black hole mass and accretion rate of AGNs (Wu...	   	2008-01-13
●		Black hole mass and accretion rate of AGNs (Wu...	   	2008-01-13
●		Double-lobed radio quasars from the SDSS (de ...	   	2008-01-13
●		Host galaxies of 2MASS-OSOs with $z < 3$ (Hutch...	   	2008-01-13

Information Table Metadata

**Black hole mass and accretion rate of AGNs (Wu+, 2004)**  
**- Data of 26 double-peaked broad-line AGNs in the radio-loud AGN sample**

Short Name J/ApJ/614/91/tab ID ivo://CDS/VizieR/J/ApJ/614/91/table2  
Type CatalogService Created 2008-01-13T07:48:44  
Updated 2008-01-13T07:48:44

Annotate  
 Flag   
Highlight   
Alternative title   
Notes

Recent Changes  
VO taster list  
Cone search example  
Image access exampl  
Spectrum access exar  
Remote applications  
Queryable database e  
IR redshift  
Solar services  
SWIFT follow up  
Radio images  
Vizier AGN tables  
New Smart List

Actions  
Query  
Web interfa...  
Send table...  
Send tabl...  
Send res...  
Download...

And now what?

VO Explorer - VizieR AGN tables

Contents of VizieR AGN tables - filtering to 65 of 334 resources

Filter result: [ ]

Content - Subject [ ] Coverage - Waveband [ ] Resource Type [ ]

planets+asteroids  
polarization  
positional\_data  
qsos  
redshifts  
seiyfert\_galaxies  
spectrophotometry  
spectroscopy

infrared  
optical  
radio  
uv  
x-ray

CatalogService

Status	Flag...	Title	Capability	Date
●		Black hole mass and accretion rate of AGNs (Wu...	[ ] [ ] [ ] [ ]	2008-01-13
●		Black hole mass and accretion rate of AGNs (Wu...	[ ] [ ] [ ] [ ]	2008-01-13
●		Double-lobed radio quasars from the SDSS (de ...	[ ] [ ] [ ] [ ]	2008-01-13
●		Host galaxies of 2MASS-OSOs with $z < 3$ (Hutch...	[ ] [ ] [ ] [ ]	2008-01-13

Information | Table Metadata

**Black hole mass and accretion rate of AGNs (Wu+, 2004)**  
**- Data of 26 double-peaked broad-line AGNs in the radio-loud AGN sample**

Short Name J/ApJ/614/91/tab ID ivo://CDS/VizieR/J/ApJ/614/91/table2  
Type CatalogService Created 2008-01-13T07:48:44  
Updated 2008-01-13T07:48:44

Annotate  
 Flag   
Highlight [ ] [ ]  
Alternative title [ ]  
Notes [ ]

Recent Changes  
VO taster list  
Cone search example  
Image access exampl  
Spectrum access exar  
Remote applications  
Queryable database e  
IR redshift  
Solar services  
SWIFT follow up  
Radio images  
VizieR AGN tables  
New Smart List

Actions  
Query  
Web interfa...  
Send table...  
Send tabl...  
Send res...  
Download...

Search for

Cat. Objects     Images  
 Spectra     Timed Data

At

Position (RA,Dec) or Object Name

0.000000,+0.000000

Search Radius (degs/arcsecs)

0.010000

Degrees     Sexagesimal

Navigate

 Search

Go To Top    Clear Selection

Process

 **Actions** 

 **About** 



Search for

Cat. Objects     Images  
 Spectra     Timed Data

At \_\_\_\_\_

Position (RA,Dec) or Object Name

Search Radius (degs/arcsecs)

Degrees     Sexagesimal

Navigate

Process

Search for

- Cat. Objects
- Images
- Spectra
- Timed Data

At

Position (RA,Dec) or Object Name

2.064420,-10.773000

Search Radius (degs/arcsecs)

1.000000

- Degrees
- Sexagesimal

Navigate



Halt Search

Go To Top

Clear Selection

Process



Actions



About



 Cat. Objects

 Search Results

# DataScope

<http://heasarc.gsfc.nasa.gov/cgi-bin/vo/datascope/init.pl>





## VO DataScope Query

Hosted by:  
HEASARC  
NASA/GSFC

[NVO Home](#)[Help](#)[VO Tools and Services](#)[NVO Feedback](#)

### Query VO resources for a given region of a sky

**Note:** DataScope V2.1 released March 26, 2007 (many cosmetic changes and some bug fixes)

What do we know about a given point or region in the sky?

To find out, just enter a target or position. The NVO DataScope will show you the results from hundreds of resources.

**Position:**

Use a target name (e.g., 3c273) or position (e.g., 10 10 10.1, 20 20 20.2)

**Size:**  (in degrees, max is 2)

**Run query:**

**Skip cache?**  **Refresh registry?**

Do not add to list of recent queries?

Some recent queries:

[11,000, 59,799 \(0.54\)](#)

Data found(168)

No data (224)

Errors(5)

Waiting(166)

70% complete

Position:NGC1068

Resources/hits: 563/43769

Cache age:0.049 hours

[Stop updates](#)[Summary](#)[Resources](#)[Data Table](#)[No Data](#)[Still Processing](#)[Errors](#)[Help](#)

## Summary of Request and Selections

### Request parameters

Target: NGC1068

02 42 40.83 -00 00 48.4

40.670125 -0.013444

Size: 0.25

No resources currently selected

DSS1 Optical Image of Requested Region (from [SkyView](#))

### Analysis Options

[Aladin Applet](#)[Aladin script](#)[Save as tar](#)

Data found(214)

No data (343)

Errors(6)

Waiting(0)

100% complete

Position:NGC1068

Resources/hits: 563/45549

Cache age:0.075 hours

[Summary](#)[Resources](#)[Data Table](#)[No Data](#)[Still Processing](#)[Errors](#)[Help](#)

## Summary of Request and Selections

### Request parameters

Target: NGC1068

02 42 40.83 -00 00 48.4

40.670125 -0.013444

Size: 0.25

No resources currently selected

DSS1 Optical Image of Requested Region (from [SkyView](#))

### Analysis Options

[Aladin Applet](#)[Aladin script](#)[Save as tar](#)

[Summary](#)[Resources](#)[Data Table](#)[No Data](#)[Still Processing](#)[Errors](#)[Help](#)

## Matching Resources

These resources had data in the specified region.  
Click on the

*checkbox* to select the data for download or analysis.  
*name* to view the catalog data and select files.  
*?* to see the metadata for the resource.

When the number after the name is given as *nn/mm* you have selected *nn* of the *mm* files indexed in that resource. Click on the resource name to select files within such resources.

### Major Multiwavelength Services

<input type="checkbox"/> <a href="#">NED(sources) (290)</a> <a href="#">?</a>	<input type="checkbox"/> <a href="#">SkyView (0/48)</a> <a href="#">?</a>	<input type="checkbox"/> <a href="#">NED(images) (0/38)</a> <a href="#">?</a>
--	---	---

### Images (Data in one or more FITS files)

<b>Multi</b>	<input type="checkbox"/> <a href="#">ADIL (0/21)</a> <a href="#">?</a>	<input type="checkbox"/> <a href="#">CADC (0/108)</a> <a href="#">?</a>	<input type="checkbox"/> <a href="#">MAST Scrapbook (0/23)</a> <a href="#">?</a>	<input type="checkbox"/> <a href="#">CADC/HST (0/100)</a> <a href="#">?</a>	<input type="checkbox"/> <a href="#">DSS ESO (0/8)</a> <a href="#">?</a>
	<input type="checkbox"/> <a href="#">HST/SIAP/PREVIEW (0/173)</a> <a href="#">?</a>	<input type="checkbox"/> <a href="#">Aladin (0/95)</a> <a href="#">?</a>	<input type="checkbox"/> <a href="#">MAST-Scrapbook (0/21)</a> <a href="#">?</a>		
<b>Optical</b>	<input type="checkbox"/> <a href="#">3CR Snap SIAP (0/8)</a> <a href="#">?</a>	<input type="checkbox"/> <a href="#">SDSSDR2-G (0/6)</a> <a href="#">?</a>	<input type="checkbox"/> <a href="#">SDSSDR2-I (0/6)</a> <a href="#">?</a>	<input type="checkbox"/> <a href="#">SDSSDR2-R (0/6)</a> <a href="#">?</a>	<input type="checkbox"/> <a href="#">SDSSDR2-U (0/6)</a> <a href="#">?</a>
	<input type="checkbox"/> <a href="#">SDSSDR2-Z (0/6)</a> <a href="#">?</a>	<input type="checkbox"/> <a href="#">SDSSDR3-G (0/6)</a> <a href="#">?</a>	<input type="checkbox"/> <a href="#">SDSSDR3-I (0/6)</a> <a href="#">?</a>	<input type="checkbox"/> <a href="#">SDSSDR3-R (0/6)</a> <a href="#">?</a>	<input type="checkbox"/> <a href="#">SDSSDR3-U (0/6)</a> <a href="#">?</a>
	<input type="checkbox"/> <a href="#">SDSSDR3-Z (0/6)</a> <a href="#">?</a>	<input type="checkbox"/> <a href="#">SDSSDR4-Color (1)</a> <a href="#">?</a>	<input type="checkbox"/> <a href="#">SDSSDR6-Color (1)</a> <a href="#">?</a>	<input type="checkbox"/> <a href="#">DSS2B (0/1)</a> <a href="#">?</a>	<input type="checkbox"/> <a href="#">DSS1 (0/1)</a> <a href="#">?</a>



Other

 (695) ?

**Catalogs of Objects (Data in one VOTable)**

Surveys

<input type="checkbox"/> USNO-SA2.0 (173) ?	<input type="checkbox"/> GSC2.2 (258) ?	<input type="checkbox"/> GSC2.2 (CDS) (2558) ?	<input type="checkbox"/> NVSS Catalog (22) ?	<input type="checkbox"/> USNO-A2.0 (173) ?
<input type="checkbox"/> SDSS-DR5 (5000) ?	<input type="checkbox"/> RASS/Soft (1) ?	<input type="checkbox"/> 2MASS-XSC (7) ?	<input type="checkbox"/> SDSS-DR2 (1000) ?	<input type="checkbox"/> IBISCAT3 (1) ?
<input type="checkbox"/> North20cm (1) ?	<input type="checkbox"/> SDSS-DR3 (4897) ?	<input type="checkbox"/> CfA Red.S. (1) ?	<input type="checkbox"/> IRASSSC (4) ?	<input type="checkbox"/> ASCA GIS (10) ?
<input type="checkbox"/> SDSS-DR6 (5000) ?	<input type="checkbox"/> 2MASS-PSC (812) ?	<input type="checkbox"/> NVSS (19) ?	<input type="checkbox"/> FIRST (20) ?	<input type="checkbox"/> INTEGRAL (10) ?
<input type="checkbox"/> SDSS-DR4 (5000) ?	<input type="checkbox"/> EUVE/2 (1) ?	<input type="checkbox"/> XMM BSS (4) ?	<input type="checkbox"/> ROSAT/HRI (218) ?	<input type="checkbox"/> BH ROSAT Opt. (1) ?
<input type="checkbox"/> MIT-GB (1) ?	<input type="checkbox"/> Chan/XAssist (94) ?	<input type="checkbox"/> RASS/FSC (3) ?	<input type="checkbox"/> USNO-A2.0 CDS (378) ?	<input type="checkbox"/> PMN (1) ?
<input type="checkbox"/> XMM/SSC (251) ?	<input type="checkbox"/> MRC (1) ?	<input type="checkbox"/> Einstein 2E (2) ?	<input type="checkbox"/> WGACAT (29) ?	<input type="checkbox"/> CHANULXCAT (3) ?
<input type="checkbox"/> Einstein/IPC (3) ?	<input type="checkbox"/> Parkes (1) ?	<input type="checkbox"/> XMM/XAssist (222) ?	<input type="checkbox"/> Texas (1) ?	<input type="checkbox"/> 2MASS-PSC(CDS) (362) ?
<input type="checkbox"/> ROSAT/PSPC (26) ?	<input type="checkbox"/> ASCA SIS (1) ?	<input type="checkbox"/> IRAS FSC (5) ?	<input type="checkbox"/> North-6cm (3) ?	<input type="checkbox"/> RASS/BSC (1) ?
<input type="checkbox"/> BMW-HRI (57) ?	<input type="checkbox"/> VLSS (1) ?	<input type="checkbox"/> Einstein/ETS (1) ?	<input type="checkbox"/> ROSAT/HRI (40) ?	<input type="checkbox"/> UIT (35) ?
<input type="checkbox"/> IRAS PSC (3) ?	<input type="checkbox"/> RASS/RBS (1) ?	<input type="checkbox"/> ROSAT/PSPC (44) ?	<input type="checkbox"/> Einstein/Ext. (1) ?	

Data found(214)

No data (343)

Errors(6)

Waiting(0)

100% complete

Position:NGC1068

Resources/hits: 563/45549

Cache age:0.075 hours

[Summary](#)[Resources](#)[Data Table](#)[No Data](#)[Still Processing](#)[Errors](#)[Help](#)

## Data for Sloan Digital Sky Survey (DR5)

Quick Links: [ASCII](#) | [MetaData](#) | [XML](#) | [VOPlot](#) | [Overlay](#)

&lt;&lt;First &lt;Prev| 1-25 |Next&gt; Last&gt;&gt;

OBJID	RA	DEC	TYPE	U	G	R	I	Z	ERR_U	
588015509287075902	02 41 49.4	00 03 31.5	STAR	17.95561	16.02244	15.2945	15.03032	14.88583	0.01490062	0.0
587731512615305892	02 42 10.8	-00 12 06.2	GALAXY	22.29106	23.26111	21.06778	20.53043	19.60883	0.7658502	0.0
588015509287272804	02 43 29.9	00 05 00.0	GALAXY	24.08743	22.64067	20.97285	20.32081	20.08722	1.801433	0.0
588015508750336543	02 43 07.3	-00 12 39.0	GALAXY	22.67197	22.35085	21.6459	21.27841	21.27347	0.5861761	0.0
588015509287076402	02 41 49.9	00 03 51.4	GALAXY	24.16398	22.20425	21.46908	20.85853	20.14407	1.412544	0.0
587731512615240634	02 41 55.1	-00 08 06.1	STAR	24.68335	23.5085	22.74286	22.59688	22.07056	1.332488	0.0
588015509287076114	02 42 00.7	00 08 20.4	STAR	23.37856	21.63079	20.17934	19.13468	18.61207	0.7478061	0.0
587731512615437225	02 43 11.5	-00 12 00.5	STAR	25.81077	24.35126	24.55794	24.75514	20.64612	0.782912	0.0
587731512615240586	02 41 49.5	-00 05 13.2	STAR	24.88015	24.26831	22.25797	21.34087	20.50925	1.349628	0.0
588015509287207617	02 43 05.4	00 11 18.3	STAR	24.20546	23.90359	22.63456	21.94133	20.95728	1.168185	0.0
587731512615239771	02 41 51.7	-	STAR	23.89773	23.21226	22.04259	21.68326	21.8958	1.146515	0.0



Data found(214)

No data (343)

Errors(6)

Waiting(0)

100% complete

Position:NGC1068

Resources/hits: 563/45549

Cache age:0.075 hours

[Summary](#)[Resources](#)[Data Table](#)[No Data](#)[Still Processing](#)[Errors](#)[Help](#)

## Non-Matching Resources

Queries of these resources completed successfully, but no results were found in the requested region.

Short Name	Resource Type	Publisher	Title
<a href="#">1420MHz</a>	Images/Radio	NASA/GSFC HEASARC	Bonn 1420 MHz Survey
<a href="#">2IBIS SGR</a>	Objects/Survey Source	NASA/GSFC HEASARC	Second IBIS/ISGRI Soft Gamma-Ray Survey
<a href="#">2MASS</a>	Images/Infrared	NASA/GSFC HEASARC	Two Micron All Sky Survey (H-Band)
<a href="#">2MASS CAL AT</a>	Images/Infrared	NASA/IPAC Infrared Science Archive	2MASS Calibration Image Service
<a href="#">2MASS SX AT</a>	Images/Infrared	NASA/IPAC Infrared Science Archive	2MASS 6X Catalog Image Service
<a href="#">2MASS SXW AT</a>	Images/Infrared	NASA/IPAC Infrared Science Archive	2MASS Full 6X Image Service
<a href="#">2QZ</a>	Objects/Quasars,Redshift,Survey	CDS/Vizier	2dF QSO Redshift Survey. V. The 10k catalog
<a href="#">2cmVLBA</a>	Images/Radio	NRAO	NRAO VLBA 2cm Survey
<a href="#">408MHz</a>	Images/Radio	NASA/GSFC HEASARC NASA/GSFC	HI All-Sky Continuum Survey

Data found(214)

No data (343)

Errors(6)

Waiting(0)

100% complete

Position:NGC1068

Resources/hits: 563/45549

Cache age:0.075 hours

[Summary](#)[Resources](#)[Data Table](#)[No Data](#)[Still Processing](#)[Errors](#)[Help](#)

## Query errors

**Short Name****Service Type****Publisher****Title****Error**

<a href="#">ADS</a>	Objects/Astronomical literature Astrophysics Data System	Smithsonian Astrophysical Observatory
	java.net.SocketTimeoutException: Read timed out	
<a href="#">NOT PROVIDED</a>	Images/null	Cambridge Astronomical Survey Unit
	SIAP service for the INT wide-field survey	
	java.io.FileNotFoundException: http://archive.ast.cam.ac.uk/cgi-bin/wfs-siap/queryImage?POS=40.670125,-0.013444&SIZE=0.25&requestID=DS1191509012358	
<a href="#">NOT PROVIDED</a>	Images/null	Cambridge Astronomical Survey Unit
	SIAP service for the INT wide-field survey	
	java.io.FileNotFoundException: http://archive.ast.cam.ac.uk/cgi-bin/wfs-siap-atlas/queryImage?POS=40.670125,-0.013444&SIZE=0.25&requestID=DS1191509012358	

Data found(214)

No data (343)

Errors(6)

Waiting(0)

100% complete

Position:NGC1068

Resources/hits: 563/45549

Cache age:0.075 hours

[Summary](#)[Resources](#)[Data Table](#)[No Data](#)[Still Processing](#)[Errors](#)[Help](#)

## How to use DataScope

The NVO DataScope tool queries hundreds of astronomical services about a given location or region and organizes the information so that you can browse it, select data for download, or pass it into compatible tools for further analysis

### Starting DataScope

To start DataScope, just enter a position and size in the two fields provided and submit the query. You can enter the position as a target name, or in sexagesimal or decimal coordinates. Many formats are supported. The size is specified in decimal degrees.

Once you submit a query DataScope will start a query of registered resources that can be queried at that position. A result form will pop up and show you the kinds of responses you get.

If you wish to make sure to get fresh results you can click checkbox that skips the cache. Similarly the DataScope checks once an hour to see what resources are available to be queried. You can ask for this to be updated before your query by checking "Refresh registry" box.

A few recent queries are shown at the bottom of the page but you can leave your query off the list by clicking on the third checkbox.

### Query results

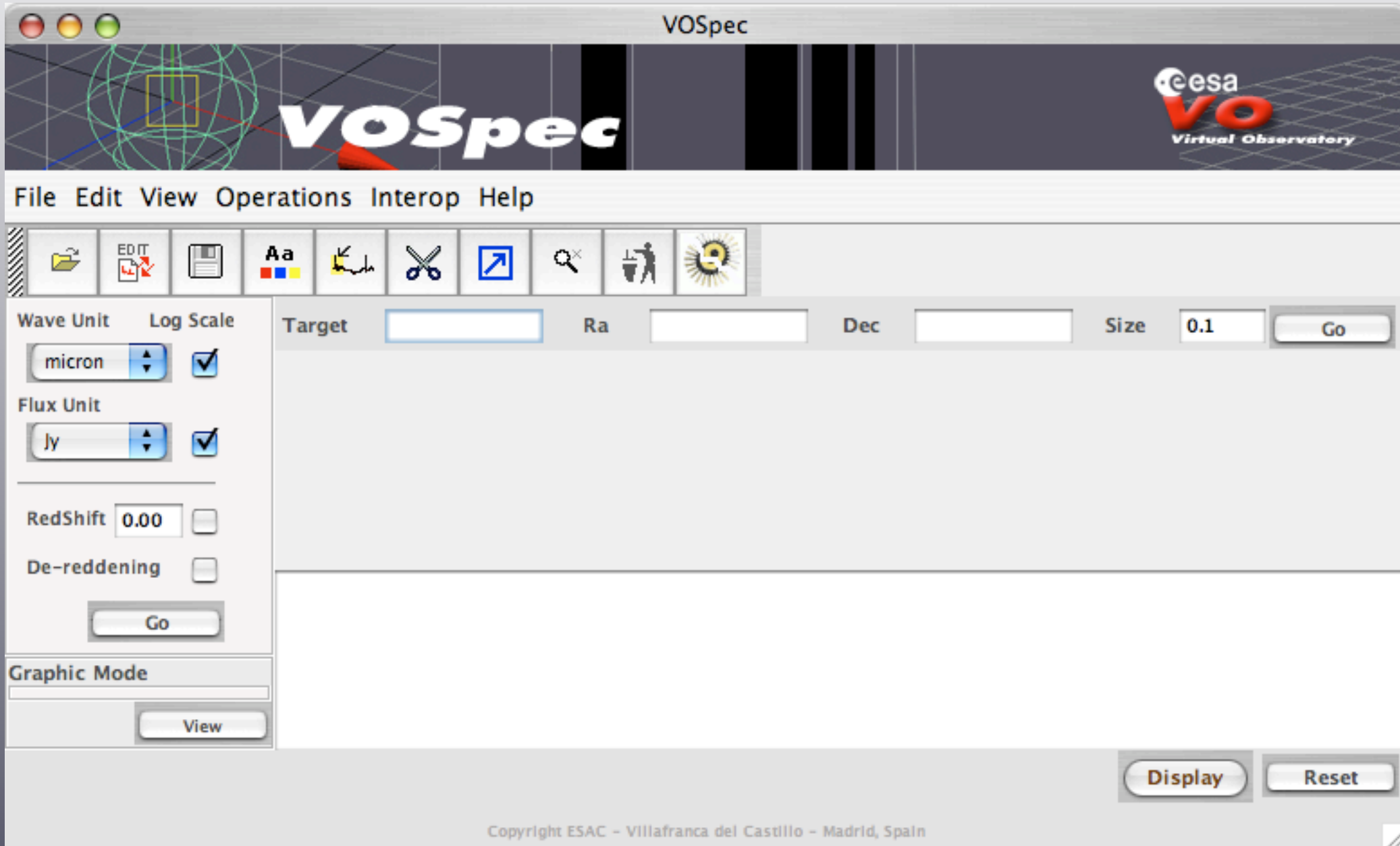
The DataScope should immediately return with a page that begins to organize the results. If the results have already been cached the form will show the previously queried data. If you are starting a new query it will gather results over a period of a few minutes. A status section at the top of the query result page shows the progress of the query, the number of resources found and how long ago the query was initiated. All other data is organized into tabbed panels below the status area. You can jump to any of the panels at any time. Just click on the panels' tabs at the top of the page.

# VOSpec

<http://esavo.esa.int/vospec/>

# VOSpec

<http://esavo.esa.int/vospec/>





File Edit View Operations Interop Help



Wave Unit Log Scale

micron 

Flux Unit

Jy RedShift 0.00 De-reddening 

Go

Graphic Mode

View

Target NGC1068 Ra 40.6701250 Dec -0.0134444 Size 0.1





Server Selector

- ▶ SSA Services
- ▶ Theoretical Spectra Services

Include Local Data

DeSelect All    Select All    GO

Go

Graphic Mode

View

Display    Reset

0.013444    Size    0.1    Go

- SSA Services
  - Infrared Space Observatory Simple Spectrum Data Access
  - Hubble Space Telescope Faint Object Spectrograph
  - HyperLeda FITS Archive Simple Spectrum Data Access
  - Far Ultraviolet Spectroscopic Explorer (Simple Spectrum Data Access)
  - Hubble Space Telescope Spectra
  - Hopkins Ultraviolet Telescope
  - Wisconsin Ultraviolet Photo-Polarimeter Experiment
  - Extreme Ultraviolet Explorer Merged Spectra
  - The GIRAFFE Archive (Science Ready Data)
  - HiG - Simple Spectral Access to HI (21cm) Spectra of Galaxies
  - Compton-thick Seyfert 2s XMM-Newton/pn spectra (Guainazzi et al., 2004,
  - CIELO-AGN XMM-Newton/RGS spectra
  - OMC: The INTEGRAL Optical Monitoring Camera

Include Local Data


DeSelect All    Select All    GO

Go

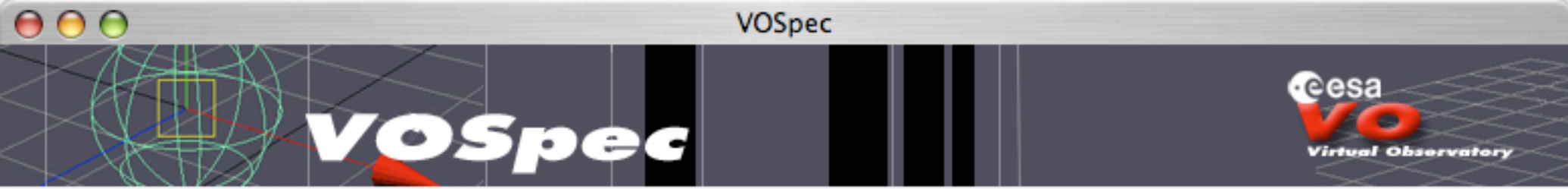
Graphic Mode

View

Display    Reset



0.013444    Size    0.1    Go



File Edit View Operations Interop Help



Wave Unit:  Log Scale:

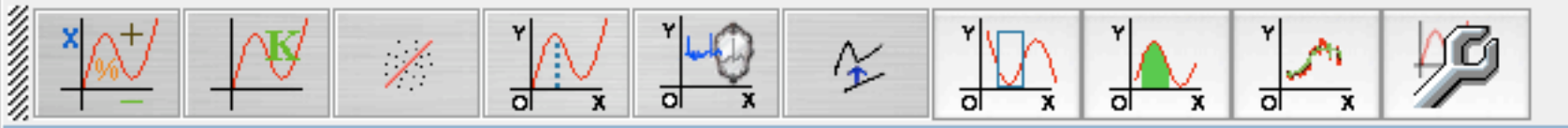
Flux Unit:

RedShift:

De-reddening:

Target:  Ra:  Dec:  Size:

Graphic Mode



- Spectra List
- Hubble Space Telescope Faint Object Spectrograph



Wave Unit  Log Scale

micron

Flux Unit

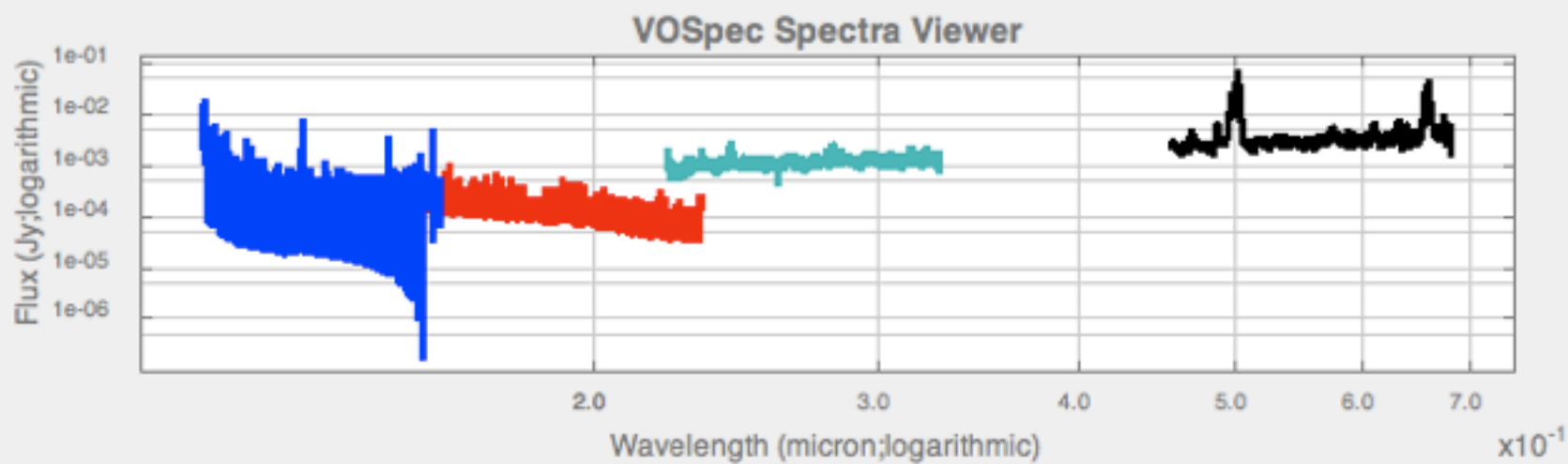
Jy

RedShift 0.00

De-reddening

Go

Target  Ra  Dec  Size



Graphic Mode

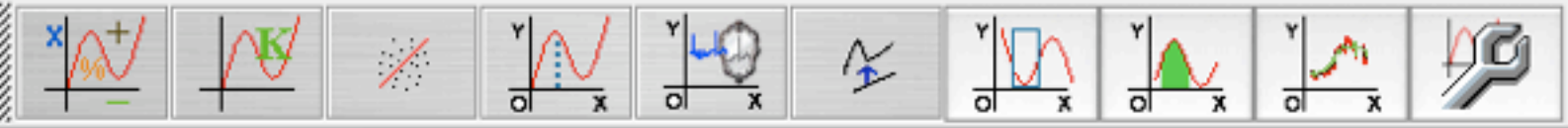
Lines

Lines

Lines

Lines

View



- NGC1068-NUC
- NGC1068-NUC
- NGC1068-NUC
- NGC1068-NUC
- WAVE

File Edit View Operations Interop Help



Wave Unit  Log Scale

micron

Flux Unit

Jy

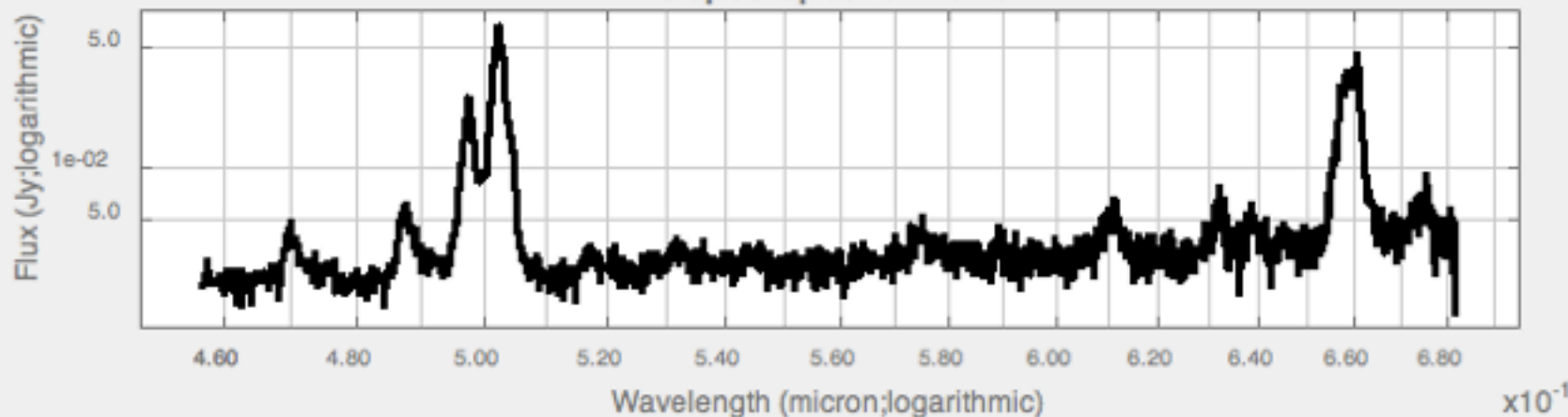
RedShift 0.00

De-reddening

Go

Target  Ra  Dec  Size

### VOSpec Spectra Viewer



Graphic Mode

Lines

Lines

Lines

Lines

View



- NGC1068-NUC
- NGC1068-NUC
- NGC1068-NUC
- NGC1068-NUC
- WAVE

# SPLAT

<http://star-www.dur.ac.uk/~pdraper/splat/splat-vo/>



# SPLAT

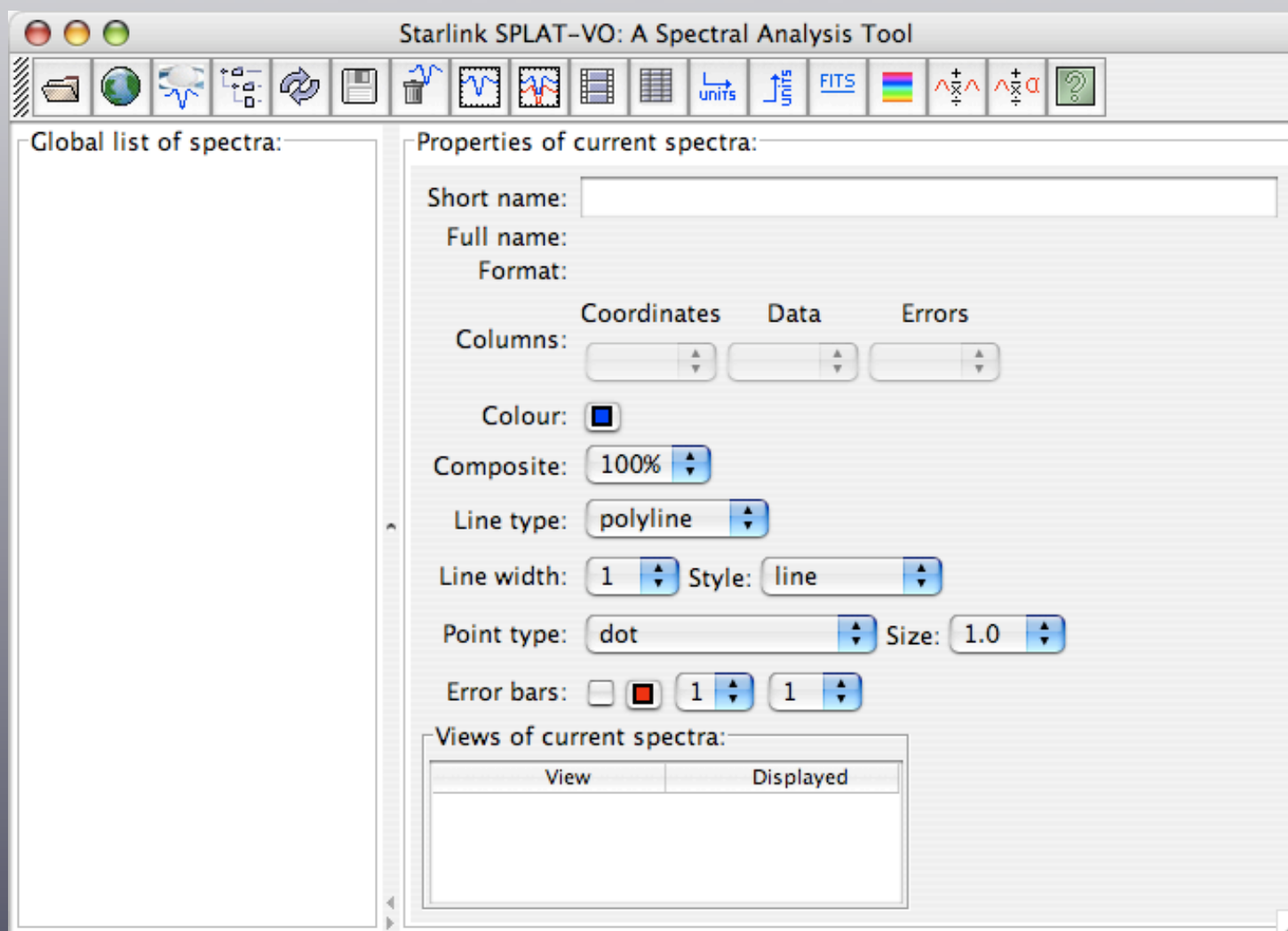
<http://star-www.dur.ac.uk/~pdraper/splat/splat-vo/>

SPLAT: Starlink **S**Pectra**L** Analysis **T**ool

# SPLAT

<http://star-www.dur.ac.uk/~pdraper/splat/splat-vo/>

SPLAT: Starlink **S**Pectra**L** Analysis **T**ool



Starlink SPLAT-VO: A Spectral Analysis Tool



Global list of spectra:

Empty list area for global spectra.

Properties of current spectra:

Short name:   
Full name:   
Format:   
Columns: 

Coordinates	Data	Errors
<input type="text"/>	<input type="text"/>	<input type="text"/>

  
Colour:    
Composite:   
Line type:   
Line width:  Style:   
Point type:  Size:   
Error bars:

Views of current spectra:

View	Displayed

Starlink SPLAT-VO: Query VO for Spectra

SSAP ?

Search region:

Object:

RA:

Dec:





Radius:

Band:

Query results:

I.	ObsId	Referenc	Target_Nam	Start_Tim	End_Tim	RA	DEC
----	-------	----------	------------	-----------	---------	----	-----

ool

Errors

Starlink SPLAT-VO: Query VO for Spectra



Search region:

Object: NGC1068

RA: 02:42:40.83

Dec: -00:00:48.4

Radius: 10.0

Band:

Query results:

HFA S

I.	ObsId	Referenc

Starlink SPLAT-VO: Querying SSAP servers

Querying: HFA SSA Done

Querying: WUPPE Done

Querying: INES SSA Done

Querying: HUT Done

Querying: HST Spectra Done

Close

Display selected Display all

Save query results Restore query results Close

Starlink SPLAT-VO: Query VO for Spectra

SSAP ?

Search region:

Object:

RA:

Dec:





Radius:

Band:

Query results:

I.	ObsId	Referenc	Target_Nam	Start_Tim	End_Tim	RA	DEC
----	-------	----------	------------	-----------	---------	----	-----

ool

Errors



Starlink SPLAT-VO: Query VO for Spectra



Search region:

Object:

RA:

Dec:

Radius:

Band:

Query results:

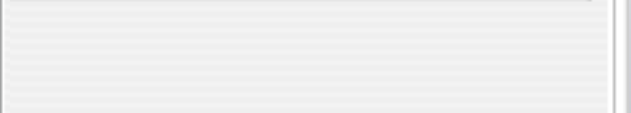
HFA SSA   FUSE SSA   **HST/FOS/SSAP**

Ind	ObsId	Reference	Target_Nam
1	Y19G0108T	<a href="http://archive.eso.org/preview/...">http://archive.eso.org/preview/...</a>	NGC1068-CLOUD4
2	Y19G0109T	<a href="http://archive.eso.org/preview/...">http://archive.eso.org/preview/...</a>	NGC1068-CLOUD4
3	Y0DV0205T	<a href="http://archive.eso.org/preview/...">http://archive.eso.org/preview/...</a>	NGC1068-NUC
4	Y0DV0206R	<a href="http://archive.eso.org/preview/...">http://archive.eso.org/preview/...</a>	NGC1068-NUC
5	Y0DV0305T	<a href="http://archive.eso.org/preview/...">http://archive.eso.org/preview/...</a>	NGC1068-NUC
6	Y0DV0306T	<a href="http://archive.eso.org/preview/...">http://archive.eso.org/preview/...</a>	NGC1068-NUC

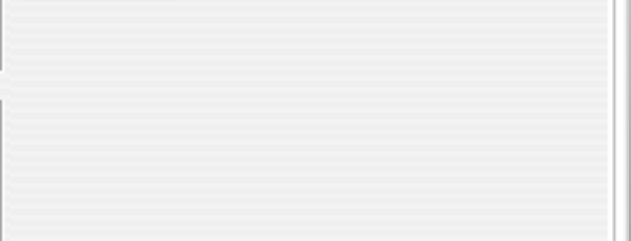
 

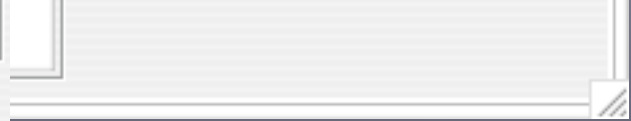
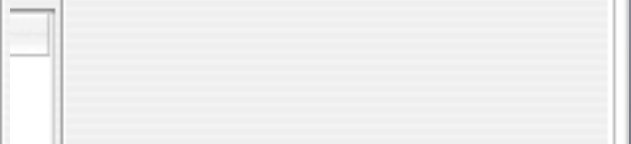
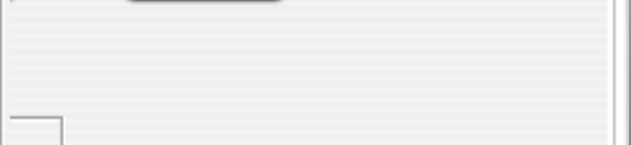
Tool



Errors



Size:



Starlink SPLAT-VO: Query VO for Spectra



Search region:

Object:

RA:

Dec:

Radius:

Band:

Query results:

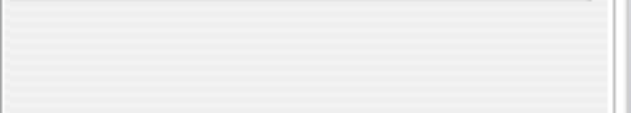
HFA SSA   FUSE SSA   **HST/FOS/SSAP**

Ind	ObsId	Reference	Target_Nam
1	Y19G0108T	<a href="http://archive.eso.org/preview/...">http://archive.eso.org/preview/...</a>	NGC1068-CLOUD4
2	Y19G0109T	<a href="http://archive.eso.org/preview/...">http://archive.eso.org/preview/...</a>	NGC1068-CLOUD4
3	Y0DV0205T	<a href="http://archive.eso.org/preview/...">http://archive.eso.org/preview/...</a>	NGC1068-NUC
4	Y0DV0206R	<a href="http://archive.eso.org/preview/...">http://archive.eso.org/preview/...</a>	NGC1068-NUC
5	Y0DV0305T	<a href="http://archive.eso.org/preview/...">http://archive.eso.org/preview/...</a>	NGC1068-NUC
6	Y0DV0306T	<a href="http://archive.eso.org/preview/...">http://archive.eso.org/preview/...</a>	NGC1068-NUC

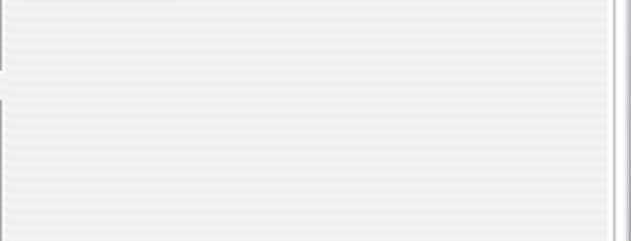
 

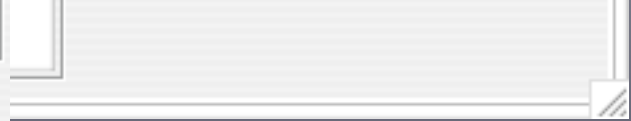
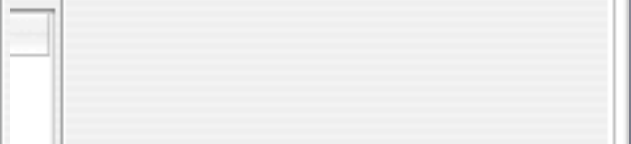
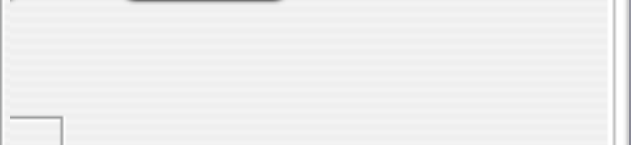
Tool



Errors



Size:



Starlink SPLAT-VO: A Spectral Analysis Tool



Global list of spectra:

Empty list area for global spectra.

Properties of current spectra:

Short name:   
Full name:   
Format:   
Columns: 

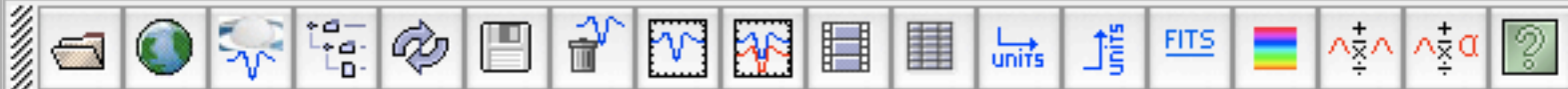
Coordinates	Data	Errors
<input type="text"/>	<input type="text"/>	<input type="text"/>

  
Colour:    
Composite:   
Line type:   
Line width:  Style:   
Point type:  Size:   
Error bars:

Views of current spectra:

View	Displayed

Starlink SPLAT-VO: A Spectral Analysis Tool



Global list of spectra:

- NGC1068-NUC
- NGC1068-NUC
- NGC1068-NUC
- NGC1068-NUC

Properties of current spectra:

Short name: NGC1068-NUC

Full name: [http://archive.eso.org/preview/preview/preview\\_hst/Y0DV0](http://archive.eso.org/preview/preview/preview_hst/Y0DV0)

Format: TABLE

Columns: 

Coordinates	Data	Errors
wavelength	flux	error

Colour:

Composite: 100%

Line type: polyline

Line width: 1 Style: line

Point type: dot Size: 5.0

Error bars:   1 1

Views of current spectra:

View	Displayed
<plot0>	<input checked="" type="checkbox"/>

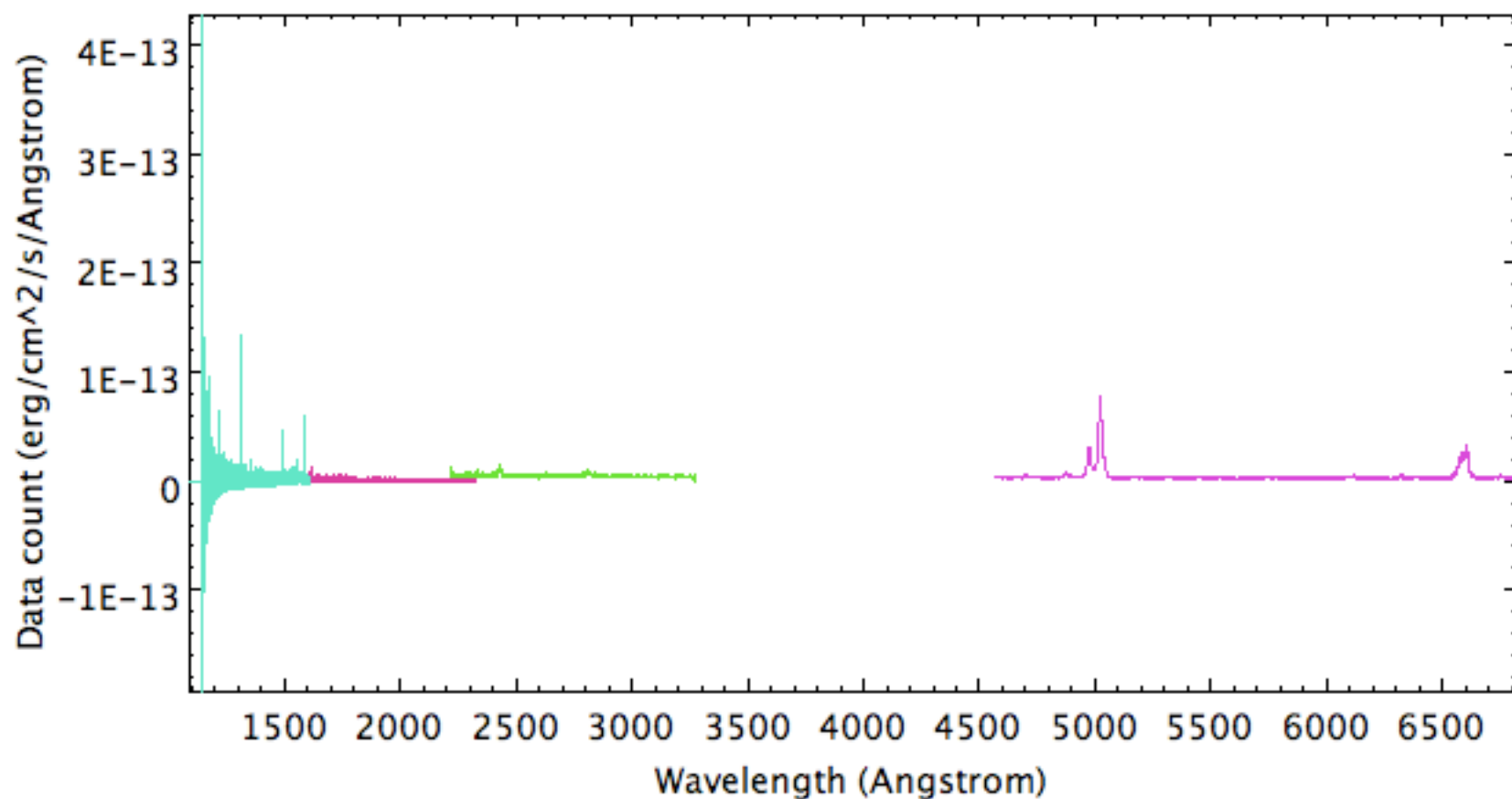


Displaying: NGC1068-NUC Y limits (%): automatic  :V-hair

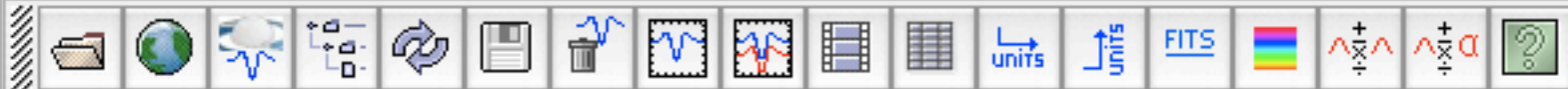
Wavelength: 2329.886  :log Data c... -1.359306E-16  :log  :Track free

X scale: 1.0   Y scal... 1.0

Data count versus Wavelength



Starlink SPLAT-VO: A Spectral Analysis Tool



Global list of spectra:

- NGC1068-NUC
- NGC1068-NUC
- NGC1068-NUC
- NGC1068-NUC

Properties of current spectra:

Short name: NGC1068-NUC

Full name: [http://archive.eso.org/preview/preview/preview\\_hst/Y0DV0](http://archive.eso.org/preview/preview/preview_hst/Y0DV0)

Format: TABLE

Columns: 

Coordinates	Data	Errors
wavelength	flux	error

Colour:

Composite: 100%

Line type: polyline

Line width: 1 Style: line

Point type: dot Size: 5.0

Error bars:   1 1

Views of current spectra:

View	Displayed
<plot0>	<input checked="" type="checkbox"/>



Starlink SPLAT-VO: Animate s...

Global list of spectra:

NGC1068-NUC  
NGC1068-NUC  
NGC1068-NUC  
NGC1068-NUC

Animation controls

Delay: 1

Loop forever:

Plot: Create

Scaling option:  Auto  Fix  Free

Current spectrum:

Start Pause Stop

Capture controls

Start capture:

Capture to JPEG (otherwise PNG):

Basename for graphics files: SPLAT

Close

SPLAT-VO: A Spectral Analysis Tool



Properties of current spectra:

name: NGC1068-NUC

name: [http://archive.eso.org/preview/preview/preview\\_hst/Y0DV0](http://archive.eso.org/preview/preview/preview_hst/Y0DV0)

format: TABLE

Columns: Coordinates Data Errors  
wavelength flux error

Colour:

position: 100%

line type: polyline

width: 1 Style: line

plot type: dot Size: 5.0

error bars:   1 1

Properties of current spectra:

View	Displayed
t0>	<input checked="" type="checkbox"/>



Starlink SPLAT-VO: Animate s...

Global list of spectra:

NGC1068-NUC  
NGC1068-NUC  
NGC1068-NUC  
NGC1068-NUC

Animation controls

Delay: 1

Loop forever:

Plot: Create

Scaling option:  Auto  Fix  Free

Current spectrum:

Start Pause Stop

Capture controls

Start capture:

Capture to JPEG (otherwise PNG):

Basename for graphics files: SPLAT

Close

Starlink SPLAT-VO: Coordinate system attributes

Global list of spectra:

NGC1068-NUC  
NGC1068-NUC  
NGC1068-NUC  
NGC1068-NUC

Spectral attribute controls

Coordinate system: Wave-length in vacuum

Units: Angstrom

Standard of rest: Centre of Sun

Date of observation: 2000.0

Observatory:

Longitude of observer: E0:00:00.00

Latitude of observer: N0:00:00.00

RA of source: 0:00:00.0

Dec of source: 0:00:00

Rest frequency: 100000 GHz

Spectral origin: 0

Source rest frame: Centre of Sun

Source system: Relativistic velocity

Source velocity: 0

Convert

Set

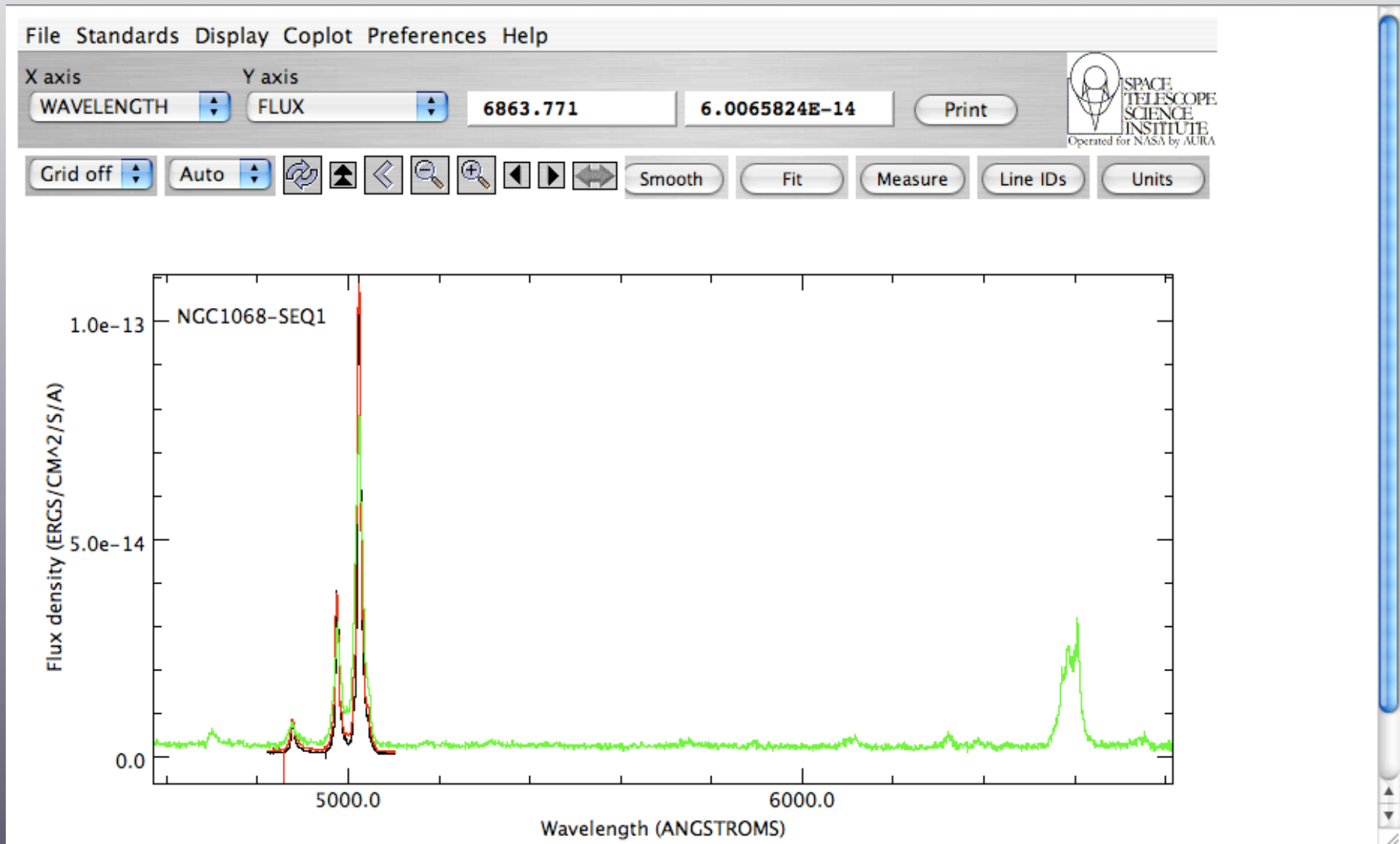
Close

# Specview

[http://specview.stsci.edu/applet/specview\\_applet\\_run.html](http://specview.stsci.edu/applet/specview_applet_run.html)

# Specview

[http://specview.stsci.edu/applet/specview\\_applet\\_run.html](http://specview.stsci.edu/applet/specview_applet_run.html)



# Topcat

<http://www.star.bris.ac.uk/~mbt/topcat/>

# Topcat

<http://www.star.bris.ac.uk/~mbt/topcat/>

TOPCAT: **T**ool for **O**perations on **C**atalogues **A**nd **T**ables



# Topcat

<http://www.star.bris.ac.uk/~mbt/topcat/>

**TOPCAT: Tool for OPERations on Catalogues And Tables**

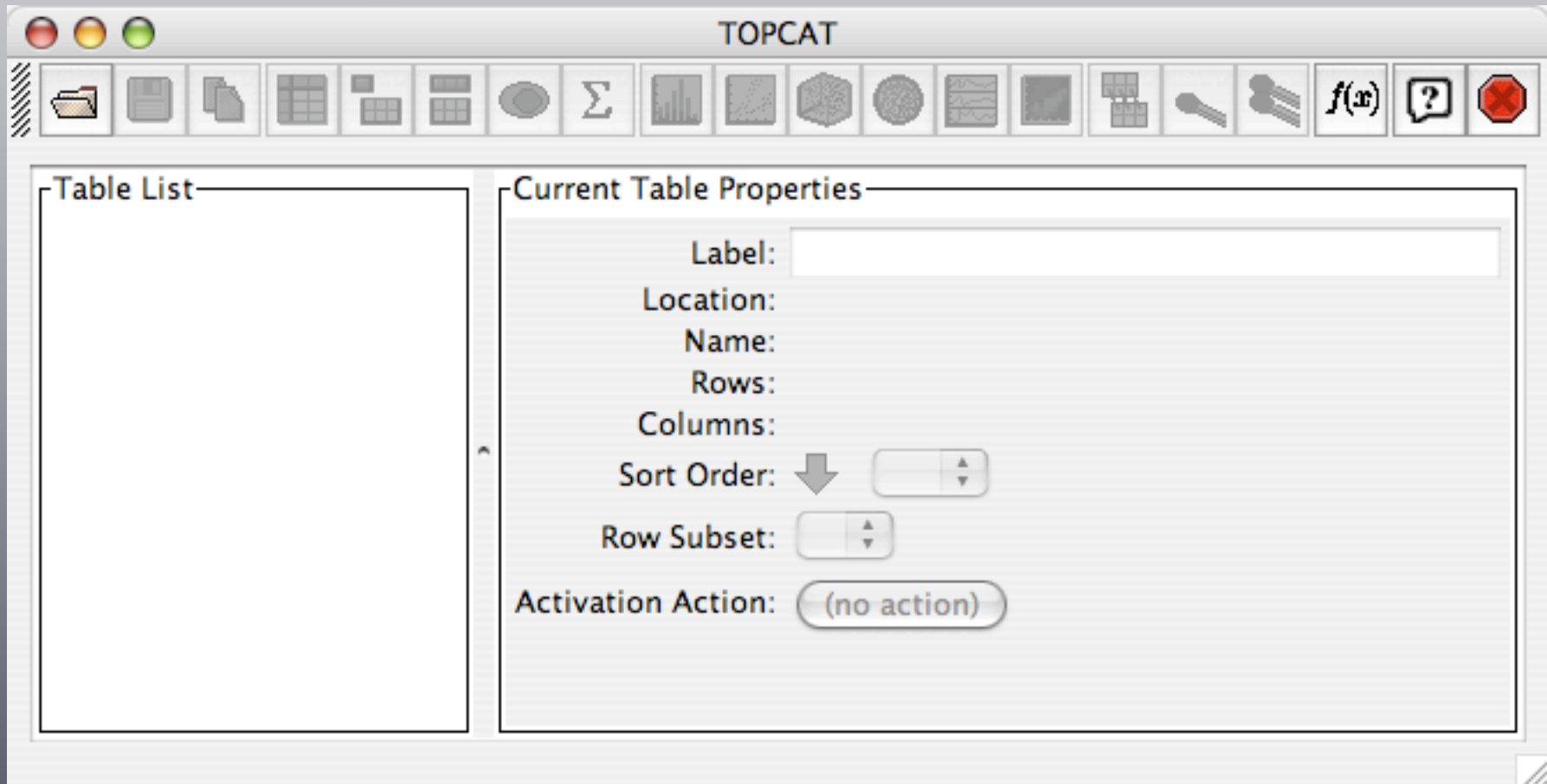
TOPCAT is an interactive graphical viewer and editor for tabular data.

# Topcat

<http://www.star.bris.ac.uk/~mbt/topcat/>

**TOPCAT: Tool for Operations on Catalogues And Tables**

TOPCAT is an interactive graphical viewer and editor for tabular data.






# TOPCAT



### Table List

1: 6dfgs_mini.xml.bz2
-----------------------

### Current Table Properties

Label: 6dfgs\_mini.xml.bz2  
Location: jar:file:/Applications/TOPCAT.app/Contents/Resources  
Name: 6dfgs\_E7\_subset  
Rows: 875  
Columns: 17  
Sort Order:    
Row Subset:   
Activation Action:

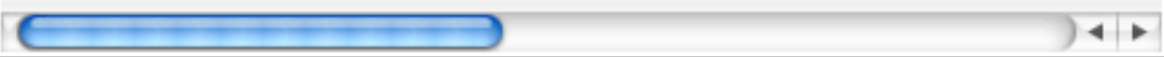


Table List

1: 6dfgs\_mini.xml.bz2

Current

R

Activati

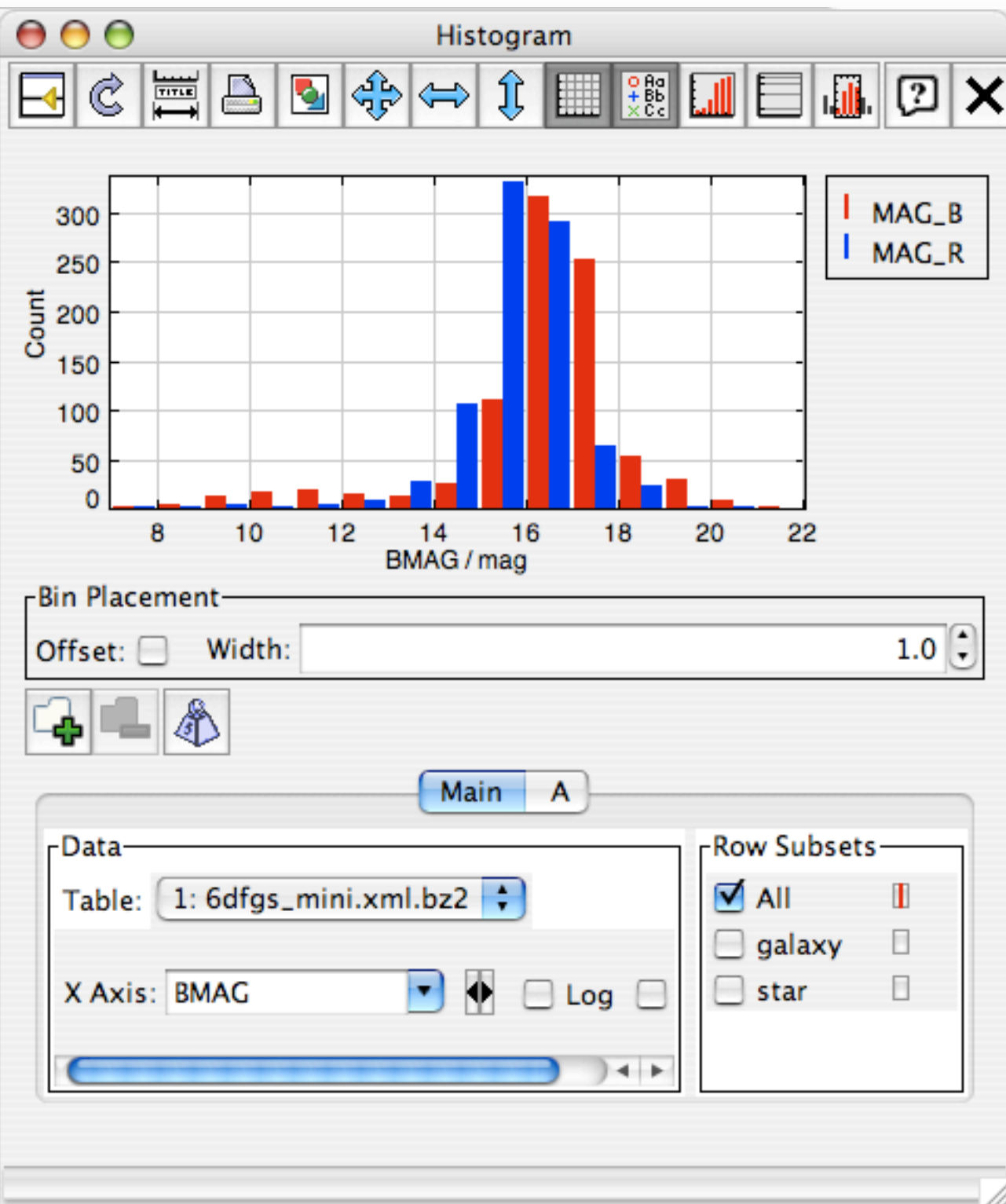


Table List

1: 6dfgs\_mini.xml.bz2

Current

R

Activati

### Scatter Plot

RMAG / mag

BMAG / mag

Main

Data

Table: 1: 6dfgs\_mini.xml.bz2

X Axis: BMAG +/- BMAG\_

Y Axis: RMAG +/- RMAG\_

Row Subsets

- All
- galaxy
- star

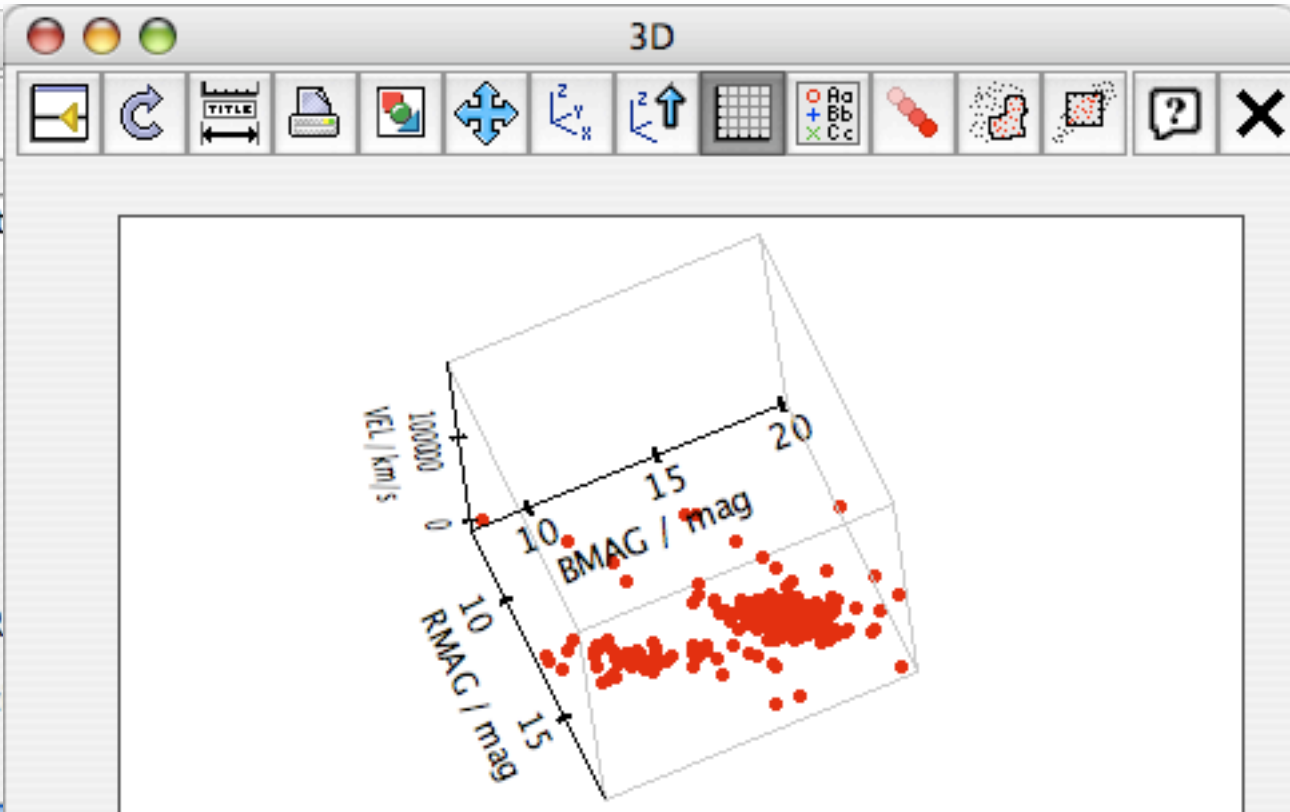
Potential: 875 Included: 875 Visible: 849 Position:

Table List

1: 6dfgs\_mini.xml.bz2

Current

Activat



Main

Data

Table: 1: 6dfgs\_mini.xml.bz2

X Axis: BMAG  Log

Y Axis: RMAG  Log

Z Axis: VEL  Log

Row Subsets

All

galaxy

star

Potential: 875 Included: 875 Visible: 335





# TOPCAT



## Table List

- 1: 6dfgs\_mini.xml.bz2

## Current Table Properties

Label: 6dfgs\_mini.xml.bz2  
Location: jar:file:/Applications/TOPCAT.app/Contents/Resources/...  
Name: 6dfgs\_E7\_subset  
Rows: 875  
Columns: 17  
Sort Order:   
Row Subset:   
Activation Action:



## Table List

1: 6dfgs\_mini.xml.bz2

## Table Browser for 1: 6dfgs\_mini.xml.bz2

	SGFLAG	galaxy	star	VEL	VEL_ERR	GAL_LONG	GAL_LAT
1	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25482	5000	318.307	-61.5517
2	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>			304.255	-32.3965
3	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8514	4000	11.2328	-79.3746
4	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6385	3950	307.605	-44.5303
5	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>			312.637	-57.0657
6	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10372	4000	28.441	-81.3329
7	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	26078	4000	327.409	-73.4069
8	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7130	4000	92.9808	-73.1057
9	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>			84.8265	-77.5191
10	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>			309.073	-55.0615
11	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>			304.348	-36.593
12	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	32554	4000	99.1738	-74.6882
13	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	24882	4000	110.268	-63.5474
14	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3553	200	106.286	-72.7337
15	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>			308.598	-63.1813
16	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>			113.849	-64.9378
17	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11254	4000	112.817	-70.6809
18	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	35105	1900	51.8841	-87.269
19	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5989	4000	309.783	-74.677
20	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>			104.589	-84.2521
21	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>			305.412	-68.8892
22	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	17912	4000	323.16	-87.7827
23	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>			302.989	-34.3338
24	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	37833	2500	301.159	-85.5352
25	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>			301.565	-70.5046
26	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>			125.216	-63.3838
27	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	16878	4000	128.858	-76.6203



# TOPCAT



## Table List

- 1: 6dfgs\_mini.xml.bz2

## Current Table Properties

Label: 6dfgs\_mini.xml.bz2  
Location: jar:file:/Applications/TOPCAT.app/Contents/Resources/...  
Name: 6dfgs\_E7\_subset  
Rows: 875  
Columns: 17  
Sort Order:   
Row Subset:   
Activation Action:

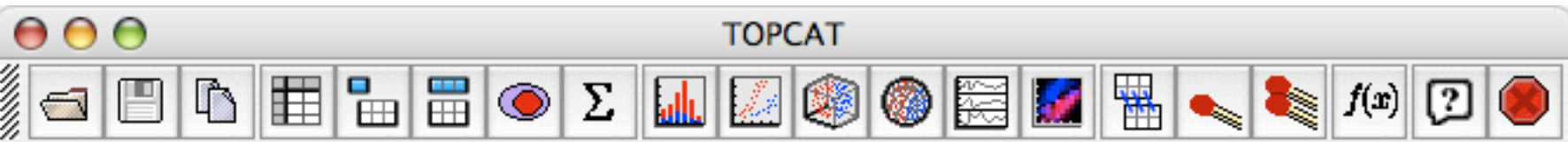


Table List

- 1: 6dfgs\_mini.xml.bz2

Current Table Properties

Label: 6dfgs\_mini.xml.bz2

Location: jar:file:/Applications/TOPCAT.app/Contents/Resources/...

TOPCAT(1): Table Parameters

Table Parameters for 1: 6dfgs\_mini.xml.bz2

Name	Value	Units	
Name	6dfgs_E7_subset		Table name
URL	jar:file:/Applications/TOPCAT.app/Contents/Resources/Java/top...		URL of original tab
Column Count	17		Number of column
Row Count	875		Number of rows
Description	6dFGS master config file (version E7 March 2004) - DEMO SUBSET		
Original Source	http://www-wfau.roe.ac.uk/6dFGS/6dfgs_E7.fld.gz		URL of data file us
Credits	Column explanations provided by Mike Read (ROE) from 6dfGS pr...		
Conversion	Converted from 6dfgs_E7.fld.gz by Mark Taylor (Starlink) usin...		
RESOLUTION	15	arcsec	Nominal positional
Comment	Cut-down and messed around 6dfGS dataset for TOPCAT demo usage		



# TOPCAT

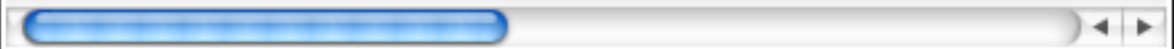


## Table List

- 1: 6dfgs\_mini.xml.bz2

## Current Table Properties

Label: 6dfgs\_mini.xml.bz2  
Location: jar:file:/Applications/TOPCAT.app/Contents/Resources/...  
Name: 6dfgs\_E7\_subset  
Rows: 875  
Columns: 17  
Sort Order:   
Row Subset: All   
Activation Action: (no action)



## TOPCAT



## Table List

1: 6dfgs\_mini.xml.bz2

## Current Table Properties

Label: 6dfgs\_mini.xml.bz2

## TOPCAT(1): Table Columns



## Table Columns for 1: 6dfgs\_mini.xml.bz2

	Visible	Name	\$ID	Class	Units	Description
0	<input type="checkbox"/>	Index	\$0	Long		Table row index
1	<input checked="" type="checkbox"/>	TARGET	\$1	String		Target name
2	<input checked="" type="checkbox"/>	RA	\$2	String	HMS	Right Ascension J2000
3	<input checked="" type="checkbox"/>	DEC	\$3	String	DMS	Declination J2000
4	<input checked="" type="checkbox"/>	RA2000	\$4	Double	degrees	Right Ascension J2000 (radiansToDegrees(hmsToRadians
5	<input checked="" type="checkbox"/>	DEC2000	\$5	Double	degrees	Declination J2000 (radiansToDegrees(dmsToRadians(DEC
6	<input checked="" type="checkbox"/>	BMAG	\$6	Float	mag	SuperCOS Bj magnitude
7	<input checked="" type="checkbox"/>	BMAG_ERR	\$7	Float	mag	BMAG error (fake value for demo data)
8	<input checked="" type="checkbox"/>	RMAG	\$8	Float	mag	SuperCOS R magnitude
9	<input checked="" type="checkbox"/>	RMAG_ERR	\$9	Float	mag	RMAG error (fake value for demo data)
10	<input checked="" type="checkbox"/>	SGFLAG	\$10	Short		SuperCOS Star/Galaxy flag: 1=galaxy,2=star,3=unclass,4
11	<input checked="" type="checkbox"/>	galaxy	\$11	Boolean		Flag indicating a galaxy (sgflag==1)
12	<input checked="" type="checkbox"/>	star	\$12	Boolean		Flag indicating a star (sgflag==2)
13	<input checked="" type="checkbox"/>	VEL	\$13	Integer	km/s	Velocity/redshift - some from literature ZCAT
14	<input checked="" type="checkbox"/>	VEL_ERR	\$14	Integer	km/s	Nominal velocity error (fake value for demo data)



# Cone Search

## Columns

### Available Cone Search Services

shortName	title
2IBIS SGR	Second IBIS/ISGRI Soft Gamma-Ray Survey Catalog
2MASS-PSC(CDS)	2MASS All-Sky Point Source Catalog
2QZ	2dF QSO Redshift Survey. V. The 10k catalogue
A1	HEAO 1 A-1 X-Ray Source Catalog
A1POINT	HEAO 1 A1 Lightcurves
A2LED	HEAO 1 A-2 LED Catalog
A2PIC	HEAO 1 A-2 Piccinotti Catalog
A2POINT	HEAO 1 A2 Pointing
A3	HEAO 1 A3 MC LASS Catalog
A4	HEAO 1 A4 X-ray
AC2000.2	AC 2000.2 Catalogue
ACRS	Astrographic Catalog of Reference Stars

### Cone Search Parameters

Object Name:

RA:  degrees  (J2000)

Dec:  degrees  (J2000)

Radius:  degrees


## SIAP Query

## Columns

## Available SIAP Query Services

shortName	title
DSS1	Digitized Sky Survey: Version 1
EGRET	Energetic Gamma Ray Telescope (EGRET) All Sky Survey
EUVE	Extreme Ultraviolet Explorer All Sky Survey
ROSAT/PSPC	ROSAT PSPC Pointed Observations Mosaic
SFD IR	SFD IR and Dust Map Surveys
SkyView	SkyView Virtual Observatory
1420MHz	Bonn 1420 MHz Survey
2MASS	Two Micron All Sky Survey (H-Band)
2MASS ASKY AT	2MASS All-Sky Atlas Image Service
2MASS ASKYW AT	2MASS Full Survey Image Service
2MASS CAL AT	2MASS Calibration Image Service
2MASS QL	2MASS All-Sky Quicklook Image Service
2MASS SX AT	2MASS 6X Catalog Image Service
2MASS SXW AT	2MASS Full 6X Image Service
2cmVLBA	NRAO VLBA 2cm Survey

## SIAP Query Parameters

RA:  degrees Dec:  degrees Radius:  degrees 

Cancel

OK

SIAP Query

Columns

Available SIAP Query Services

shortName	
DSS1	Digitized Sky Survey: Version
EGRET	Energetic Gamma Ray Telesc
EUVE	Extreme Ultraviolet Explorer /
ROSAT/PSPC	ROSAT PSPC Pointed Observa
SFD IR	SFD IR and Dust Map Surveys
SkyView	SkyView Virtual Observatory
1420MHz	Bonn 1420 MHz Survey
2MASS	Two Micron All Sky Survey (H-Bar
2MASS ASKY AT	2MASS All-Sky Atlas Image Servic
2MASS ASKYW AT	2MASS Full Survey Image Service
2MASS CAL AT	2MASS Calibration Image Service
2MASS QL	2MASS All-Sky Quicklook Image Service
2MASS SX AT	2MASS 6X Catalog Image Service
2MASS SXW AT	2MASS Full 6X Image Service
2cmVLRA	NRAO VLRA 2cm Survey

Registry Query

Registry:

Query:

Cancel OK

SIAP Query Parameters

RA:  degrees

Dec:  degrees

Radius:  degrees

Cancel OK

### SIAP Query

Columns

Available SIAP Query Services

shortName	
DSS1	Digitized Sky Survey: Version
EGRET	Energetic Gamma Ray Telesc
EUVE	Extreme Ultraviolet Explorer /
ROSAT/PSPC	ROSAT PSPC Pointed Observa
SFD IR	SFD IR and Dust Map Surveys
SkyView	SkyView Virtual Observatory
1420MHz	Bonn 1420 MHz Survey
2MASS	Two Micron All Sky Survey (H-Bar
2MASS ASKY AT	2MASS All-Sky Atlas Image Servic
2MASS ASKYW AT	2MASS Full Survey Image Service
2MASS CAL AT	2MASS Calibration Image Service
2MASS QL	2MASS All-Sky Quicklook Image Service
2MASS SX AT	2MASS 6X Catalog Image Service
2MASS SXW AT	2MASS Full 6X Image Service
2cmVLRA	NRAO VLRA 2cm Survey

SIAP Query Parameters

RA:  degrees

Dec:  degrees

Radius:  degrees

### Registry Query

Registry:

Query: All records

### GAVO Millennium Run Query

SampleQueries

Base URL:

User:

Password:

SQL Query: 

```
select DES.galaxyId as descendant_id,
  DES.stellarMass as descendant_mass,
  PROG.*
from millimil..DeLucia2006a DES,
  millimil..DeLucia2006a PROG
where DES.snapnum = 63
  and DES.mag_b < -20
  and PROG.galaxyId between DES.galaxyId and
  ES.lastprogenitorId
  and PROG.snapnum = 30
  and PROG.mag_b < -10
```

Cancel OK



# TOPCAT



Table List

1: 6dfgs_mini.xml.bz2
-----------------------

Current Table Properties


Label: 6dfgs\_mini.xml.bz2

Location: jar:file:/Applications/TOPCAT.app/Contents/Resources

Name: 6dfgs\_E7\_subset


Rows: 875

Columns: 17

Sort Order: 

Row Subset:

Activation Action:





## TOPCAT

## TOPCAT(4): Table Columns

## Table Columns for 4: 6dfgs\_mini.xml.bz2

	Visible	Name	\$ID	Class	Units	Description
0	<input type="checkbox"/>	Index	\$0	Long		Table row index
1	<input checked="" type="checkbox"/>	TARGET	\$1	String		Target name
2	<input checked="" type="checkbox"/>	RA	\$2	String	HMS	Right Ascension J2000
3	<input checked="" type="checkbox"/>	DEC	\$3	String	DMS	Declination J2000
4	<input checked="" type="checkbox"/>	RA2000	\$4	Double	degrees	Right Ascension J2000 (radiansToDegrees(hmsToRadians(R.
5	<input checked="" type="checkbox"/>	DEC2000	\$5	Double	degrees	Declination J2000 (radiansToDegrees(dmsToRadians(DEC)))
6	<input checked="" type="checkbox"/>	BMAG	\$6	Float	mag	SuperCOS Bj magnitude
7	<input checked="" type="checkbox"/>	BMAG_ERR	\$7	Float	mag	BMAG error (fake value for demo data)
8	<input checked="" type="checkbox"/>	RMAG	\$8	Float	mag	SuperCOS R magnitude
9	<input checked="" type="checkbox"/>	RMAG_ERR	\$9	Float	mag	RMAG error (fake value for demo data)
10	<input checked="" type="checkbox"/>	SGFLAG	\$10	Short		SuperCOS Star/Galaxy flag: 1=galaxy,2=star,3=unclass,4=
11	<input checked="" type="checkbox"/>	galaxy	\$11	Boolean		Flag indicating a galaxy (sgflag==1)
12	<input checked="" type="checkbox"/>	star	\$12	Boolean		Flag indicating a star (sgflag==2)
13	<input checked="" type="checkbox"/>	VEL	\$13	Integer	km/s	Velocity/redshift - some from literature ZCAT
14	<input checked="" type="checkbox"/>	VEL_ERR	\$14	Integer	km/s	Nominal velocity error (fake value for demo data)
15	<input checked="" type="checkbox"/>	GAL_LONG	\$15	Float	degrees	Galactic Longitude
16	<input checked="" type="checkbox"/>	GAL_LAT	\$16	Float	degrees	Galactic Latitude



TOPCAT

TOPCAT(4): Table Columns

Table Columns for 4: 6dfgs\_mini.xml.bz2

	Visible	Name	\$ID	Class	Units	Description
0	<input type="checkbox"/>	Index	\$0	Long		Table row index
1	<input checked="" type="checkbox"/>	TARGET	\$1	String		Target name
2	<input checked="" type="checkbox"/>	RA	\$2	String	HMS	Right Ascension J2000
3	<input checked="" type="checkbox"/>	DEC	\$3	String	DMS	Declination J2000

Sky Coordinate Columns

**Input Coordinates**

System:

Units:

Right Ascension:

Declination:

➤

**Output Coordinates**

System:

Units:

Right Ascension:

Declination:

TOPCAT

TOPCAT(4): Table Columns

Table Columns for 4: 6dfgs\_mini.xml.bz2

	Visible	Name	SID	Class	Units	Description
0	<input type="checkbox"/>	Index	\$0	Long		Table row index
1	<input checked="" type="checkbox"/>	TARGET	\$1	String		Target name
2	<input checked="" type="checkbox"/>	RA	\$2	String	HMS	Right Ascension J2000
3	<input checked="" type="checkbox"/>	DEC	\$3	String	DMS	Declination J2000

Sky Coordinate Columns

Input Coordinates

System: **ICRS (Hipparcos)**

Units: FK5 J2000.0

Right Ascension: IAU 1958 Galactic

Declination: de Vaucouleurs Supergalactic

Ecliptic



Output Coordinates

System: ICRS (Hipparcos)

Units: degrees

Right Ascension: RAx

Declination: DECx

OK

Cancel

TOPCAT

TOPCAT(4): Table Columns

Table Columns for 4: 6dfgs\_mini.xml.bz2

	Visible	Name	SID	Class	Units	Description
0	<input type="checkbox"/>	Index	\$0	Long		Table row index
1	<input checked="" type="checkbox"/>	TARGET	\$1	String		Target name
2	<input checked="" type="checkbox"/>	RA	\$2	String	HMS	Right Ascension J2000
3	<input checked="" type="checkbox"/>	DEC	\$3	String	DMS	Declination J2000

Sky Coordinate Columns

Input Coordinates

System:

- ✓ ICRS (Hipparcos)
- FK5 J2000.0
- FK4 B1950.0
- IAU 1958 Galactic
- de Vaucouleurs Supergalactic
- Ecliptic

Units:

Right Ascension:

Declination:

Output Coordinates

System:

ICRS (Hipparcos)

Units:

degrees

Right Ascension:

RAX

Declination:

DECx

OK

Cancel

## TOPCAT

## TOPCAT(4): Table Columns

## Table Columns for 4: 6dfgs\_mini.xml.bz2

	Visible	Name	\$ID	Class	Units	Description
0	<input type="checkbox"/>	Index	\$0	Long		Table row index
1	<input checked="" type="checkbox"/>	TARGET	\$1	String		Target name
2	<input checked="" type="checkbox"/>	RA	\$2	String	HMS	Right Ascension J2000
3	<input checked="" type="checkbox"/>	DEC	\$3	String	DMS	Declination J2000
4	<input checked="" type="checkbox"/>	RA2000	\$4	Double	degrees	Right Ascension J2000 (radiansToDegrees(hmsToRadians(RA)))
5	<input checked="" type="checkbox"/>	DEC2000	\$5	Double	degrees	Declination J2000 (radiansToDegrees(dmsToRadians(DEC)))
6	<input checked="" type="checkbox"/>	BMAG	\$6	Float	mag	SuperCOS Bj magnitude
7	<input checked="" type="checkbox"/>	BMAG_ERR	\$7	Float	mag	BMAG error (fake value for demo data)
8	<input checked="" type="checkbox"/>	RMAG	\$8	Float	mag	SuperCOS R magnitude
9	<input checked="" type="checkbox"/>	RMAG_ERR	\$9	Float	mag	RMAG error (fake value for demo data)
10	<input checked="" type="checkbox"/>	SGFLAG	\$10	Short		SuperCOS Star/Galaxy flag: 1=galaxy,2=star,3=unclass,4=
11	<input checked="" type="checkbox"/>	galaxy	\$11	Boolean		Flag indicating a galaxy (sgflag==1)
12	<input checked="" type="checkbox"/>	star	\$12	Boolean		Flag indicating a star (sgflag==2)
13	<input checked="" type="checkbox"/>	VEL	\$13	Integer	km/s	Velocity/redshift - some from literature ZCAT
14	<input checked="" type="checkbox"/>	VEL_ERR	\$14	Integer	km/s	Nominal velocity error (fake value for demo data)
15	<input checked="" type="checkbox"/>	GAL_LONG	\$15	Float	degrees	Galactic Longitude
16	<input checked="" type="checkbox"/>	GAL_LAT	\$16	Float	degrees	Galactic Latitude

TOPCAT

TOPCAT(4): Table Columns

Table Columns for [table name]

	Visible	
0	<input type="checkbox"/>	Ind
1	<input checked="" type="checkbox"/>	TA
2	<input checked="" type="checkbox"/>	RA
3	<input checked="" type="checkbox"/>	DE
4	<input checked="" type="checkbox"/>	RA
5	<input checked="" type="checkbox"/>	DE
6	<input checked="" type="checkbox"/>	BM
7	<input checked="" type="checkbox"/>	BM
8	<input checked="" type="checkbox"/>	RM
9	<input checked="" type="checkbox"/>	RM
10	<input checked="" type="checkbox"/>	SGF
11	<input checked="" type="checkbox"/>	gal
12	<input checked="" type="checkbox"/>	sta
13	<input checked="" type="checkbox"/>	VEL
14	<input checked="" type="checkbox"/>	VEL
15	<input checked="" type="checkbox"/>	GA
16	<input checked="" type="checkbox"/>	GA

Define Synthetic Column

**Name:** BMAG

**Expression:** \$6

**Units:** mag

**Description:** SuperCOS Bj magnitude

**UCD:** phot.mag;em.opt.B

**Index:** 6

OK Cancel

msToRadians(R.  
oRadians(DEC)))

r,3=unclass,4=

T  
data)



TOPCAT

TOPCAT(4): Table Columns

Table Columns for [table name]

	Visible	
0	<input type="checkbox"/>	Ind
1	<input checked="" type="checkbox"/>	TA
2	<input checked="" type="checkbox"/>	RA
3	<input checked="" type="checkbox"/>	DE
4	<input checked="" type="checkbox"/>	RA
5	<input checked="" type="checkbox"/>	DE
6	<input checked="" type="checkbox"/>	BM
7	<input checked="" type="checkbox"/>	BM
8	<input checked="" type="checkbox"/>	RM
9	<input checked="" type="checkbox"/>	RM
10	<input checked="" type="checkbox"/>	SGF
11	<input checked="" type="checkbox"/>	gal
12	<input checked="" type="checkbox"/>	sta
13	<input checked="" type="checkbox"/>	VEL
14	<input checked="" type="checkbox"/>	VEL
15	<input checked="" type="checkbox"/>	GA
16	<input checked="" type="checkbox"/>	GA

Define Synthetic Column

**Name:** BMAG (AB)

**Expression:** \$6+0.07

**Units:** mag

**Description:** SuperCOS Bj magnitude

**UCD:** phot.mag;em.opt.B

**Index:** 6

OK Cancel

msToRadians(R.  
oRadians(DEC)))

r,3=unclass,4=

T  
data)



TOPCAT

TOPCAT(4): Table Columns

Table Columns for [table name]

	Visible	
0	<input type="checkbox"/>	Ind
1	<input checked="" type="checkbox"/>	TA
2	<input checked="" type="checkbox"/>	RA
3	<input checked="" type="checkbox"/>	DE
4	<input checked="" type="checkbox"/>	RA
5	<input checked="" type="checkbox"/>	DE
6	<input checked="" type="checkbox"/>	BM
7	<input checked="" type="checkbox"/>	BM
8	<input checked="" type="checkbox"/>	RM
9	<input checked="" type="checkbox"/>	RM
10	<input checked="" type="checkbox"/>	SGF
11	<input checked="" type="checkbox"/>	gal
12	<input checked="" type="checkbox"/>	sta
13	<input checked="" type="checkbox"/>	VEL
14	<input checked="" type="checkbox"/>	VEL
15	<input checked="" type="checkbox"/>	GA
16	<input checked="" type="checkbox"/>	GA

Define Synthetic Column

**Name:** BMAG

**Expression:** \$6

**Units:** mag

**Description:** SuperCOS Bj magnitude

**UCD:** phot.mag;em.opt.B

**Index:** 6

OK Cancel

msToRadians(R.  
oRadians(DEC)))

r,3=unclass,4=

T  
data)

## TOPCAT

## TOPCAT(4): Table Columns

## Table Columns for 4: 6dfgs\_mini.xml.bz2

	Visible	Name	\$ID	Class	Units	Description
0	<input type="checkbox"/>	Index	\$0	Long		Table row index
1	<input checked="" type="checkbox"/>	TARGET	\$1	String		Target name
2	<input checked="" type="checkbox"/>	RA	\$2	String	HMS	Right Ascension J2000
3	<input checked="" type="checkbox"/>	DEC	\$3	String	DMS	Declination J2000
4	<input checked="" type="checkbox"/>	RA2000	\$4	Double	degrees	Right Ascension J2000 (radiansToDegrees(hmsToRadians(R.
5	<input checked="" type="checkbox"/>	DEC2000	\$5	Double	degrees	Declination J2000 (radiansToDegrees(dmsToRadians(DEC)))
6	<input checked="" type="checkbox"/>	BMAG	\$6	Float	mag	SuperCOS Bj magnitude
7	<input checked="" type="checkbox"/>	BMAG_ERR	\$7	Float	mag	BMAG error (fake value for demo data)
8	<input checked="" type="checkbox"/>	RMAG	\$8	Float	mag	SuperCOS R magnitude
9	<input checked="" type="checkbox"/>	RMAG_ERR	\$9	Float	mag	RMAG error (fake value for demo data)
10	<input checked="" type="checkbox"/>	SGFLAG	\$10	Short		SuperCOS Star/Galaxy flag: 1=galaxy,2=star,3=unclass,4=
11	<input checked="" type="checkbox"/>	galaxy	\$11	Boolean		Flag indicating a galaxy (sgflag==1)
12	<input checked="" type="checkbox"/>	star	\$12	Boolean		Flag indicating a star (sgflag==2)
13	<input checked="" type="checkbox"/>	VEL	\$13	Integer	km/s	Velocity/redshift - some from literature ZCAT
14	<input checked="" type="checkbox"/>	VEL_ERR	\$14	Integer	km/s	Nominal velocity error (fake value for demo data)
15	<input checked="" type="checkbox"/>	GAL_LONG	\$15	Float	degrees	Galactic Longitude
16	<input checked="" type="checkbox"/>	GAL_LAT	\$16	Float	degrees	Galactic Latitude

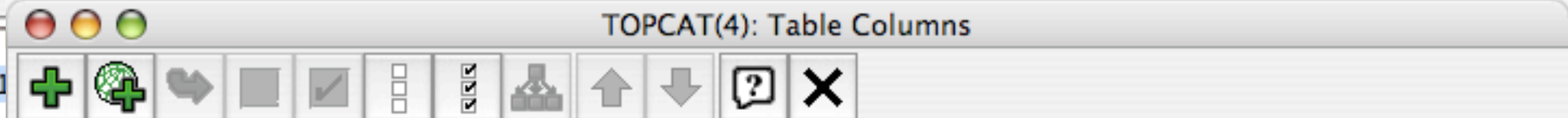
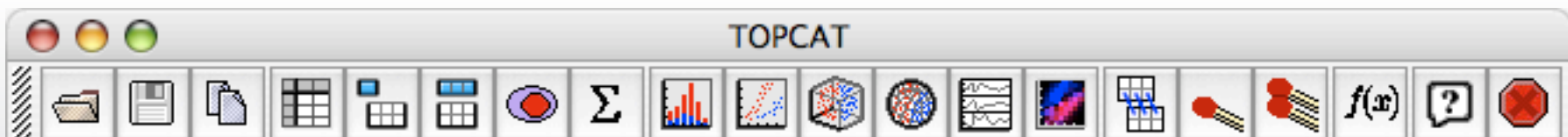


Table Columns for 4: 6dfgs\_mini.xml.bz2

	Visible	Name	\$ID	Class	Units	Expression	Description
0	<input type="checkbox"/>	Index	\$0	Long			Table row index
1	<input checked="" type="checkbox"/>	TARGET	\$1	String			Target name
2	<input checked="" type="checkbox"/>	RA	\$2	String	HMS		Right Ascension J2000
3	<input checked="" type="checkbox"/>	DEC	\$3	String	DMS		Declination J2000
4	<input checked="" type="checkbox"/>	RA2000	\$4	Double	degrees		Right Ascension J2000 (radiansToDegrees(hmsT
5	<input checked="" type="checkbox"/>	DEC2000	\$5	Double	degrees		Declination J2000 (radiansToDegrees(dmsToRa
6	<input type="checkbox"/>	BMAG	\$6	Float	mag		SuperCOS Bj magnitude
7	<input checked="" type="checkbox"/>	BMAG (AB)	\$18	Double	mag	$\$6+0.07$	SuperCOS Bj magnitude
8	<input checked="" type="checkbox"/>	BMAG_ERR	\$7	Float	mag		BMAG error (fake value for demo data)
9	<input checked="" type="checkbox"/>	RMAG	\$8	Float	mag		SuperCOS R magnitude
10	<input checked="" type="checkbox"/>	RMAG_ERR	\$9	Float	mag		RMAG error (fake value for demo data)
11	<input checked="" type="checkbox"/>	SGFLAG	\$10	Short			SuperCOS Star/Galaxy flag: 1=galaxy,2=star,3=
12	<input checked="" type="checkbox"/>	galaxy	\$11	Boolean			Flag indicating a galaxy (sgflag==1)
13	<input checked="" type="checkbox"/>	star	\$12	Boolean			Flag indicating a star (sgflag==2)
14	<input checked="" type="checkbox"/>	VEL	\$13	Integer	km/s		Velocity/redshift - some from literature ZCAT
15	<input checked="" type="checkbox"/>	VEL_ERR	\$14	Integer	km/s		Nominal velocity error (fake value for demo data)
16	<input checked="" type="checkbox"/>	GAL_LONG	\$15	Float	degrees		Galactic Longitude

TOPCAT

TOPCAT(4): Table Columns

Table Columns for [table name]

	Visible	
0	<input type="checkbox"/>	Ind
1	<input checked="" type="checkbox"/>	TA
2	<input checked="" type="checkbox"/>	RA
3	<input checked="" type="checkbox"/>	DE
4	<input checked="" type="checkbox"/>	RA
5	<input checked="" type="checkbox"/>	DE
6	<input type="checkbox"/>	BM
7	<input checked="" type="checkbox"/>	BM
8	<input checked="" type="checkbox"/>	BM
9	<input checked="" type="checkbox"/>	RM
10	<input checked="" type="checkbox"/>	RM
11	<input checked="" type="checkbox"/>	SGF
12	<input checked="" type="checkbox"/>	gal
13	<input checked="" type="checkbox"/>	sta
14	<input checked="" type="checkbox"/>	VEL
15	<input checked="" type="checkbox"/>	VEL
16	<input checked="" type="checkbox"/>	GA

Define Synthetic Column

Name: B-R

Expression: \$BMAG-RMAG

Units:

Description:

UCD: no UCD

Index: 18

OK Cancel

Description

toDegrees(hmsTo

degrees(dmsToRa

data)

data)

galaxy,2=star,3=

=1)

)

temperature ZCAT

for demo data



# TOPCAT



Table List

1: 6dfgs_mini.xml.bz2
-----------------------

Current Table Properties


Label: 6dfgs\_mini.xml.bz2

Location: jar:file:/Applications/TOPCAT.app/Contents/Resources

Name: 6dfgs\_E7\_subset


Rows: 875

Columns: 17

Sort Order: 

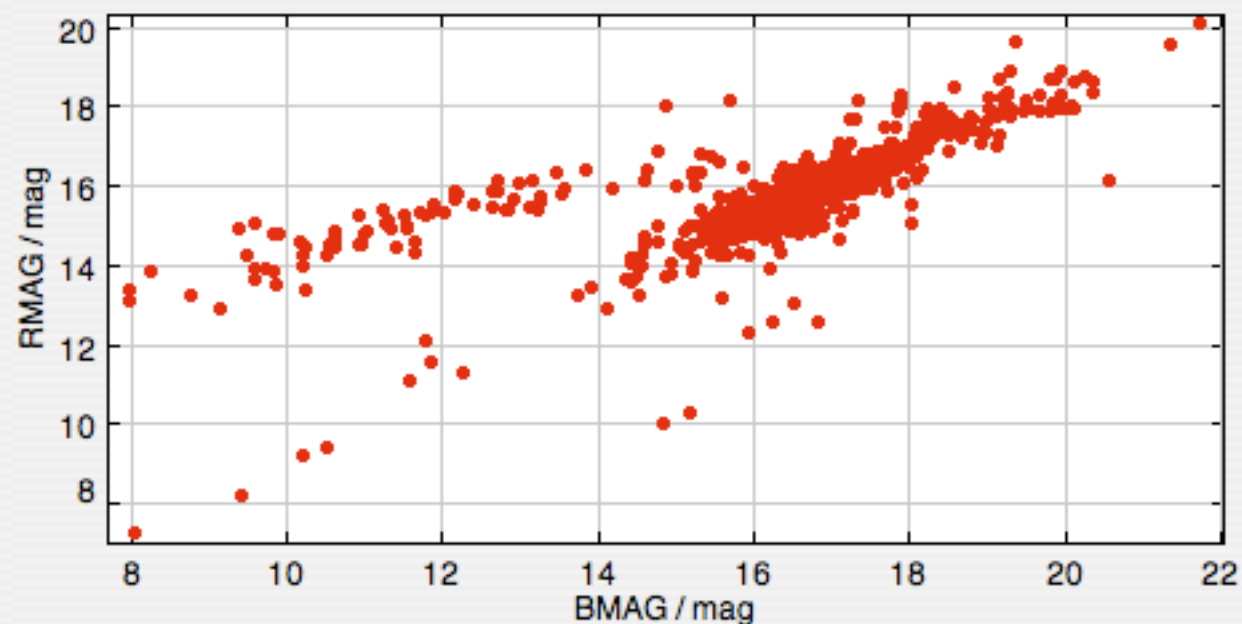
Row Subset:

Activation Action:





# Scatter Plot



Main

Data

Table: 1: 6dfgs\_mini.xml.bz2

X Axis: BMAG  Log

Y Axis: RMAG  Log

Row Subsets

All

galaxy

star

Potential: 875 Included: 875 Visible: 849

Position:

OPCAT.app/Contents/Resc





# TOPCAT



Table List

1: 6dfgs_mini.xml.bz2
-----------------------

Current Table Properties

Label: 6dfgs\_mini.xml.bz2

Location: jar:file:/Applications/TOPCAT.app/Contents/Resources

Name: 6dfgs\_E7\_subset

Rows: 875

Columns: 17

Sort Order:

Row Subset:

Activation Action:

TOPCAT

Table List

1: 6dfgs\_mini.xml.bz2

Current Table Properties

TOPCAT(1): Row Subsets

Row Subsets for 1: 6dfgs\_mini.xml.bz2

ID	Name	Size	Fraction	Col \$ID
_1	All	875	100%	
_2	galaxy	706	81%	\$11
_3	star	141	16%	\$12

TOPCAT

Table List

1: 6dfgs\_mini.xml.bz2

Current Table Properties

TOPCAT(1): Row Subsets

Row Subsets for 1: 6dfgs\_mini.xml.bz2

ID	Name	Size	Fraction	Col \$ID
_1	All	875	100%	
_2	galaxy	706	81%	\$11
_3	star	141	16%	\$12

Define Row Subset

Subset Name:

Expression:

OK Cancel

TOPCAT

Table List

1: 6dfgs\_mini.xml.bz2

Current Table Properties

TOPCAT(1): Row Subsets

Row Subsets for 1: 6dfgs\_mini.xml.bz2

ID	Name	Size	Fraction	Col \$ID
_1	All	875	100%	
_2	galaxy	706	81%	\$11
_3	star	141	16%	\$12

Define Row Subset

Subset Name:

Expression:

OK Cancel

TOPCAT

Table List

1: 6dfgs\_mini.xml.bz2

Current Table Properties

TOPCAT(1): Row Subsets

Row Subsets for 1: 6dfgs\_mini.xml.bz2

ID	Name	Size	Fraction	Col \$ID
_1	All	875	100%	
_2	galaxy	706	81%	\$11
_3	star	141	16%	\$12

Define Row Subset

Subset Name:

Expression:

OK Cancel

TOPCAT

Table List

1: 6dfgs\_mini.xml.bz2

Current Table Properties

TOPCAT(1): Row Subsets

Row Subsets for 1: 6dfgs\_mini.xml.bz2

ID	Name	Size	Fraction	Expression	Col \$ID
_1	All	875	100%		
_2	galaxy	706	81%		\$11
_3	star	141	16%		\$12
_4	bright_sample	38	4%	\$6<16 && \$8<14	

Define Row Subset

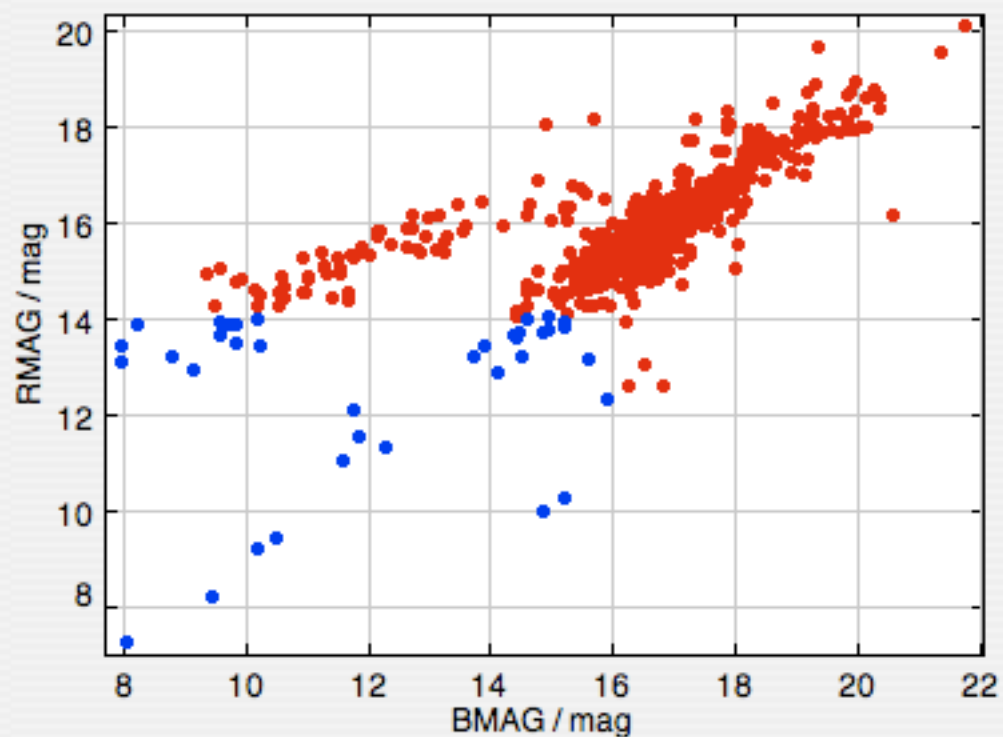
Subset Name: bright\_sample

Expression: \$6<16 && \$8<14

OK Cancel



Scatter Plot



Legend for the scatter plot:

- All (red dot)
- bright\_sample (blue dot)



Main

Data configuration panel:

Table: 1: 6dfgs\_mini.xml.bz2

X Axis: BMAG [Log] [Fit]

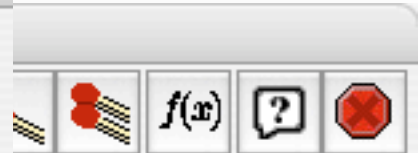
Y Axis: RMAG [Log] [Fit]

Row Subsets configuration panel:

- All
- galaxy
- star
- bright\_sample

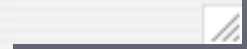
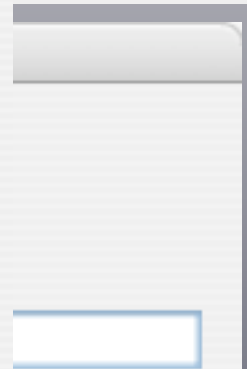
Potential: 875 Included: 875 Visible: 849

Position:



Subsets panel showing a table of row subsets:

on	Expression	Col SID
0%		
1%		\$11
6%		\$12
4%	\$6 < 16 && \$8 < 14	



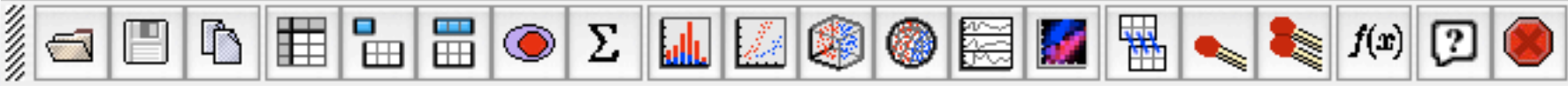


Table List

1: 2MASS-PSC(CDS)
4: USNO-B1
6: SDSS_EN1.vot
7: SDSS_EN2.vot

Current Table Properties


Label:

Location: /Users/evanthia/Desktop/SDSS\_EN2.vot

Name: ConeSearch?RA=240.0&DEC=40.0&SR=0.5

Rows: 5000

Columns: 24

Sort Order: 

Row Subset:

Activation Action:

TOPCAT

Table List

- 1: 2MASS-PSC(CDS)
- 4: USNO-B1
- 6: SDSS\_EN1.vot
- 7: SDSS\_EN2.vot

Current Table Properties

Label: SDSS  
Location: /User  
Name: Cone  
Rows: 5000  
Columns: 24  
Sort Order: ↑  
Row Subset: All  
Activation Action: (no)

Match Tables

Match Criteria

Algorithm: Sky

Max Error: 1.0 arcsec

Table 1

Table: [dropdown]

RA column: [dropdown] degrees

Dec column: [dropdown] degrees

Table 2

Table: [dropdown]

RA column: [dropdown] degrees

Dec column: [dropdown] degrees

Output Rows

Match Selection:  Best Match Only  All Matches

Join Type: 1 and 2

TOPCAT

Table List

- 1: 2MASS-PSC(CDS)
- 4: USNO-B1
- 6: SDSS\_EN1.vot
- 7: SDSS\_EN2.vot

Current Table Properties

Label: SDSS  
Location: /User  
Name: Cone  
Rows: 5000  
Columns: 24  
Sort Order: ↑  
Row Subset: All  
Activation Action: (no)

Match Tables

Match Criteria

Algorithm: Sky  
Max Error: 1.0 arcsec

Table 1

Table: 1: 2MASS-PSC(CDS)  
RA column: RAJ2000 degrees  
Dec column: DEJ2000 degrees

Table 2

Table: 6: SDSS\_EN1.vot  
RA column: RA degrees  
Dec column: DEC degrees

Output Rows

Match Selection:  Best Match Only  All Matches  
Join Type: 1 and 2

TOPCAT

Table List

- 1: 2MASS-PSC(CDS)
- 4: USNO-B1
- 6: SDSS\_EN1.vot
- 7: SDSS\_EN2.vot

Current Table Properties

Label: SD  
Location: /Us  
Name: Cor  
Rows: 500  
Columns: 24  
Sort Order: ↑  
Row Subset: All  
Activation Action: ( )

Algorithm: Sky

Max Error: 1.0 arcsec

Table 1

Table: 1: 2MASS-PSC(CDS)

RA column: RAJ2000 degrees

Dec column: DEJ2000 degrees

Table 2

Table: 6: SDSS\_EN1.vot

RA column: RA degrees

Dec column: DEC degrees

Output Rows

Match Selection:  Best Match Only  All Matches

Join Type: 1 and 2

- 1 and 2
- 1 or 2
- All from 1
- All from 2
- 1 not 2
- 2 not 1
- 1 xor 2

Go Stop

TOPCAT

Table List

- 1: 2MASS-PSC(CDS)
- 4: USNO-B1
- 6: SDSS\_EN1.vot
- 7: SDSS\_EN2.vot

Current Table Properties

Label: SD  
Location: /Us  
Name: Cor  
Rows: 500  
Columns: 24  
Sort Order: ↑  
Row Subset: All  
Activation Action: (

Algorithm: Sky

Max Error: 1.0 arcsec

Table 1

Table: 1: 2MASS-PSC(CDS)

RA column: RAJ2000 degrees

Dec column: DEJ2000 degrees

Table 2

Table: 6: SDSS\_EN1.vot

RA column: RA degrees

Dec column: DEC degrees

Rows

Action:  Best Match Only  All Matches

1 and 2  
1 or 2  
All from 1  
All from 2  
1 not 2  
2 not 1  
1 xor 2

Go Stop

Match Successful

449 pairs found  
New table created by match: 9: match(1,7) (449 rows)

OK



TOPCAT

arcsec

**Table List**

- 1: 2MASS-PSC(CDS)
- 4: USNO-B1
- 6: SDSS\_EN1.vot
- 7: SDSS\_EN2.vot
- 8: concat(6+7)
- 9: match(1,7)

**Current Table Properties**

Label:

Location: match(1,7)

Name: Joined

Rows: 449

Columns: 42

Sort Order:

Row Subset:

Activation Action:

Match Successful

449 pairs found

New table created by match: 9: match(1,7) (449 rows)

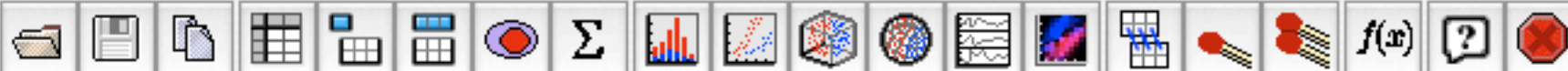
Dec column:

Rows

Action:  Best Match Only  All Matches

- ✓ 1 and 2
- 1 or 2
- All from 1
- All from 2
- 1 not 2
- 2 not 1
- 1 xor 2

## TOPCAT



## Table List

1: 6dfgs\_mini.xml.bz2

## Current Table Properties

Label: 6dfgs\_mini.xml.bz2

Location: jar:file:/Applications/TOPCAT.app/Contents/Resources

Name: 6dfgs\_E7\_subset

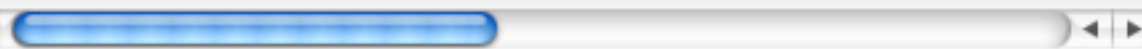
Rows: 875

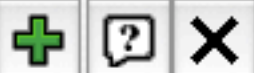
Columns: 17

Sort Order: 

Row Subset:

Activation Action:





- ▶ Arithmetic
- ▶ Conversions
- ▶ Coords
- ▶ Distances
- ▶ Fluxes
- ▶ Formats
- ▶ Maths
- ▶ Strings
- ▶ Times
- ▼ **Activation Functions**
  - ▶ Output
  - ▶ System
  - ▶ Image
  - ▶ Spectrum
  - ▶ BasicImageDisplay
  - ▶ Sog
  - ▶ Browsers
  - ▶ Mgc
  - ▶ Sdss
  - ▶ SuperCosmos
  - ▶ TwoQZ

## Function Browser

Open tree nodes on the left by double-clicking to Select categories of functions. Clicking on the name of a function or constant will show details of its usage and semantics.



- ▼ Arithmetic
  - f()* abs( x )
  - f()* abs( x )
  - f()* max( a, b )
  - f()* max( a, b )
  - f()* min( a, b )
  - f()* min( a, b )
  - f()* round( x )
  - f()* roundDecimal( x, dp )
  - f()* roundDown( x )
  - f()* roundUp( x )
- ▶ Conversions
- ▶ Coords
- ▶ Distances
- ▶ Fluxes
- ▶ Formats
- ▶ Maths
- ▶ Strings
- ▶ Times
- ▼ **Activation Functions**
  - ▶ Output

## Function Browser

Open tree nodes on the left by double-clicking to Select categories of functions. Clicking on the name of a function or constant will show details of its usage and semantics.



- ▶ Arithmetic
- ▼ Conversions
  - f()* fromHex( hexVal )
  - f()* parseByte( str )
  - f()* parseDouble( str )
  - f()* parseFloat( str )
  - f()* parseInt( str )
  - f()* parseLong( str )
  - f()* parseShort( str )
  - f()* toByte( value )
  - f()* toDouble( value )
  - f()* toFloat( value )
  - f()* toHex( value )
  - f()* toInteger( value )
  - f()* toLong( value )
  - f()* toShort( value )
  - f()* toString( value )
- ▶ Coords
- ▶ Distances
- ▶ Fluxes
- ▶ Formats

## Function Browser

Open tree nodes on the left by double-clicking to Select categories of functions. Clicking on the name of a function or constant will show details of its usage and semantics.



- ▶ Arithmetic
- ▶ Conversions
- ▼ Coords
  - f()* ARC\_MINUTE
  - f()* ARC\_SECOND
  - f()* DEGREE
  - f()* HOUR
  - f()* decFK4toFK5( raFK4, decFK4 )
  - f()* decFK4toFK5( raFK4, decFK4, bepoch )
  - f()* decFK5toFK4( raFK5, decFK5 )
  - f()* decFK5toFK4( raFK5, decFK5, bepoch )
  - f()* degreesToRadians( deg )
  - f()* dmsToRadians( dms )
  - f()* dmsToRadians( deg, min, sec )
  - f()* hmsToRadians( hms )
  - f()* hmsToRadians( hour, min, sec )
  - f()* hoursToRadians( hours )
  - f()* raFK4toFK5( raFK4, decFK4 )
  - f()* raFK4toFK5( raFK4, decFK4, bepoch )
  - f()* raFK5toFK4( raFK5, decFK5 )
  - f()* raFK5toFK4( raFK5, decFK5, bepoch )

## Function Browser

Open tree nodes on the left by double-clicking to Select categories of functions. Clicking on the name of a function or constant will show details of its usage and semantics.





- ▶ Arithmetic
- ▶ Conversions
- ▶ Coords
- ▼ Distances
  - Ⓒ METRE\_PER\_PARSEC
  - Ⓒ SEC\_PER\_YEAR
  - Ⓒ SPEED\_OF\_LIGHT
  - f()* MpcToM( distMpc )
  - f()* angularDiameterDistance( z, H0, omegaM, omegaLambda )
  - f()* comovingDistanceL( z, H0, omegaM, omegaLambda )
  - f()* comovingDistanceT( z, H0, omegaM, omegaLambda )
  - f()* comovingVolume( z, H0, omegaM, omegaLambda )
  - f()* lookbackTime( z, H0, omegaM, omegaLambda )
  - f()* luminosityDistance( z, H0, omegaM, omegaLambda )
  - f()* mToMpc( distM )
  - f()* zToAge( z )
  - f()* zToDist( z )
- ▶ Fluxes
- ▶ Formats
- ▶ Maths
- ▶ Strings

## Function Browser

Open tree nodes on the left by double-clicking to Select categories of functions. Clicking on the name of a function or constant will show details of its usage and semantics.



## Fluxes

- [C](#) JOHNSON\_AB\_B
- [C](#) JOHNSON\_AB\_Bj
- [C](#) JOHNSON\_AB\_I
- [C](#) JOHNSON\_AB\_Ic
- [C](#) JOHNSON\_AB\_R
- [C](#) JOHNSON\_AB\_Rc
- [C](#) JOHNSON\_AB\_V
- [C](#) JOHNSON\_AB\_g
- [C](#) JOHNSON\_AB\_gPrime
- [C](#) JOHNSON\_AB\_i
- [C](#) JOHNSON\_AB\_iPrime
- [C](#) JOHNSON\_AB\_r
- [C](#) JOHNSON\_AB\_rPrime
- [C](#) JOHNSON\_AB\_uPrime
- [C](#) JOHNSON\_AB\_zPrime
- [C](#) VEGA\_AB\_H
- [C](#) VEGA\_AB\_J
- [C](#) VEGA\_AB\_K
- [f\(\)](#) abToJansky( magAB )
- [f\(\)](#) fluxToLuminosity( flux, dist )

## Function Browser

Open tree nodes on the left by double-clicking to Select categories of functions. Clicking on the name of a function or constant will show details of its usage and semantics.



- ▶ Arithmetic
- ▶ Conversions
- ▶ Coords
- ▶ Distances
- ▶ Fluxes
- ▼ Formats
  - f()* formatDecimal( value, format )
  - f()* formatDecimal( value, dp )
  - f()* formatDecimalLocal( value, dp )
  - f()* formatDecimalLocal( value, format )
- ▶ Maths
- ▶ Strings
- ▶ Times
- ▼ **Activation Functions**
  - ▶ Output
  - ▶ System
  - ▶ Image
  - ▶ Spectrum
  - ▶ BasicImageDisplay
  - ▶ Sog
  - ▶ Browsers

## Function Browser

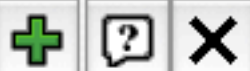
Open tree nodes on the left by double-clicking to Select categories of functions. Clicking on the name of a function or constant will show details of its usage and semantics.



- ▼ Maths
  - C* E
  - C* PI
  - C* RANDOM
  - f()* acos( x )
  - f()* acosh( x )
  - f()* asin( x )
  - f()* asinh( x )
  - f()* atan( x )
  - f()* atan2( y, x )
  - f()* atanh( x )
  - f()* cos( theta )
  - f()* cosh( x )
  - f()* exp( x )
  - f()* ln( x )
  - f()* log10( x )
  - f()* pow( a, b )
  - f()* sin( theta )
  - f()* sinh( x )
  - f()* sqrt( x )
  - f()* tan( theta )

## Function Browser

Open tree nodes on the left by double-clicking to Select categories of functions. Clicking on the name of a function or constant will show details of its usage and semantics.



- ▶ Maths
- ▼ Strings
  - f()* concat( s1, s2, s3 )
  - f()* concat( s1, s2, s3, s4 )
  - f()* concat( s1, s2 )
  - f()* contains( whole, sub )
  - f()* endsWith( whole, end )
  - f()* equals( s1, s2 )
  - f()* equalsIgnoreCase( s1, s2 )
  - f()* length( str )
  - f()* matchGroup( str, regex )
  - f()* matches( str, regex )
  - f()* padWithZeros( value, ndigit )
  - f()* replaceAll( str, regex, replacement )
  - f()* replaceFirst( str, regex, replacement )
  - f()* startsWith( whole, start )
  - f()* substring( str, startIndex, endIndex )
  - f()* substring( str, startIndex )
  - f()* toLowerCase( str )
  - f()* toUpperCase( str )
  - f()* trim( str )

## Function Browser

Open tree nodes on the left by double-clicking to Select categories of functions. Clicking on the name of a function or constant will show details of its usage and semantics.



Distances

Fluxes

Formats

Maths

Strings

Times

*f*( ) `besselianToMjd( besselianEpoch )`  
*f*( ) `dateToMjd( year, month, day )`  
*f*( ) `dateToMjd( year, month, day, hour, min, sec )`  
*f*( ) `decYearToMjd( decYear )`  
*f*( ) `formatMjd( mjd, format )`  
*f*( ) `isoToMjd( isoDate )`  
*f*( ) `julianToMjd( julianEpoch )`  
*f*( ) `mjdToBesselian( mjd )`  
*f*( ) `mjdToDate( mjd )`  
*f*( ) `mjdToDecYear( mjd )`  
*f*( ) `mjdToIso( mjd )`  
*f*( ) `mjdToJulian( mjd )`  
*f*( ) `mjdToTime( mjd )`  
*f*( ) `mjdToUnixMillis( mjd )`  
*f*( ) `unixMillisToMjd( unixMillis )`

## Function Browser

Open tree nodes on the left by double-clicking to Select categories of functions. Clicking on the name of a function or constant will show details of its usage and semantics.





- Distances
- Fluxes
- Formats
- Maths
- Strings
- Times
  - $f()$  `besselianToMjd( besselianEpoch )`
  - $f()$  `dateToMjd( year, month, day )`
  - $f()$  `dateToMjd( year, month, day, hour, min, sec )`
  - $f()$  `decYearToMjd( decYear )`
  - $f()$  `formatMjd( mjd, format )`
  - $f()$  `isoToMjd( isoDate )`
  - $f()$  `julianToMjd( julianEpoch )`
  - $f()$  `mjdToBesselian( mjd )`
  - $f()$  `mjdToDate( mjd )`
  - $f()$  `mjdToDecYear( mjd )`
  - $f()$  `mjdToIso( mjd )`
  - $f()$  `mjdToJulian( mjd )`
  - $f()$  `mjdToTime( mjd )`
  - $f()$  `mjdToUnixMillis( mjd )`
  - $f()$  `unixMillisToMjd( unixMillis )`

## Function `julianToMjd( julianEpoch )`

### Description:

Converts a Julian Epoch to Modified Julian Date. For approximate purposes, the argument of this routine consists of an integral part which gives the year AD and a fractional part which represents the distance through that year, so that for instance 2000.5 is approximately 1 July 2000.

### Parameters:

`julianEpoch` (*floating point*)  
Julian epoch

### Return Value (floating point):

modified Julian date

### Example:

`julianToMjd(2000.0) = 51544.5`

### Signature:

`double julianToMjd(double)`



- ▶ Arithmetic
- ▶ Conversions
- ▶ Coords
- ▶ Distances
- ▶ Fluxes
- ▶ Formats
- ▶ Maths
- ▶ Strings
- ▶ Times
- ▼ **Activation Functions**
  - ▶ Output
  - ▶ System
  - ▶ Image
  - ▶ Spectrum
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  - ▶ Sog
  - ▶ Browsers
  - ▶ Mgc
  - ▶ Sdss
  - ▶ SuperCosmos
  - ▶ TwoQZ

## Function Browser

Open tree nodes on the left by double-clicking to Select categories of functions. Clicking on the name of a function or constant will show details of its usage and semantics.



# TOPCAT



Table List

1: 6dfgs_mini.xml.bz2
-----------------------

Current Table Properties


Label: 6dfgs\_mini.xml.bz2

Location: jar:file:/Applications/TOPCAT.app/Contents/Resources

Name: 6dfgs\_E7\_subset

Rows: 875

Columns: 17

Sort Order: 

Row Subset:

Activation Action:




Table List

1: 6dfgs_mini.xml.bz2
-----------------------

### Set Activation Action

$f(x)$  ? X

No Action

Display Cutout Image

View URL as Image

View URL as Spectrum

View URL as Web Page

Transmit Row

Transmit Coordinates

Execute Custom Code

Cutout Service: SuperCOSMOS All-Sky Blue

RA column: RA2000 degrees

Dec column: DEC2000 degrees

Width/Height in Pixels: 100 (0.67 arcsec)

Image Location column:

Spectrum Location column:

Web Page Location column:

Browser Type: basic browser

Target Application: All Listeners

RA Column: RA2000 degrees

Dec Column: DEC2000 degrees

Target Application: All Listeners

Executable Expression:


OK Cancel

Table List

1: 6dfgs_mini.xml.bz2
-----------------------

### Set Activation Action

$f(x)$  ? X

  No Action

Display Cutout Image

View URL as Image

View URL as Spectrum

View URL as Web Page

Transmit Row

Transmit Coordinates

Execute Custom Code

---

Cutout Service: SuperCOSMOS All-Sky Blue

RA column: RA2000 degrees

Dec column: DEC2000 degrees

Width/Height in Pixels: 100 (0.67 arcsec)

---

Image Location column:

---

Spectrum Location column:

---

Web Page Location column:

Browser Type: basic browser

---

Target Application: All Listeners

---

RA Column: RA2000 degrees

Dec Column: DEC2000 degrees

Target Application: All Listeners

---

Executable Expression:


OK Cancel

Table List

1: 6dfgs_mini.xml.bz2
-----------------------

### Set Activation Action

$f(x)$  ? X

  No Action

Display Cutout Image

View URL as Image

View URL as Spectrum

View URL as Web Page

Transmit Row

Transmit Coordinates

Execute Custom Code

Cutout Service: SuperCOSMOS All-Sky Blue

RA column: RA2000 degrees

Dec column: DEC2000 degrees

Width/Height in Pixels: 100 (0.67 arcsec)

Image Location column:

Spectrum Location column:

Web Page Location column:

Browser Type: basic browser

Target Application: All Listeners

RA Column: RA2000 degrees

Dec Column: DEC2000 degrees

Target Application: All Listeners

Executable Expression:

OK Cancel





# TOPCAT



Table List

1: 6dfgs_mini.xml.bz2
-----------------------

Current Table Properties


Label: 6dfgs\_mini.xml.bz2

Location: jar:file:/Applications/TOPCAT.app/Contents/Resources

Name: 6dfgs\_E7\_subset


Rows: 875

Columns: 17

Sort Order: 

Row Subset:

Activation Action:



## TOPCAT



## Table List

4: 6dfgs\_mini.xml.bz2

## Current Table Properties


Label: 6dfgs\_mini.xml.bz2

Location: jar:file:/Applications/TOPCAT.app/Contents/Reso

Name: 6dfgs\_E7\_subset

Rows: 875 (706 apparent)

Columns: 18 (17 apparent)

Sort Order:  Row Subset: Activation Action:

TOPCAT

Table List

4: 6dfgs\_mini.xml.bz2

Current Table Properties

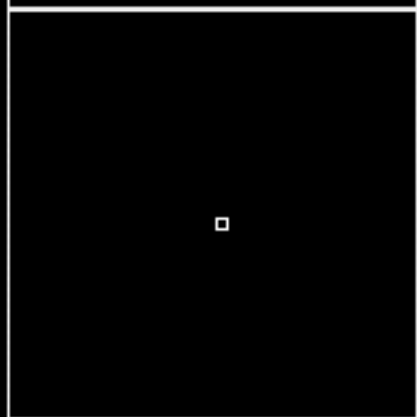
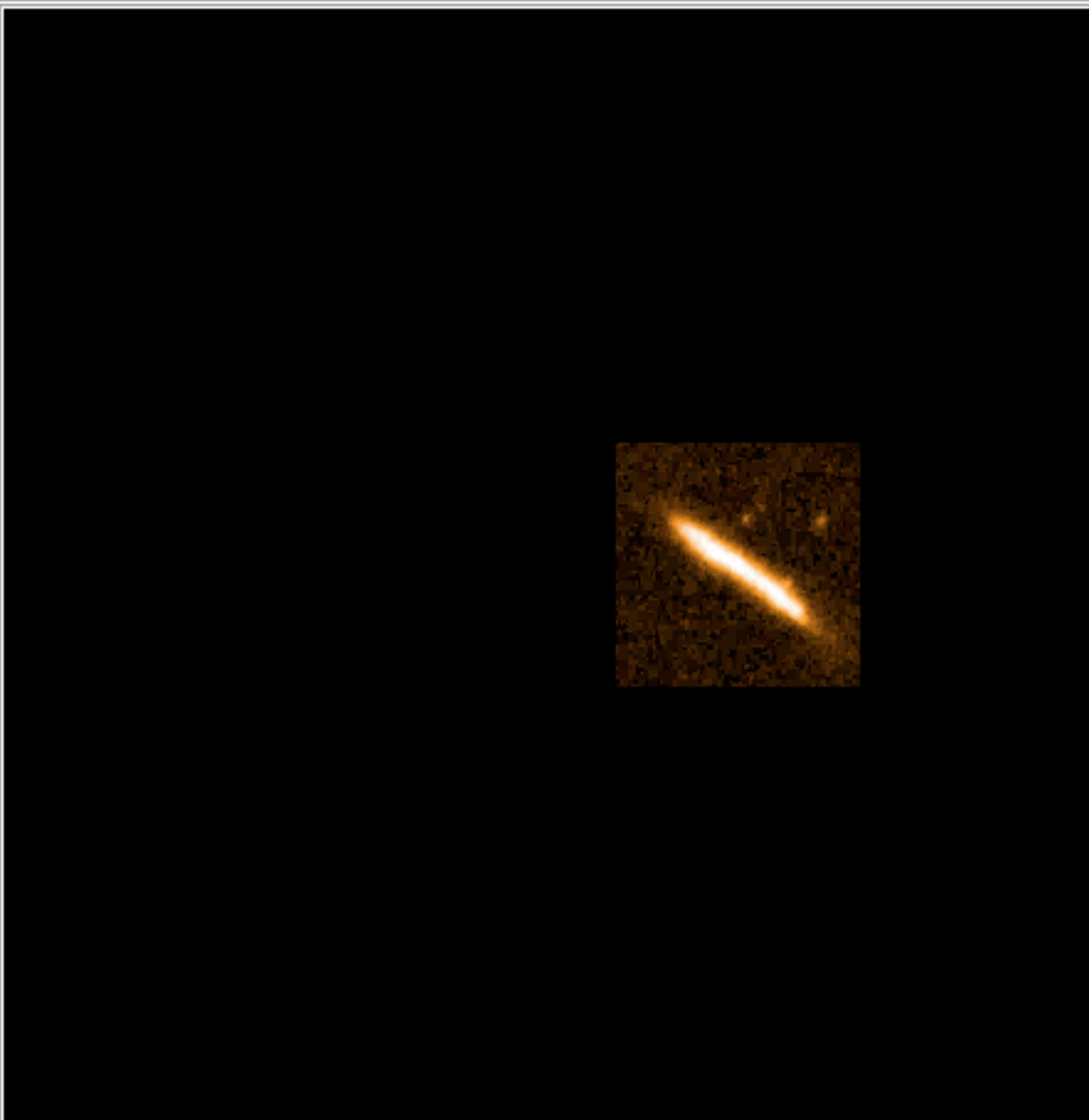
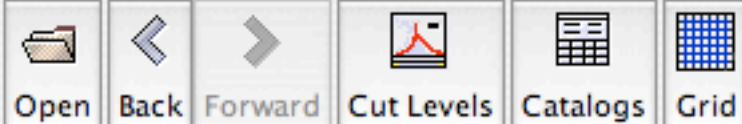
Label: 6dfgs\_mini.xml.bz2

Location: jar:file:/Applications/TOPCAT.app/Contents/Resc

TOPCAT(4): Table Browser

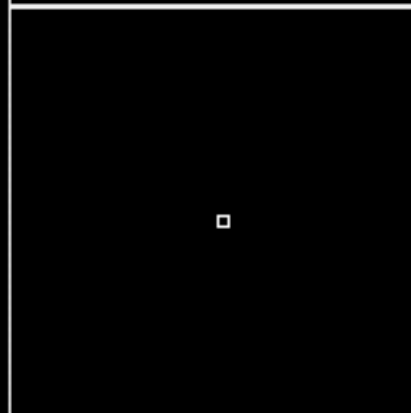
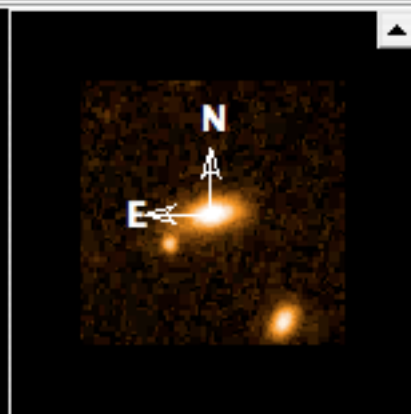
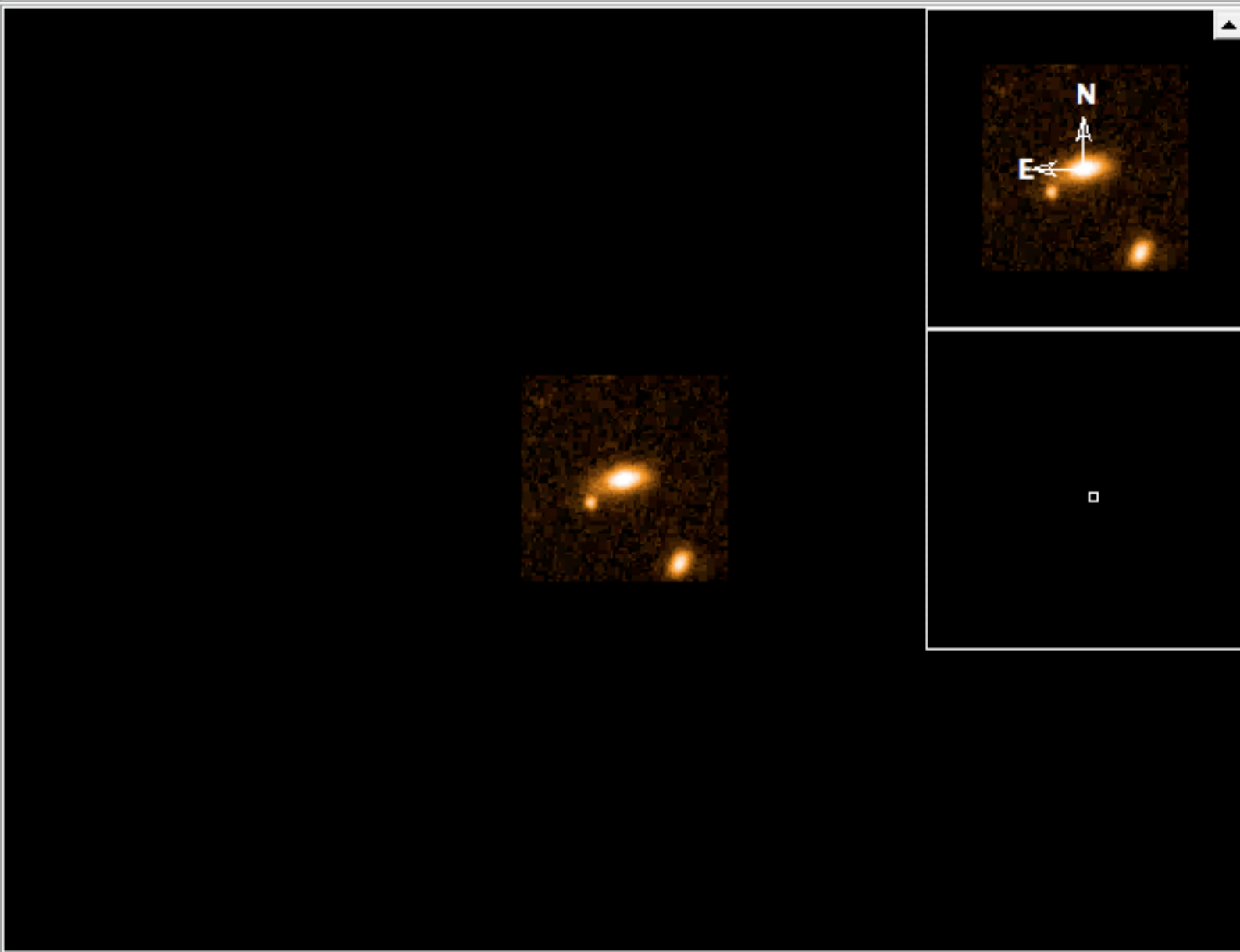
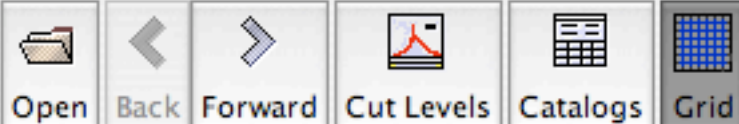
Table Browser for 4: 6dfgs\_mini.xml.bz2

	TARGET	RA	DEC	RA2000	DEC2000	BMAG (AB)	BMAG
1	g0001434-540403	00:01:43.35	-54:04:03.0	0.43063	-54.0675	17.11	0.20
2	g0003330-843630	00:03:32.95	-84:36:29.7	0.88729	-84.60825	16.72	0.04
3	g0005313-303512	00:05:31.28	-30:35:11.6	1.38033	-30.58656	16.06	0.44
4	g0007379-721154	00:07:37.87	-72:11:53.8	1.90779	-72.19828	15.11	0.04
5	g0010060-591637	00:10:05.98	-59:16:36.8	2.52492	-59.27689	16.78	0.20
6	g0012267-272811	00:12:26.69	-27:28:10.6	3.11121	-27.46961	16.61	0.44
7	g0014497-415612	00:14:49.73	-41:56:12.2	3.70721	-41.93672	16.98	0.12
8	g0017171-121507	00:17:17.09	-12:15:06.6	4.32121	-12.25183	16.	0.04
9	g0019214-170521	00:19:21.36	-17:05:21.2	4.839	-17.08922	17.07	0.04
10	g0021438-614240	00:21:43.76	-61:42:40.1	5.43233	-61.71114	15.43	0.04
11	g0023562-802734	00:23:56.18	-80:27:34.2	5.98408	-80.4595	16.84	0.04
12	g0026219-125906	00:26:21.94	-12:59:05.5	6.59142	-12.98486	17.26	0.44
13	g0029010-011342	00:29:00.97	-01:13:41.9	7.25404	-1.22831	16.08	0.44
14	g0031357-103023	00:31:35.72	-10:30:22.7	7.89883	-10.50631	14.66	0.04
16	g0036052-022014	00:36:05.22	-02:20:13.5	9.02175	-2.33708	16.99	0.04
17	g0037589-080426	00:37:58.86	-08:04:26.1	9.49525	-8.07392	15.37	0.20
18	g0039553-261243	00:39:55.29	-26:12:43.2	9.98038	-26.212	16.98	0.20



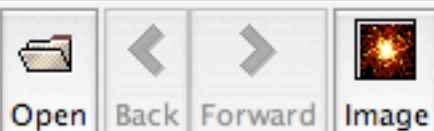
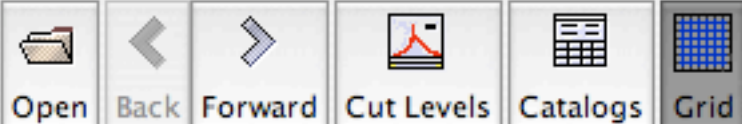
nts/Resc

BMAG (AB)	BMAG
17.11	0.20
16.72	0.04
16.06	0.44
15.11	0.04
16.78	0.20
16.61	0.44
16.98	0.12
16.	0.04
17.07	0.04
15.43	0.04
16.84	0.04
17.26	0.44
16.08	0.44
14.66	0.04
16.99	0.04
15.37	0.20
16.98	0.20
16.04	0.20



nts/Resc

BMAG (AB)	BMAG
17.11	0.20
16.72	0.04
16.06	0.44
15.11	0.04
16.78	0.20
16.61	0.44
16.98	0.12
16.	0.04
17.07	0.04
15.43	0.04
16.84	0.04
17.26	0.44
16.08	0.44
14.66	0.04
16.99	0.04
15.37	0.20
16.98	0.20
16.04	0.20



- ▼ My Catalogs
  - ▶ Skycat Catalogs
  - ▶ IRSA Catalogs
    - 2MASS Catalog at CDS
    - ABELL at CADC
    - GSC-2 at ESO
    - GSC-2 at STScI
    - Guide Star Catalog at CADC
    - Guide Star Catalog at ESO
    - USNO at CADC
    - USNO at ESO
    - QSO at CADC
    - RC3 at CADC



# STILTS

<http://www.star.bris.ac.uk/~mbt/stilts/>

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STILTS: **S**tarlink **T**ables **I**nfrastructure **L**ibrary **T**ool **S**et

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STILTS: **S**tarlink **T**ables **I**nfrastructure **L**ibrary **T**ool **S**et

Commands:

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- [tpipe](#) - Generic table pipeline processing utility
- [tmatch2](#) - Two-table crossmatcher
- [tjoin](#) - Trivial side-by-side multiple-table joiner
- [tcube](#) - N-dimensional histogram calculator
- [tcat](#), [tcatn](#) - Multiple-table concatenaters

two VOTable-specific commands:

- [votcopy](#) - VOTable encoding translator
- [votlint](#) - VOTable validity checker

and one miscellaneous utility:

- [calc](#) - Quick expression evaluator

At version 1.2 (July 2006) a couple of Virtual Observatory service access commands have also been introduced on an experimental basis:

- [regquery](#) - Registry Query
- [multicone](#) - Multiple Cone Search

# STILTS

<http://www.star.bris.ac.uk/~mbt/stilts/>

STILTS: **S**tarlink **T**ables **I**nfrastructure **L**ibrary **T**ool **S**et

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- [multicone](#) - Multiple Cone Search

Facilities:

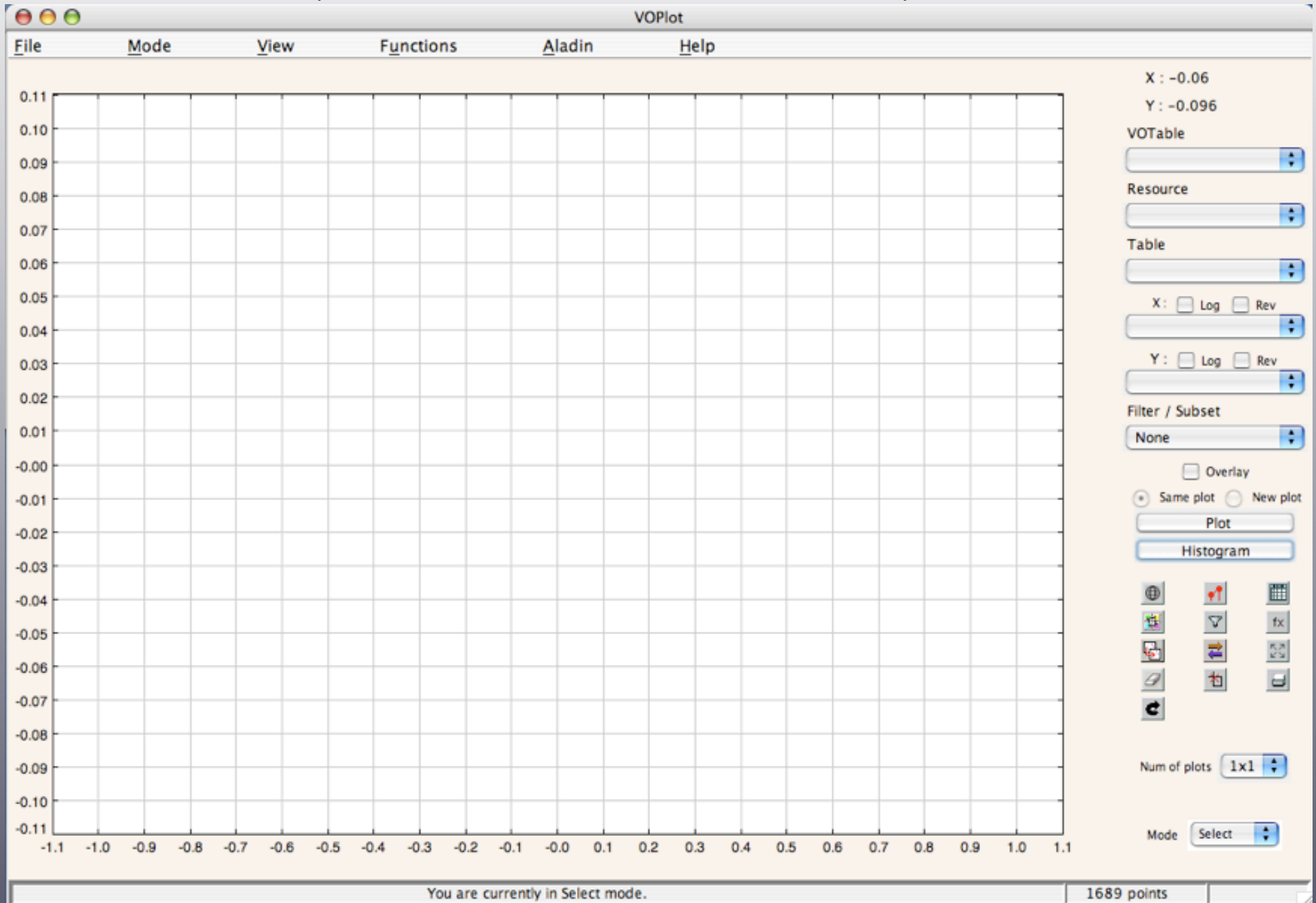
- format conversion
- data and metadata manipulation and display
- sorting
- row selections
- column calculation and rearrangement
- crossmatching
- statistical calculations
- histogram calculation
- data validation
- VO service access (experimental)

# VOPlot

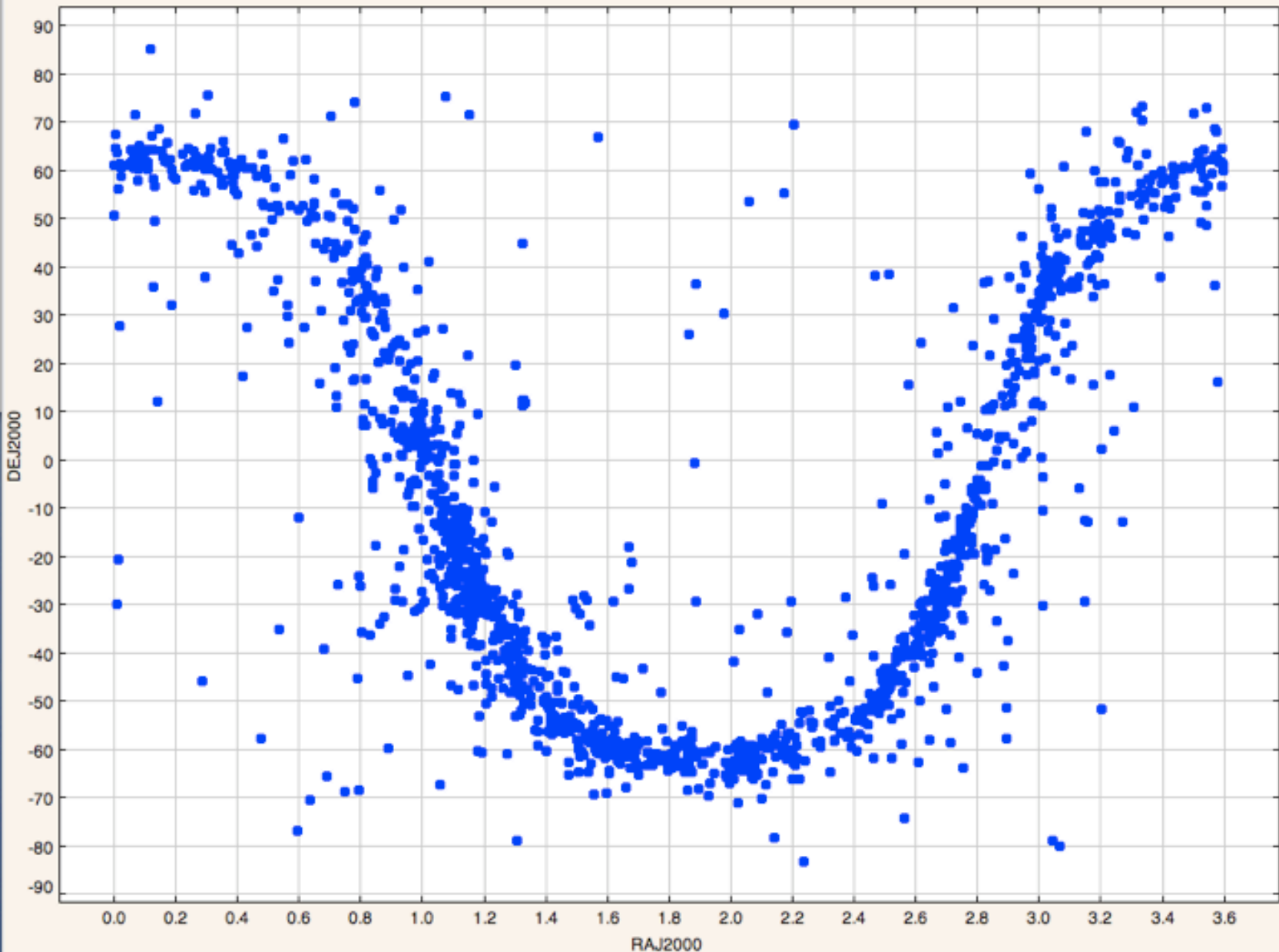
<http://vo.iucaa.ernet.in/~voi/voplot.htm>

# VOPlot

<http://vo.iucaa.ernet.in/~voi/voplot.htm>







X : 1.79E1

Y : 73.7

VOTable

[1]test.xml

Resource

Resource\_1

Table

VII.229A

X:  Log  Rev

RAJ2000

Y:  Log  Rev

DEJ2000

Filter / Subset

None

Overlay

Same plot  New plot

Plot

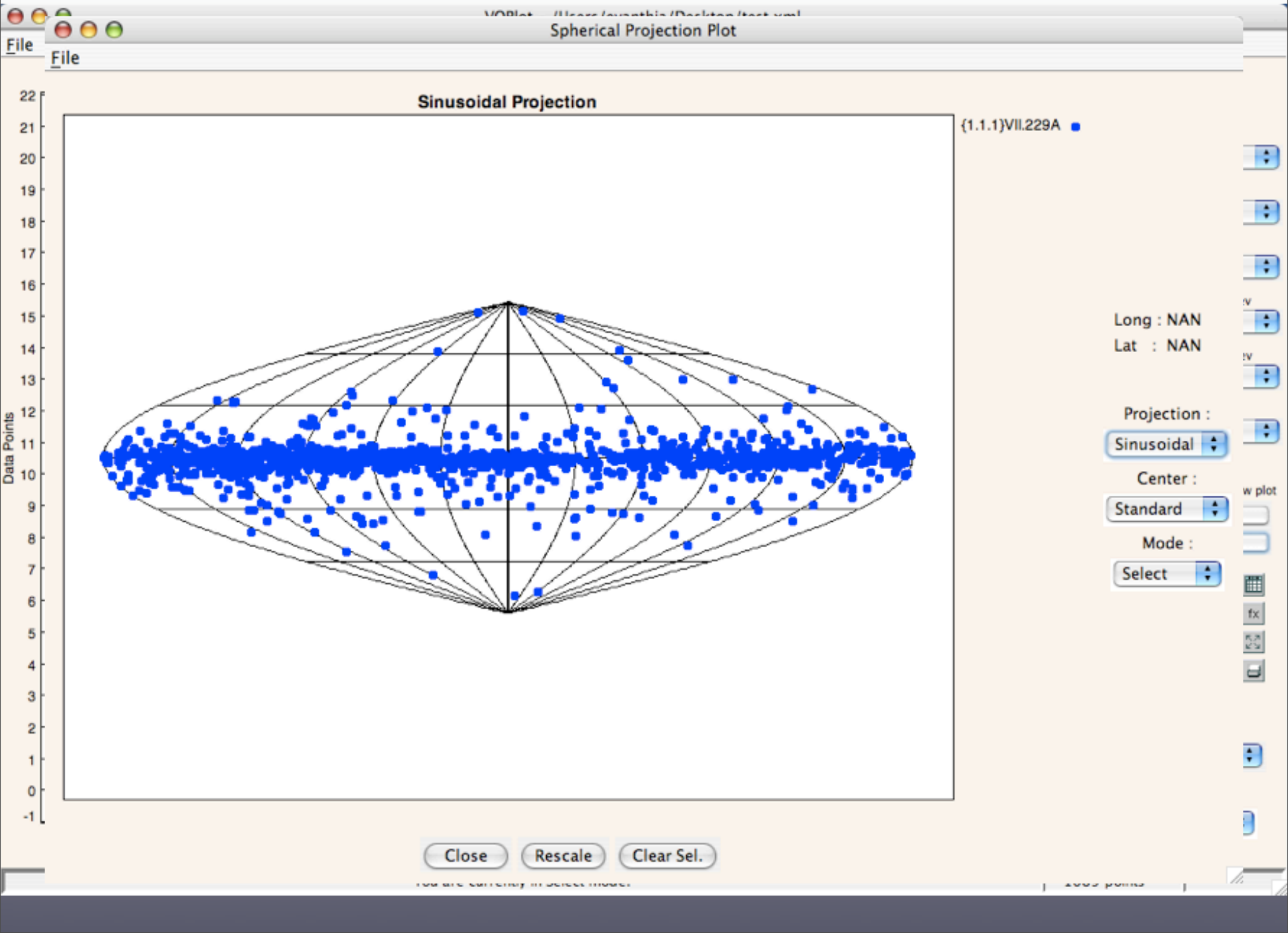
Histogram



Num of plots 1x1

Mode Select





Display VOTable Data in Tabular format

VOTable:  Resource:  Table:  Filter:

Table MetaData :

Name	Data Type	Unit	UCD	Array Size
_RAJ2000	double		POS_EQ_RA_MAIN	
_DEJ2000	double		POS_EQ_DEC_MAIN	
RAJ2000	double		POS_EQ_RA_MAIN	
DEJ2000	double		POS_EQ_DEC_MAIN	
			EXTENSION_SUM	

Table Data :

Sr No.	_RAJ2000	_DEJ2000	RAJ2000	DEJ2000	Diam	Dist	
1	0.0500	60.9667	0.0500	60.9667	5.0	3715	8.4
2	0.0870	50.7417	0.0875	50.7417	8.0		
3	0.4040	64.6250	0.4042	64.6250	6.0		
4	0.5580	67.4167	0.5583	67.4167	10.0		
5	0.8750	63.5833	0.8750	63.5833	3.0	4365	8.89
6	1.0290	-29.8333	1.0292	-29.8333	70.0	269	7.796
7	1.1710	56.0833	1.1708	56.0833	4.0		
8	1.3210	-20.6917	1.3208	-20.6917	20.0		
9	1.6290	27.6417	1.6292	27.6417	1.3		

Show all  Show selected

# Create new virtual columns

## Column Metadata

Click on a row to choose a Column Id.

Column Id	Column Name	UCD	Expression
\$1	_RAJ2000	POS_EQ_RA_MAIN	Original
\$2	_DEJ2000	POS_EQ_DEC_M...	Original
\$3	RAJ2000	POS_EQ_RA_MAIN	Original
\$4	DEJ2000	POS_EQ_DEC_M...	Original
\$5	Diam	EXTENSION_DIAM	Original
\$6	Dist	POS_GAL_HC	Original
\$7	Age	TIME_AGE	Original
\$8	Nc	NUMBER	Original
\$9	RV	VELOC_HC	Original

## Operator Calculator

<input data-bbox="602 879 783 935" type="button" value="+"/>	<input data-bbox="804 879 985 935" type="button" value="-"/>	<input data-bbox="1006 879 1187 935" type="button" value="*"/>	<input data-bbox="1208 879 1389 935" type="button" value="/"/>	<input data-bbox="1410 879 1591 935" type="button" value="log"/>	<input data-bbox="1613 879 1793 935" type="button" value="ln"/>
<input data-bbox="602 951 783 1007" type="button" value="sqrt"/>	<input data-bbox="804 951 985 1007" type="button" value="pow"/>	<input data-bbox="1006 951 1187 1007" type="button" value="dexp"/>	<input data-bbox="1208 951 1389 1007" type="button" value="exp"/>	<input data-bbox="1410 951 1591 1007" type="button" value="cos"/>	<input data-bbox="1613 951 1793 1007" type="button" value="acos"/>
<input data-bbox="602 1023 783 1078" type="button" value="sin"/>	<input data-bbox="804 1023 985 1078" type="button" value="asin"/>	<input data-bbox="1006 1023 1187 1078" type="button" value="tan"/>	<input data-bbox="1208 1023 1389 1078" type="button" value="atan"/>	<input data-bbox="1410 1023 1591 1078" type="button" value="torad"/>	<input data-bbox="1613 1023 1793 1078" type="button" value="todeg"/>

Enter column name:

Enter expression:

Enter unit:

Help

Close

Add



# Yafit

<http://www.star.bris.ac.uk/~mbt/yafit/>





# Yafit

<http://www.star.bris.ac.uk/~mbt/yafit/>

Yafit: **Y**et **A**nother **F**itting **T**ool



# Yafit

<http://www.star.bris.ac.uk/~mbt/yafit/>

Yafit: **Y**et **A**nother **F**itting **T**ool

```
Usage: fit [-help] [-debug]
        model=<model-file>
        [modelfmt=ymodel | galaxev | starburst99 | svotar | sideways-vot]
        obs=<obs-file>
        [smoother=square | point]
        [scale=true | false]
        [fitcalc=chi2 | poisson | unscaled]
        [gui=true | false]
        [summary=<out-file>]
        [bestfits=<out-table>]
        [bestfitsfmt=<out-format>]
```



# Yafit

<http://www.star.bris.ac.uk/~mbt/yafit/>

Yafit: **Y**et **A**nother **F**itting **T**ool

```
Usage: fit [-help] [-debug]
        model=<model-file>
        [modelfmt=ymodel | galaxev | starburst99 | svotar | sideways-vot]
        obs=<obs-file>
        [smoother=square | point]
        [scale=true | false]
        [fitcalc=chi2 | poisson | unscaled]
        [gui=true | false]
        [summary=<out-file>]
        [bestfits=<out-table>]
        [bestfitsfmt=<out-format>]
```

```
Usage: plotmodel [-help] [-debug]
        in=<model-file>
        [ifmt=ymodel | galaxev | starburst99 | svotar | sideways-vot]
```



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        obs=<obs-file>
        [smoother=square | point]
        [scale=true | false]
        [fitcalc=chi2 | poisson | unscaled]
        [gui=true | false]
        [summary=<out-file>]
        [bestfits=<out-table>]
        [bestfitsfmt=<out-format>]
```

```
Usage: plotmodel [-help] [-debug]
        in=<model-file>
        [ifmt=ymodel | galaxev | starburst99 | svotar | sideways-vot]
```

```
Usage: plotobs [-help] [-debug]
        in=<obs-file>
```



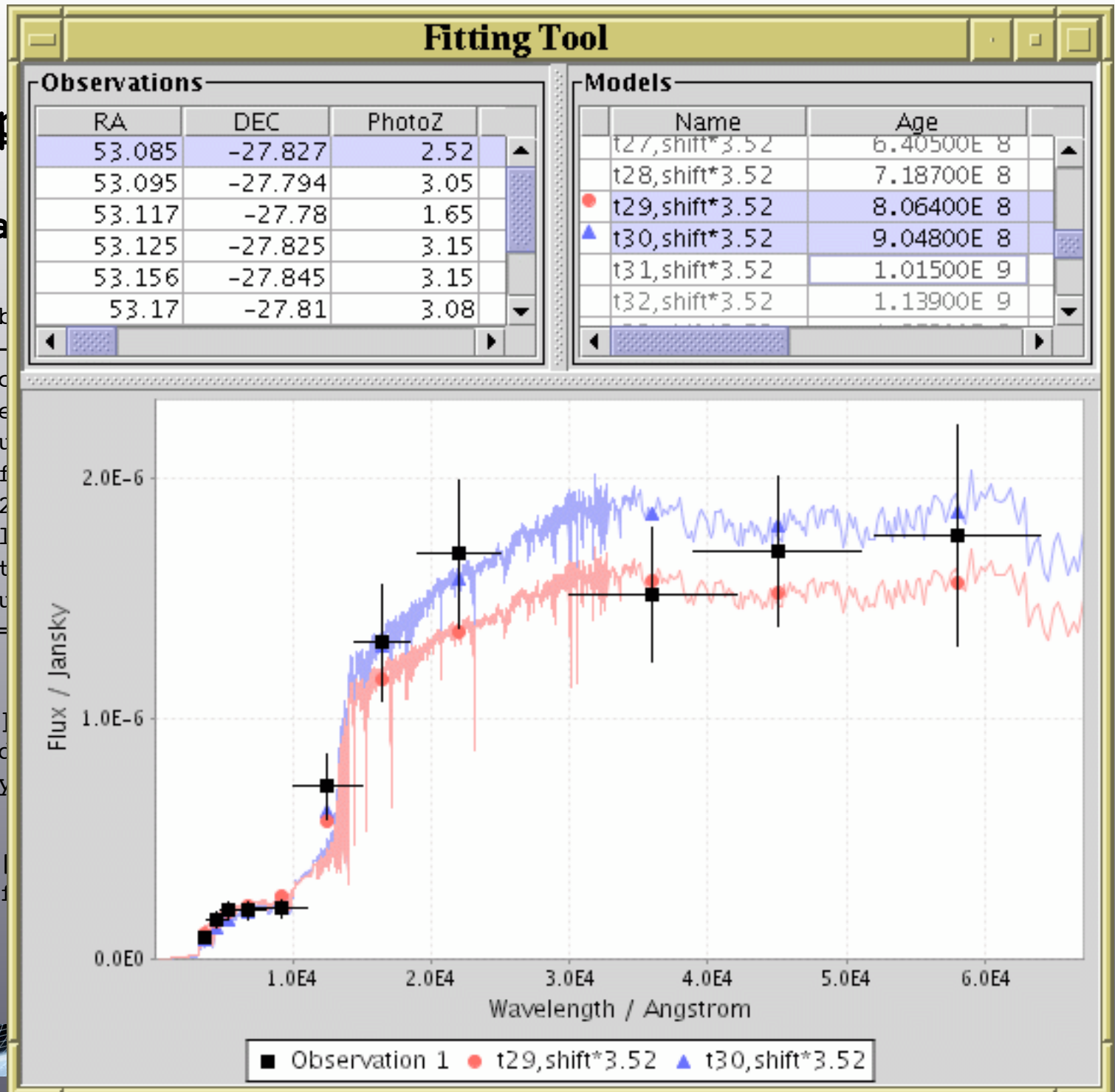
[http://](http://...)

Ya

```
Usage: fit [-help] [-deb  
model=<model-  
[modelfmt=yml  
obs=<obs-file  
[smoother=squ  
[scale=true|f  
[fitcalc=chi2  
[gui=true|fal  
[summary=<out  
[bestfits=<ou  
[bestfitsfmt=
```

```
Usage: plotmodel [-help]  
in=<mod  
[ifmt=y
```

```
Usage: plotobs [-help]  
in=<obs-f
```



# EZ and GOSSIP

<http://cosmos.iasf-milano.inaf.it/pandora/>



http://cosmos

PANDORA: Programs for AstroNomial Data Organization Reduction and Analysis - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://cosmos.iasf-milano.inaf.it/pandora/

PANDORA: Programs for A... x

# PANDORA

Where Man Wins Against The Machine

Home

Software

- ASTROMD
- DBBROWSER
- FITSFILE
- PYSTIC
- SADIO
- SGNAPS
- VIPGI
- XMM-LSS
- ADD-ONS

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Team Private

## Welcome to the Pandora Web Site

Home of the Pandora Group

PANDORA stands for  
"Programs for **A**stro**N**omial **D**ata **O**rganization **R**eduction and **A**nalysis".

- ✦ We develop software primarily for the astronomical community. Our programs are created with the purpose of speeding up and simplifying the handling of the huge amount of data produced by astronomical instruments of the last generation.
- ✦ We use the C language to obtain the maximum speed for computationally intensive operations, while for general purpose programs and graphical interfaces we love [Python](#) and its standard Tkinter graphical interface to the Tk set of widgets.
- ✦ We distribute our programs under the GNU General Public License (GPL)
- ✦ We develop programs for Linux/Unix systems. In all likelihood no Windows program will ever appear in these pages!
- ✦ We work in Milano, Italy, at the [Istituto di Astrofisica Spaziale e Fisica Cosmica](#) (IASF), which is now part of the Italian [Istituto Nazionale di Astrofisica](#) (INAF).

Mar 12th, 2007 [PYSTIC](#) 0.9 released

Nov 13th, 2006 [SADIO](#) 1.1.0 released

Jul 04, 2006 [VIPGI](#) 1.1.1 released

### NEWS

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Done

Paolo Franzetti &

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### NEWS

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EZ

<http://cosmos.iasf-milano.inaf.it/pandora/EZ.html>

# EZ

<http://cosmos.iasf-milano.inaf.it/pandora/EZ.html>

EZ: **E**asy-**Z**

# EZ

<http://cosmos.iasf-milano.inaf.it/pandora/EZ.html>

EZ: **E**asy-**Z**

- Written in python/C



# EZ

<http://cosmos.iasf-milano.inaf.it/pandora/EZ.html>

EZ: **E**asy-**Z**

- Written in python/C
- Interactive/Batch mode

# EZ

<http://cosmos.iasf-milano.inaf.it/pandora/EZ.html>

EZ: **E**asy-**Z**

- Written in python/C
- Interactive/Batch mode
- Uses a set of user defined templates and a combination of correlation and fitting algorithms

# EZ

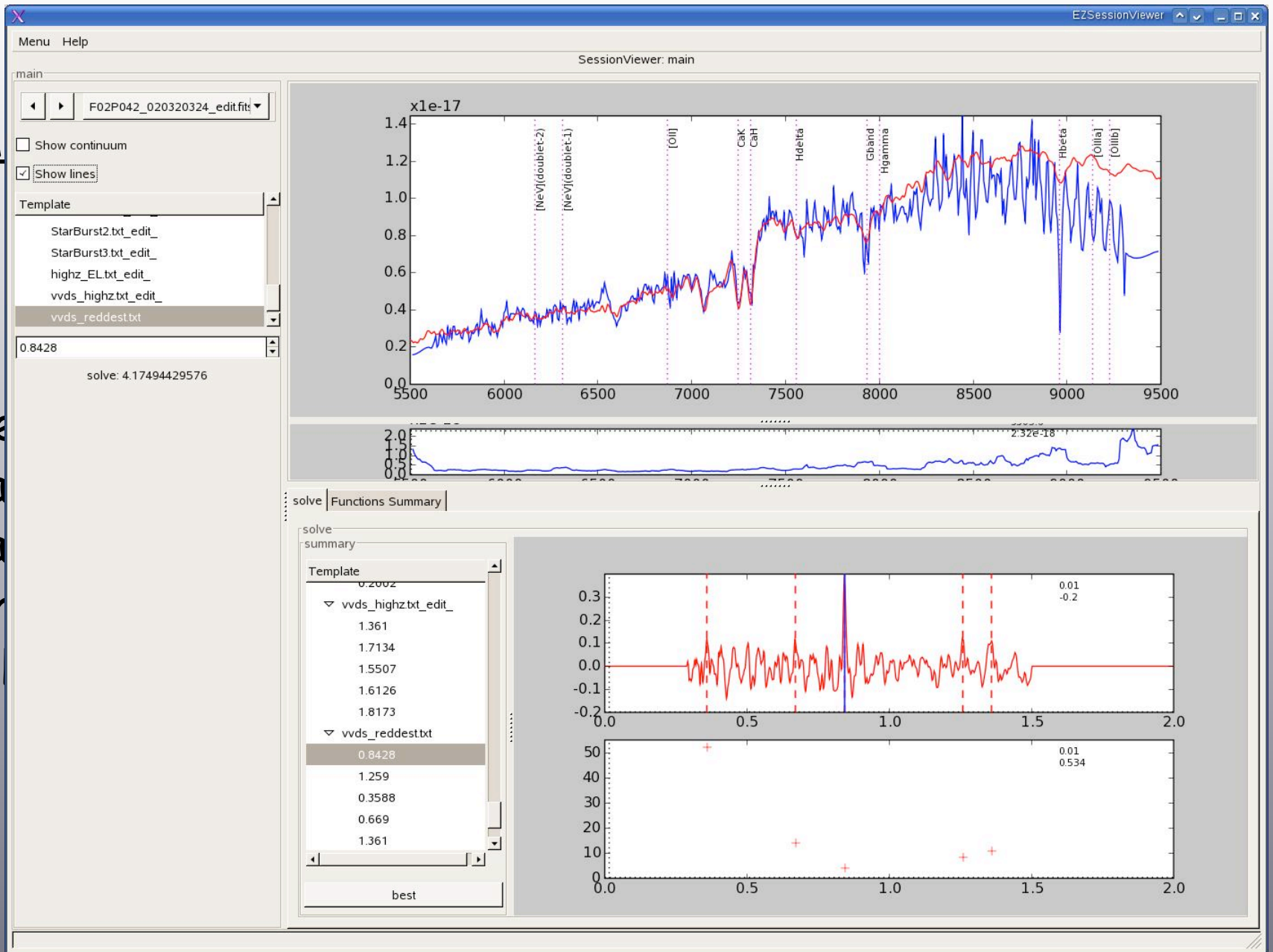
<http://cosmos.iasf-milano.inaf.it/pandora/EZ.html>

EZ: **E**asy-**Z**

- Written in python/C
- Interactive/Batch mode
- Uses a set of user defined templates and a combination of correlation and fitting algorithms
- Flexible and modular architecture

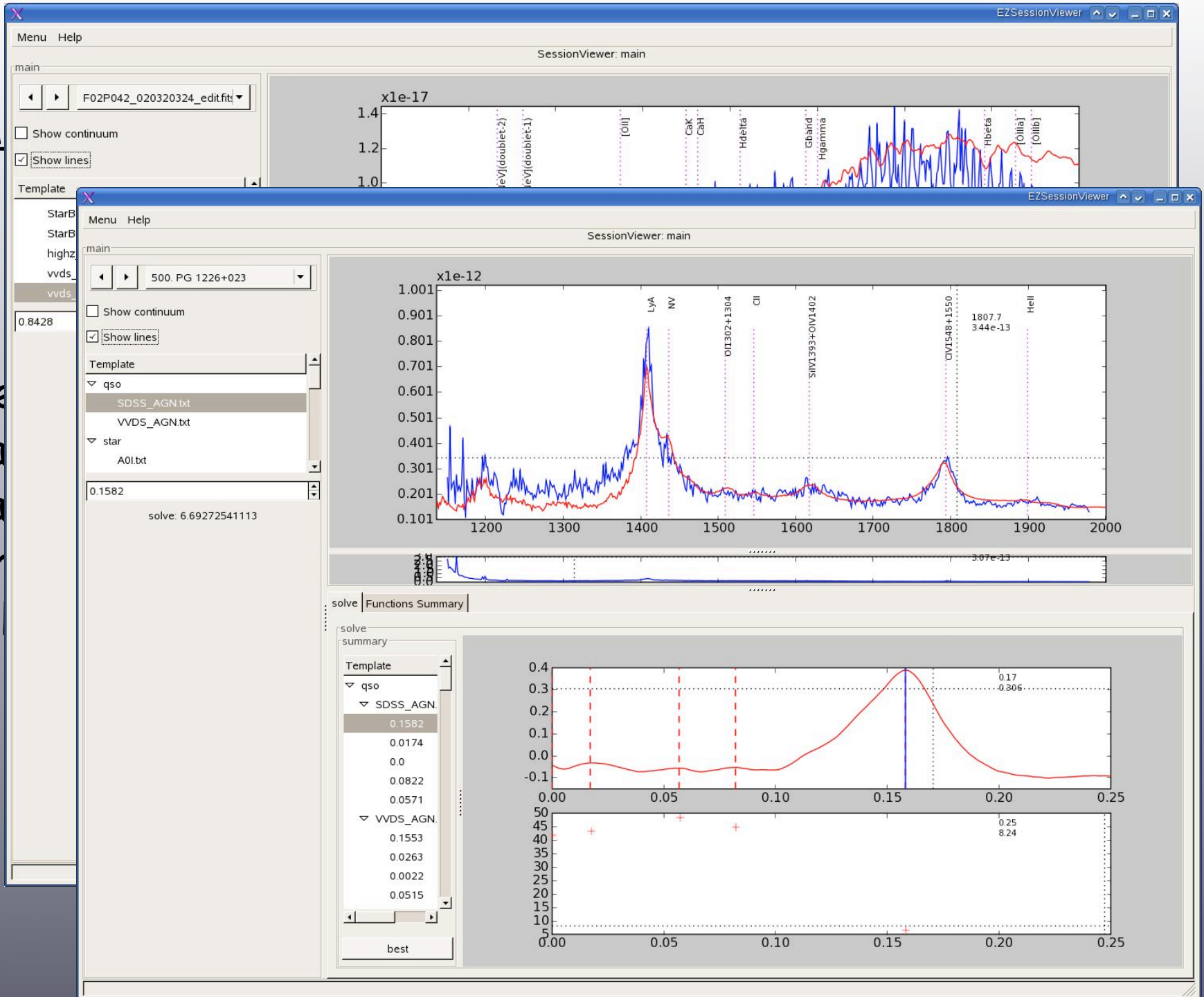
h

- Written
- Interactive
- Uses a combiner
- Flexible



h

- Written
- Interact
- Uses a combin
- Flexib



GOSSIP

# GOSSIP

GOSSIP: **G**alaxy **O**bserved **S**imulated **SED** **I**nteractive **P**rogram



# GOSSIP

GOSSIP: **G**alaxy **O**bserved **S**imulated **SED** **I**nteractive **P**rogram

GOSSIP is a tool created to perform spectro-photometric analysis of galaxy through the SED fitting

# GOSSIP

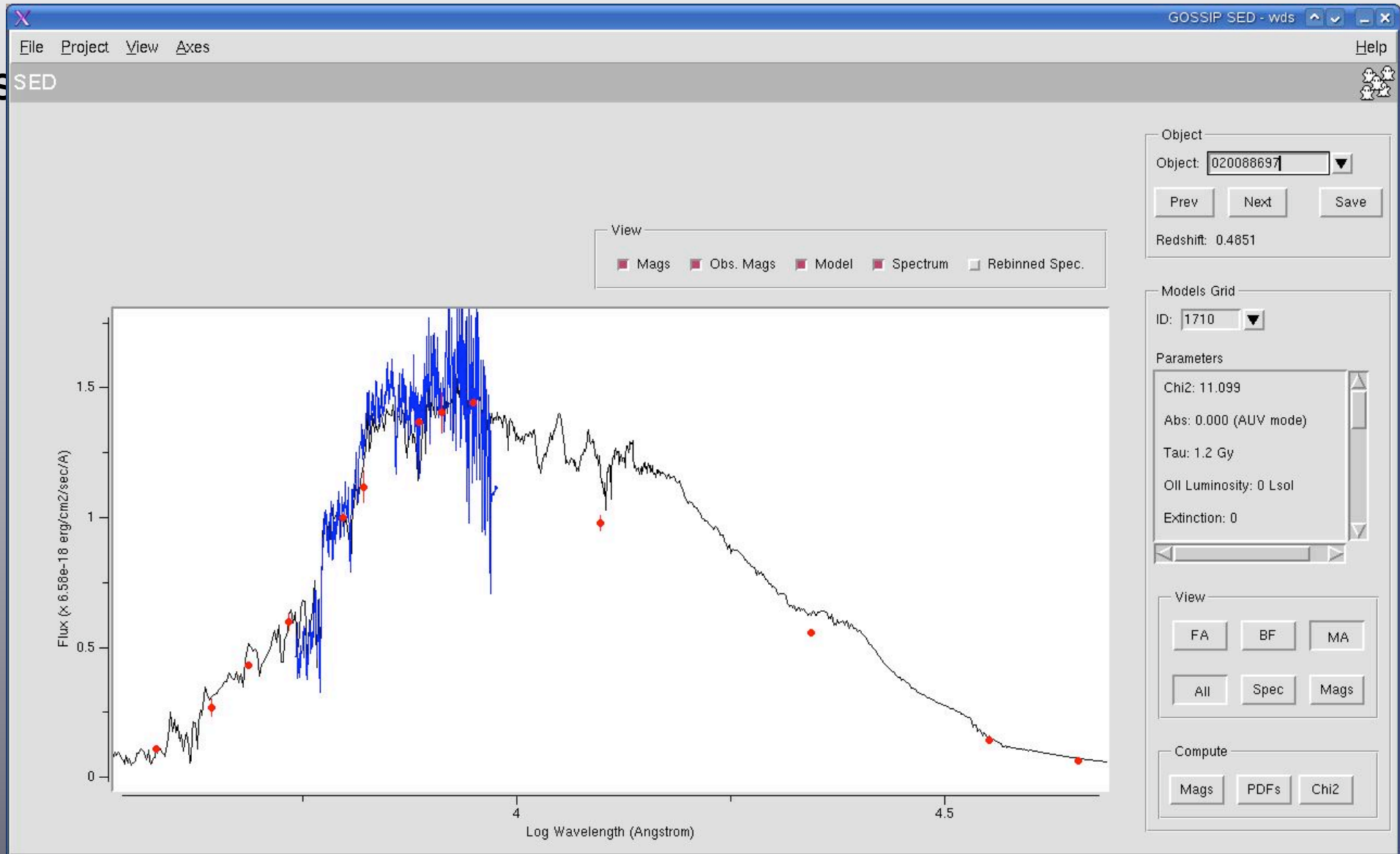
GOSSIP: **G**alaxy **O**bserved **S**imulated **SED** **I**nteractive **P**rogram

GOSSIP is a tool created to perform spectro-photometric analysis of galaxy through the SED fitting

- Build-up the observed SED
- Loading of synthetic models
- Fitting procedure (single CPU, cluster, GRID)
- Results post-processing and analysis

# GOSSIP

GOSSIP SED



<http://www.euro-vo.org/pub/>

<http://www.euro-vo.org/pub/>

# EURO



The Euro-VO projects:

VOTECH

EuroVO-DCA

## Science

- Software
- Recipes User Manual
- Scientific Workflows
- Research Initiative
- Science Cases
- Scientific Papers
- Science Advisory Committee
- Acknowledging
- Helpdesk

## Technical

- Software
- Registries
- Tutorials
- IVOA Standards ⇒

## Data Centres

- Overview
- Partners
- Work Packages



## The European Virtual Observatory EURO-VO

The EURO-VO project aims at deploying an operational **Virtual Observatory (VO)** in Europe. Its objectives are technology take-up and VO compliant resource provision, building the technical infrastructure and to support its utilization by the scientific community.

### From AVO to EURO-VO

The **Astrophysical Virtual Observatory (AVO)** together with further national VO projects created the foundations of a regional-scale infrastructure by conducting a research and demonstration programme on the VO scientific requirements and technologies. AVO was a collaborative project of European organizations in 2002-2004 and was jointly funded by the European Commission under the 5th Framework Programme (HPRI-CT-2001-50030). The EURO-VO work programme is the logical next step from AVO as a Phase-B deployment of an operational VO in Europe.

### News & Highlights

**NEW!** [Census of the European astronomical data centers](#)

The EURO-VO Data Centre Alliance project (<http://www.euro-vo.org/pub/dca/overview.html>) is a Coordination Action funded by the European Commission within the Sixth Framework Program. It aims at helping European astronomical data centres to publish their data and services in the Virtual Observatory, using standards defined by the International Virtual Observatory Alliance (IVOA). EuroVO-DCA operates by coordinating the sharing of expertise, organizing Workshops, and providing assistance, in



## The Euro-VO project

### Science


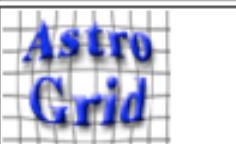


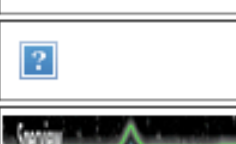




- Software
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- IVOA Standards →

### Data Centres

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Tool/Description	Version	Download/Launch
<b>DATA DISCOVERY</b>		
 <b>Aladin:</b> An interactive software sky atlas allowing the user to visualize digitized images of any part of the sky, to superimpose entries from astronomical catalogs	V5 (February 2008)	<a href="#">Standalone version</a>
 <b>Workbench:</b> A desktop application for working with the Virtual Observatory. It can explore data resources, query remote catalogs, and construct workflows to automate tasks.	2007.1.1	<a href="#">Download Page</a>
 <b>Datascope:</b> A Web Service for discovering and exploring data in the Virtual Observatory from archives and data centres around the world.	V2.1 (March 2007)	<a href="#">Web Service</a>
<b>SPECTRAL ANALYSIS</b>		
 <b>VOSpec:</b> A multiwavelength spectra analysis tool, with access to both Spectral services (SSAP) and Theoretical Spectral services (TSAP).	V3.0	<a href="#">Launch java applet</a>
 <b>SPLAT:</b> A spectra analysis tool.	Version: 3.8-5	<a href="#">Download Page</a>
 <b>Specview:</b> 1-D spectral visualization and analysis	2.14.1	<a href="#">Download Page or Run Applet</a>
 <b>Euro3D:</b> Analyse datasets in Euro3D FITS format.		<a href="#">Launch Java Webstart or Java applet</a>
<b>DATA VISUALISATION AND DATA HANDLING</b>		
 <b>Topcat:</b> An interactive graphical viewer and editor for tabular data. It understands a number of different astronomically important formats (including FITS and VOTable) and more formats can be added.	3.2 (January 2008)	<a href="#">Download Page</a>
 <b>VOPlot:</b> A tool to visualise astronomical data.	1.4.1 Beta	<a href="#">Download Page</a>
<b>VisIVO:</b> A visualisation and analysis software for astrophysical data.		



# VirGO: the new Virtual Browser for the ESO Science Archive Facility





# VirGO: the new Virtual Browser for the ESO Science Archive Facility

Developed by the VO Systems Department





# ESO Archive Query Form

[ESO Archive Overview](#) [Help Page](#) [FAQ](#) [Archive Facility HOME](#) [ESO HOME](#)

If you would like to query the Archive for instrument specific parameters, please use the [dedicated query forms](#).  
To search for **reduced Data Products**, please have a look at the [ESO Data Products](#) page and the [Spectral Advanced Data Products](#) query form.  
To search for [HARPS GTO programmes](#), please use the dedicated [HARPS GTO query form](#).

The checkboxes on the right of the parameters define whether or not they will be displayed on the query result page.

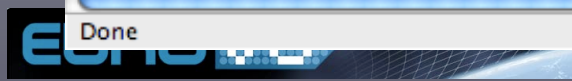
**SEARCH** ShowAll ShowNone Reset [query Help](#) [Status of Requests](#)

## Target, Program and Scheduling Information

<b>Target Name</b> <input checked="" type="checkbox"/>	<input type="text" value="30 Doradus"/>	Resolved by SIMBAD <input type="text"/>	<b>Night</b> <input type="checkbox"/>	<input type="text"/> (DD MM YYYY)
<b>RA</b>	<input type="text"/>	<b>DEC</b>	<input type="text"/>	<i>J2000</i>
<b>Search Box</b>	<input type="text" value="00 10 00"/>	<b>Input</b>	<input type="text" value="12 hrs [UT]"/>	<b>End</b> <input type="text"/>
<b>Output</b> <input checked="" type="checkbox"/>	<input type="text" value="Sexagesimal (h, deg)"/>	<input type="text" value="RA(h) DEC(deg)"/>	<b>Program ID</b> <input checked="" type="checkbox"/>	<input type="text"/>
<b>List of Targets</b>	<input type="text"/>	<input type="button" value="Browse..."/>	<b>PI CoI</b> <input type="checkbox"/>	<input type="text"/>
			<b>Title</b> <input type="checkbox"/>	<input type="text"/>

## Observing Information

<b>Imaging</b>	<b>Spectroscopy</b>	<b>Interferometry</b>	<b>Other</b>
----------------	---------------------	-----------------------	--------------





# ESO Archive Query Form

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**SEARCH** ShowAll ShowNone Reset [query Help](#) [Status of Requests](#)

## Target, Program and Scheduling Information

**Target Name**  30 Doradus **Resolved by** SIMBAD

**RA**  **DEC**  **J2000**

**Search Box** 00 10 00 **Input** RA(h) DEC(deg)

**Output**  Sexagesimal (h, deg)

**List of Targets**

**Night**  (DD MM YYYY)

*OR give a query range using the following start/end*

**Start**  12 hrs [UT] **End**

**Program ID**   **Program Type**

**PI CoI**

**Title**

## Observing Information

Imaging Spectroscopy Interferometry Other





Imaging		Spectroscopy		Interferometry		Other	
ALL	NONE	ALL	NONE	ALL	NONE	ALL	NONE
<input checked="" type="checkbox"/> VLT/ <a href="#">FORS1</a>	<input checked="" type="checkbox"/> VLT/ <a href="#">CRIRES</a>	<input type="checkbox"/> VLT/ <a href="#">VINCI</a>	<input type="checkbox"/> APEX/ <a href="#">HET</a>	<input checked="" type="checkbox"/> VLT/ <a href="#">FORS2</a>	<input checked="" type="checkbox"/> VLT/ <a href="#">FORS1</a>	<input type="checkbox"/> VLT/ <a href="#">MIDI</a>	<input type="checkbox"/> APEX/ <a href="#">BOL</a>
<input checked="" type="checkbox"/> VLT/ <a href="#">HAWKI</a>	<input checked="" type="checkbox"/> VLT/ <a href="#">FORS2</a>	<input type="checkbox"/> VLT/ <a href="#">AMBER</a>	<input type="checkbox"/> UKIRT/ <a href="#">WFCAM</a>	<input checked="" type="checkbox"/> VLT/ <a href="#">ISAAC</a>	<input checked="" type="checkbox"/> VLT/ <a href="#">GIRAFFE</a>	<input type="checkbox"/> VLT/ <a href="#">LGSF</a>	<input type="checkbox"/> UKIRT/ <a href="#">WFCAM</a>
<input checked="" type="checkbox"/> VLT/ <a href="#">NACO</a>	<input checked="" type="checkbox"/> VLT/ <a href="#">ISAAC</a>	<b>Polarimetry</b>		<input type="checkbox"/> LGSF	<input checked="" type="checkbox"/> VLT/ <a href="#">NACO</a>	<input type="checkbox"/> MASCOT	<input type="checkbox"/> MASCOT
<input checked="" type="checkbox"/> VLT/ <a href="#">VIMOS</a>	<input checked="" type="checkbox"/> VLT/ <a href="#">NACO</a>	ALL	NONE	<input checked="" type="checkbox"/> SCIENCE	<input checked="" type="checkbox"/> VLT/ <a href="#">VIMOS</a>	<input type="checkbox"/> CALIB	<input type="checkbox"/> MASCOT
<input checked="" type="checkbox"/> VLT/ <a href="#">VISIR</a>	<input checked="" type="checkbox"/> VLT/ <a href="#">SINFONI</a>	<input type="checkbox"/> VLT/ <a href="#">FORS1</a>	<input type="checkbox"/> VLT/ <a href="#">FORS1</a>	<input type="checkbox"/> CALIB	<input checked="" type="checkbox"/> VLT/ <a href="#">VISIR</a>	<input type="checkbox"/> ACQUISITION	<input type="checkbox"/> VLT/ <a href="#">FORS1</a>
<input checked="" type="checkbox"/> NTT/ <a href="#">EMMI</a>	<input checked="" type="checkbox"/> VLT/ <a href="#">UVES</a>	<input type="checkbox"/> VLT/ <a href="#">ISAAC</a>	<input type="checkbox"/> VLT/ <a href="#">ISAAC</a>	<input type="checkbox"/> ACQUISITION	<input checked="" type="checkbox"/> VLT/ <a href="#">UVES</a>	<input type="checkbox"/> TECHNICAL	<input type="checkbox"/> VLT/ <a href="#">ISAAC</a>
<input checked="" type="checkbox"/> NTT/ <a href="#">SOFI</a>	<input checked="" type="checkbox"/> VLT/ <a href="#">VIMOS</a>	<input type="checkbox"/> VLT/ <a href="#">NACO</a>	<input type="checkbox"/> VLT/ <a href="#">NACO</a>	<input type="checkbox"/> TECHNICAL	<input checked="" type="checkbox"/> VLT/ <a href="#">VIMOS</a>	<input type="checkbox"/> TEST	<input type="checkbox"/> VLT/ <a href="#">NACO</a>
<input checked="" type="checkbox"/> NTT/ <a href="#">SUSI/2</a>	<input checked="" type="checkbox"/> VLT/ <a href="#">VISIR</a>	<input type="checkbox"/> NTT/ <a href="#">SOFI</a>	<input type="checkbox"/> NTT/ <a href="#">SOFI</a>	<input type="checkbox"/> TEST	<input checked="" type="checkbox"/> NTT/ <a href="#">SOFI</a>	<input type="checkbox"/> SIMULATION	<input type="checkbox"/> NTT/ <a href="#">SOFI</a>
<input checked="" type="checkbox"/> 3.6/ <a href="#">EFOSC2</a>	<input checked="" type="checkbox"/> NTT/ <a href="#">EMMI</a>	<input type="checkbox"/> 3.6/ <a href="#">EFOSC2</a>	<input type="checkbox"/> 3.6/ <a href="#">EFOSC2</a>	<input type="checkbox"/> OTHER	<input checked="" type="checkbox"/> 3.6/ <a href="#">EFOSC2</a>	<input type="checkbox"/> SIMULATION	<input type="checkbox"/> 3.6/ <a href="#">EFOSC2</a>
<input checked="" type="checkbox"/> 3.6/ <a href="#">TIMMI2</a>	<input checked="" type="checkbox"/> NTT/ <a href="#">SOFI</a>	<b>Coronagraphy</b>		<input type="checkbox"/> OTHER	<input checked="" type="checkbox"/> 3.6/ <a href="#">TIMMI2</a>	<input type="checkbox"/> OTHER	<input type="checkbox"/> 3.6/ <a href="#">TIMMI2</a>
<input checked="" type="checkbox"/> 2.2/ <a href="#">WFI</a>	<input checked="" type="checkbox"/> 3.6/ <a href="#">CES</a>	ALL	NONE	<input type="checkbox"/> VLT/ <a href="#">NACO</a>	<input checked="" type="checkbox"/> 2.2/ <a href="#">WFI</a>	<input type="checkbox"/> OTHER	<input type="checkbox"/> 2.2/ <a href="#">WFI</a>
	<input checked="" type="checkbox"/> 3.6/ <a href="#">EFOSC2</a>	<input type="checkbox"/> VLT/ <a href="#">NACO</a>	<input type="checkbox"/> VLT/ <a href="#">NACO</a>		<input checked="" type="checkbox"/> 3.6/ <a href="#">HARPS</a>		<input type="checkbox"/> 3.6/ <a href="#">HARPS</a>
	<input checked="" type="checkbox"/> 3.6/ <a href="#">TIMMI2</a>				<input checked="" type="checkbox"/> 3.6/ <a href="#">TIMMI2</a>		<input type="checkbox"/> 3.6/ <a href="#">TIMMI2</a>
	<input checked="" type="checkbox"/> 2.2/ <a href="#">FEROS</a>				<input checked="" type="checkbox"/> 2.2/ <a href="#">FEROS</a>		<input type="checkbox"/> 2.2/ <a href="#">FEROS</a>

**Category**

- SCIENCE
- CALIB
- ACQUISITION
- TECHNICAL
- TEST
- SIMULATION
- OTHER

**Data Product I**

**Type**  OBJECT

User defined input:

**Mode**  Any

User defined input:

**Dataset ID**

**Orig Name**

**Release Date**

**OB Name**

**OB ID**

**Instrumental S**

**Exptime**

**Filter**

**Grism**

**Grating**

**Slit**

**Instrument & Mode**  ((ins\_id like 'FORS1%' AND dp\_tech like 'IMA%') or (ins\_id like 'FORS2%' AND dp\_tech like 'IMA%') or (ins\_id like 'HAWK

SEARCH ShowAll ShowNone Reset

query Help Status of Requests





EURO-VO ESOmail IACmail ADS Journals

Imaging		Spectroscopy		Interferometry		Other	
ALL	NONE	ALL	NONE	ALL	NONE	ALL	NONE
<input checked="" type="checkbox"/> VLT/FORS1	<input checked="" type="checkbox"/> VLT/CRIRES	<input type="checkbox"/> VLT/VINCI	<input type="checkbox"/> APEX/HET	<input checked="" type="checkbox"/> VLT/FORS2	<input checked="" type="checkbox"/> VLT/FORS1	<input type="checkbox"/> VLT/MIDI	<input type="checkbox"/> APEX/BOL
<input checked="" type="checkbox"/> VLT/HAWKI	<input checked="" type="checkbox"/> VLT/FORS2	<input type="checkbox"/> VLT/AMBER	<input type="checkbox"/> UKIRT/WFCAM	<input checked="" type="checkbox"/> VLT/ISAAC	<input checked="" type="checkbox"/> VLT/GIRAFFE	<input type="checkbox"/> VLT/AMBER	<input type="checkbox"/> UKIRT/WFCAM
<input checked="" type="checkbox"/> VLT/ISAAC	<input checked="" type="checkbox"/> VLT/ISAAC	Polarimetry		<input checked="" type="checkbox"/> VLT/NACO	<input checked="" type="checkbox"/> VLT/ISAAC	<input type="checkbox"/> LGSF	<input type="checkbox"/> MASCOT
<input checked="" type="checkbox"/> VLT/NACO	<input checked="" type="checkbox"/> VLT/NACO	ALL	NONE	<input checked="" type="checkbox"/> VLT/VIMOS	<input checked="" type="checkbox"/> VLT/NACO	<input type="checkbox"/> MASCOT	
<input checked="" type="checkbox"/> VLT/VIMOS	<input checked="" type="checkbox"/> VLT/SINFONI	<input type="checkbox"/> VLT/FORS1		<input checked="" type="checkbox"/> VLT/VISIR	<input checked="" type="checkbox"/> VLT/SINFONI		
<input checked="" type="checkbox"/> VLT/VISIR	<input checked="" type="checkbox"/> VLT/UVES	<input type="checkbox"/> VLT/ISAAC		<input checked="" type="checkbox"/> NTT/EMMI	<input checked="" type="checkbox"/> VLT/UVES		
<input checked="" type="checkbox"/> NTT/EMMI	<input checked="" type="checkbox"/> VLT/VIMOS	<input type="checkbox"/> VLT/NACO		<input checked="" type="checkbox"/> NTT/SOFI	<input checked="" type="checkbox"/> VLT/VIMOS		
<input checked="" type="checkbox"/> NTT/SOFI	<input checked="" type="checkbox"/> VLT/VISIR	<input type="checkbox"/> NTT/SOFI		<input checked="" type="checkbox"/> 3.6/EFOSC2	<input checked="" type="checkbox"/> NTT/EMMI		
<input checked="" type="checkbox"/> NTT/SUSI/2	<input checked="" type="checkbox"/> NTT/EMMI	Coronagraphy		<input checked="" type="checkbox"/> 3.6/TIMMI2	<input checked="" type="checkbox"/> NTT/SOFI		
<input checked="" type="checkbox"/> 3.6/EFOSC2	<input checked="" type="checkbox"/> NTT/SOFI	ALL	NONE	<input checked="" type="checkbox"/> 2.2/WFI	<input checked="" type="checkbox"/> 3.6/CES	<input type="checkbox"/> 3.6/EFOSC2	
<input checked="" type="checkbox"/> 3.6/TIMMI2	<input checked="" type="checkbox"/> 3.6/EFOSC2	<input type="checkbox"/> VLT/NACO			<input checked="" type="checkbox"/> 3.6/HARPS		
<input checked="" type="checkbox"/> 2.2/WFI	<input checked="" type="checkbox"/> 3.6/HARPS				<input checked="" type="checkbox"/> 3.6/TIMMI2		
	<input checked="" type="checkbox"/> 3.6/TIMMI2				<input checked="" type="checkbox"/> 2.2/FEROS		
	<input checked="" type="checkbox"/> 2.2/FEROS						

**Category**

- SCIENCE
- CALIB
- ACQUISITION
- TECHNICAL
- TEST
- SIMULATION
- OTHER

**Data Product I**

**Type**  OBJECT

User defined input:

**Mode**  Any

User defined input:

**Dataset ID**

**Orig Name**

**Release Date**

**OB Name**

**OB ID**

**Instrumental S**

**Exptime**

**Filter**

**Grism**

**Grating**

**Slit**

**Instrument & Mode**  ((ins\_id like 'FORS1%' AND dp\_tech like 'IMA%') or (ins\_id like 'FORS2%' AND dp\_tech like 'IMA%') or (ins\_id like 'HAWK

SEARCH ShowAll ShowNone Reset

query Help Status of Requests







Imaging		Spectroscopy		Interferometry		Other	
ALL	NONE	ALL	NONE	ALL	NONE	ALL	NONE
<input checked="" type="checkbox"/> VLT/FORS1	<input checked="" type="checkbox"/> VLT/GRIFES	<input type="checkbox"/> VLT/VINCI	<input type="checkbox"/> APEX/HET	<input checked="" type="checkbox"/> VLT/FORS2	<input checked="" type="checkbox"/> VLT/FORS1	<input type="checkbox"/> VLT/MIDI	<input type="checkbox"/> APEX/BOL
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<input checked="" type="checkbox"/> VLT/NACO	<input checked="" type="checkbox"/> VLT/ISAAC	Polarimetry		<input checked="" type="checkbox"/> VLT/VIMOS	<input checked="" type="checkbox"/> VLT/NACO	<input type="checkbox"/> MASCOT	
<input checked="" type="checkbox"/> VLT/VIMOS	<input checked="" type="checkbox"/> VLT/NACO	ALL	NONE	<input checked="" type="checkbox"/> VLT/VISIR	<input checked="" type="checkbox"/> VLT/SINFONI		
<input checked="" type="checkbox"/> VLT/VISIR	<input checked="" type="checkbox"/> VLT/SINFONI	<input type="checkbox"/> VLT/FORS1		<input checked="" type="checkbox"/> NTT/EMMI	<input checked="" type="checkbox"/> VLT/UVES	<input type="checkbox"/> VLT/ISAAC	
<input checked="" type="checkbox"/> NTT/EMMI	<input checked="" type="checkbox"/> VLT/UVES	<input type="checkbox"/> VLT/NACO		<input checked="" type="checkbox"/> NTT/SOFI	<input checked="" type="checkbox"/> VLT/VIMOS	<input type="checkbox"/> NTT/SOFI	
<input checked="" type="checkbox"/> NTT/SOFI	<input checked="" type="checkbox"/> VLT/VIMOS	<input type="checkbox"/> 3.6/EFOSC2		<input checked="" type="checkbox"/> NTT/SUSI/2	<input checked="" type="checkbox"/> NTT/EMMI	<input type="checkbox"/> 3.6/EFOSC2	
<input checked="" type="checkbox"/> 3.6/EFOSC2	<input checked="" type="checkbox"/> NTT/EMMI	Coronagraphy		<input checked="" type="checkbox"/> 3.6/TIMMI2	<input checked="" type="checkbox"/> NTT/SOFI	ALL	NONE
<input checked="" type="checkbox"/> 3.6/TIMMI2	<input checked="" type="checkbox"/> NTT/SOFI	<input type="checkbox"/> VLT/NACO		<input checked="" type="checkbox"/> 2.2/WFI	<input checked="" type="checkbox"/> 3.6/CES		
<input checked="" type="checkbox"/> 2.2/WFI	<input checked="" type="checkbox"/> 3.6/CES				<input checked="" type="checkbox"/> 3.6/EFOSC2		
	<input checked="" type="checkbox"/> 3.6/EFOSC2				<input checked="" type="checkbox"/> 3.6/HARPS		
	<input checked="" type="checkbox"/> 3.6/HARPS				<input checked="" type="checkbox"/> 3.6/TIMMI2		
	<input checked="" type="checkbox"/> 3.6/TIMMI2				<input checked="" type="checkbox"/> 2.2/FEROS		
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Category

- SCIENCE
- CALIB
- ACQUISITION
- TECHNICAL
- TEST
- SIMULATION
- OTHER

**Data Product I**

Type  OBJECT

User defined input:

Mode  Any

User defined input:

Dataset ID

Orig Name

Release Date

OB Name

OB ID

**Instrumental S**

Exptime

Filter

Grism

Grating

Slit

Instrument & Mode  ((ins\_id like 'FORS1%' AND dp\_tech like 'IMA%') or (ins\_id like 'FORS2%' AND dp\_tech like 'IMA%') or (ins\_id like 'HAWK

SEARCH ShowAll ShowNone Reset

query Help Status of Requests







Imaging		Spectroscopy		Interferometry		Other	
ALL	NONE	ALL	NONE	ALL	NONE	ALL	NONE
<input checked="" type="checkbox"/> VLT/FORS1	<input checked="" type="checkbox"/> VLT/GRIFES	<input type="checkbox"/> VLT/VINCI	<input type="checkbox"/> APEX/HET	<input checked="" type="checkbox"/> VLT/FORS2	<input checked="" type="checkbox"/> VLT/FORS1	<input type="checkbox"/> VLT/MIDI	<input type="checkbox"/> APEX/BOL
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<input checked="" type="checkbox"/> VLT/NACO	<input checked="" type="checkbox"/> VLT/ISAAC	<b>Polarimetry</b>		<input checked="" type="checkbox"/> VLT/NACO	<input checked="" type="checkbox"/> VLT/NACO		
<input checked="" type="checkbox"/> VLT/VIMOS	<input checked="" type="checkbox"/> VLT/NACO	ALL NONE		<input checked="" type="checkbox"/> VLT/VISIR	<input checked="" type="checkbox"/> VLT/SINFONI		
<input checked="" type="checkbox"/> VLT/VISIR	<input checked="" type="checkbox"/> VLT/SINFONI	<input type="checkbox"/> VLT/FORS1	<input type="checkbox"/> VLT/ISAAC	<input checked="" type="checkbox"/> NTT/EMMI	<input checked="" type="checkbox"/> VLT/UVES	<input type="checkbox"/> VLT/NACO	<input type="checkbox"/> NTT/SOFI
<input checked="" type="checkbox"/> NTT/EMMI	<input checked="" type="checkbox"/> VLT/UVES	<input type="checkbox"/> VLT/ISAAC	<input type="checkbox"/> VLT/NACO	<input checked="" type="checkbox"/> NTT/SOFI	<input checked="" type="checkbox"/> VLT/VIMOS	<input type="checkbox"/> NTT/SOFI	<input type="checkbox"/> 3.6/EFOSC2
<input checked="" type="checkbox"/> NTT/SOFI	<input checked="" type="checkbox"/> VLT/VIMOS	<b>Coronagraphy</b>		<input checked="" type="checkbox"/> 3.6/EFOSC2	<input checked="" type="checkbox"/> NTT/EMMI		
<input checked="" type="checkbox"/> NTT/SUSI/2	<input checked="" type="checkbox"/> VLT/VISIR	ALL NONE		<input type="checkbox"/> VLT/NACO	<input checked="" type="checkbox"/> NTT/SOFI		
<input checked="" type="checkbox"/> 3.6/EFOSC2	<input checked="" type="checkbox"/> NTT/EMMI	<input type="checkbox"/> VLT/FORS1	<input type="checkbox"/> VLT/ISAAC	<input type="checkbox"/> VLT/NACO	<input checked="" type="checkbox"/> 3.6/CES		
<input checked="" type="checkbox"/> 3.6/TIMMI2	<input checked="" type="checkbox"/> NTT/SOFI	<input type="checkbox"/> VLT/ISAAC	<input type="checkbox"/> VLT/NACO	<input type="checkbox"/> NTT/SOFI	<input checked="" type="checkbox"/> 3.6/EFOSC2		
<input checked="" type="checkbox"/> 2.2/WFI	<input checked="" type="checkbox"/> 3.6/CES	<input type="checkbox"/> VLT/NACO	<input type="checkbox"/> NTT/SOFI	<input type="checkbox"/> 3.6/EFOSC2	<input checked="" type="checkbox"/> 3.6/HARPS		
	<input checked="" type="checkbox"/> 3.6/EFOSC2	<input type="checkbox"/> VLT/AMBER	<input type="checkbox"/> UKIRT/WFCAM	<input type="checkbox"/> LGSF	<input checked="" type="checkbox"/> 3.6/TIMMI2		
	<input checked="" type="checkbox"/> 3.6/TIMMI2	<input type="checkbox"/> APEX/HET	<input type="checkbox"/> APEX/BOL	<input type="checkbox"/> MASCOT	<input checked="" type="checkbox"/> 2.2/FEROS		
	<input checked="" type="checkbox"/> 2.2/WFI	<input type="checkbox"/> UKIRT/WFCAM	<input type="checkbox"/> LGSF				

**Category**

- SCIENCE
- CALIB
- ACQUISITION
- TECHNICAL
- TEST
- SIMULATION
- OTHER

**Data Product I**

**Type**  OBJECT

User defined input:

**Mode**  Any

User defined input:

**Dataset ID**

**Orig Name**

**Release Date**

**OB Name**

**OB ID**

**Instrumental S**

**Exptime**

**Filter**

**Grism**

**Grating**

**Slit**

**Instrument & Mode**  ((ins\_id like 'FORS1%' AND dp\_tech like 'IMA%') or (ins\_id like 'FORS2%' AND dp\_tech like 'IMA%') or (ins\_id like 'HAWK

SEARCH ShowAll ShowNone Reset

query Help Status of Requests





Imaging		Spectroscopy		Interferometry		Other	
<input type="checkbox"/> ALL	<input type="checkbox"/> NONE	<input type="checkbox"/> ALL	<input type="checkbox"/> NONE	<input type="checkbox"/> ALL	<input type="checkbox"/> NONE	<input type="checkbox"/> ALL	<input type="checkbox"/> NONE
<input checked="" type="checkbox"/> VLT/FORS1		<input checked="" type="checkbox"/> VLT/GRIFES		<input type="checkbox"/> VLT/VINCI		<input type="checkbox"/> APEX/HET	
<input checked="" type="checkbox"/> VLT/FORS2		<input checked="" type="checkbox"/> VLT/FORS1		<input type="checkbox"/> VLT/MIDI		<input type="checkbox"/> APEX/BOL	
<input checked="" type="checkbox"/> VLT/HAWKI		<input checked="" type="checkbox"/> VLT/FORS2		<input type="checkbox"/> VLT/AMBER		<input type="checkbox"/> UKIRT/WFCAM	
<input checked="" type="checkbox"/> VLT/ISAAC		<input checked="" type="checkbox"/> VLT/GIRAFFE				<input type="checkbox"/> LGSF	
<input checked="" type="checkbox"/> VLT/NACO		<input checked="" type="checkbox"/> VLT/ISAAC		<b>Polarimetry</b>		<input type="checkbox"/> MASCOT	
<input checked="" type="checkbox"/> VLT/VIMOS		<input checked="" type="checkbox"/> VLT/NACO		<input type="checkbox"/> ALL	<input type="checkbox"/> NONE		
<input checked="" type="checkbox"/> VLT/VISIR		<input checked="" type="checkbox"/> VLT/SINFONI		<input type="checkbox"/> VLT/FORS1			
<input checked="" type="checkbox"/> NTT/EMMI		<input checked="" type="checkbox"/> VLT/UVES		<input type="checkbox"/> VLT/ISAAC			
<input checked="" type="checkbox"/> NTT/SOFI		<input checked="" type="checkbox"/> VLT/VIMOS		<input type="checkbox"/> VLT/NACO			
<input checked="" type="checkbox"/> NTT/SUSI/2		<input checked="" type="checkbox"/> VLT/VISIR		<input type="checkbox"/> NTT/SOFI			
<input checked="" type="checkbox"/> 3.6/EFOSC2		<input checked="" type="checkbox"/> NTT/EMMI		<input type="checkbox"/> 3.6/EFOSC2			
<input checked="" type="checkbox"/> 3.6/TIMMI2		<input checked="" type="checkbox"/> NTT/SOFI		<b>Coronagraphy</b>			
<input checked="" type="checkbox"/> 2.2/WFI		<input checked="" type="checkbox"/> 3.6/CES		<input type="checkbox"/> ALL	<input type="checkbox"/> NONE		
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		<input checked="" type="checkbox"/> 3.6/TIMMI2					
		<input checked="" type="checkbox"/> 2.2/FEROS					

**Category**

- SCIENCE
- CALIB
- ACQUISITION
- TECHNICAL
- TEST
- SIMULATION
- OTHER

**Data Product**

**Type**  OBJECT

User defined input:

**Mode**  Any

User defined input:

**Dataset ID**

**Orig Name**

**Release Date**

**OB Name**

**OB ID**

**Instrumental S**

**Exptime**

**Filter**

**Grism**

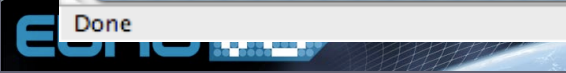
**Grating**

**Slit**

**Instrument & Mode**  ((ins\_id like 'FORS1%' AND dp\_tech like 'IMA%') or (ins\_id like 'FORS2%' AND dp\_tech like 'IMA%') or (ins\_id like 'HAWK

SEARCH ShowAll ShowNone Reset

query Help Status of Requests





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2.2/WFI 3.6/CES ALL NONE  
 3.6/EFOSC2 VLT/NACO  
 3.6/HARPS  
 3.6/TIMMI2  
 2.2/FEROS

Grism  
 Grating  
 Slit

Instrument & Mode  ((ins\_id like 'FORS1%' AND dp\_tech like 'IMA%') or (ins\_id like 'FORS2%' AND dp\_tech like 'IMA%') or (ins\_id like 'HAV

SEARCH ShowAll ShowNone Reset query Help Status of Requests

### Additional Tools and Parameters

<a href="#">Airmass</a> <input checked="" type="checkbox"/>	<a href="#">FITS Header Display</a> <input checked="" type="checkbox"/>	<a href="#">Distance</a> <input type="checkbox"/>	<a href="#">Number of Frames / Instrument</a> <input checked="" type="checkbox"/>
<a href="#">DIMM Seeing</a> <input checked="" type="checkbox"/>	<a href="#">FITS Preview</a> <input checked="" type="checkbox"/>	<a href="#">Pos. Angle</a> <input type="checkbox"/>	<a href="#">Cumulative Exptime / Filter</a> <input checked="" type="checkbox"/>
	<a href="#">Calibration Selector Tool</a> <input type="checkbox"/>	<a href="#">MJD-OBS</a> <input checked="" type="checkbox"/>	<a href="#">Sky Map</a> <input checked="" type="checkbox"/>

### Display Options

Use [default](#) output.

Return a [VOTable](#) (Virtual Observatory standard)

Use [tabular](#) output even if only one row is returned.

Use [full-screen](#) output even if more than one row is returned.

Return a maximum of  rows.

Sort by...

[Export](#) results to file:

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2.2/WFI 3.6/CES ALL NONE  
 3.6/EFOSC2 VLT/NACO  
 3.6/HARPS  
 3.6/TIMMI2  
 2.2/FEROS

Grism  
 Grating  
 Slit

Instrument & Mode  ((ins\_id like 'FORS1%' AND dp\_tech like 'IMA%') or (ins\_id like 'FORS2%' AND dp\_tech like 'IMA%') or (ins\_id like 'HAV

SEARCH ShowAll ShowNone Reset query Help Status of Requests

Additional Tools and Parameters

<a href="#">Airmass</a> <input checked="" type="checkbox"/>	<a href="#">FITS Header Display</a> <input checked="" type="checkbox"/>	<a href="#">Distance</a> <input type="checkbox"/>	<a href="#">Number of Frames / Instrument</a> <input checked="" type="checkbox"/>
<a href="#">DIMM Seeing</a> <input checked="" type="checkbox"/>	<a href="#">FITS Preview</a> <input checked="" type="checkbox"/>	<a href="#">Pos. Angle</a> <input type="checkbox"/>	<a href="#">Cumulative Exptime / Filter</a> <input checked="" type="checkbox"/>
	<a href="#">Calibration Selector Tool</a> <input type="checkbox"/>	<a href="#">MJD-OBS</a> <input checked="" type="checkbox"/>	<a href="#">Sky Map</a> <input checked="" type="checkbox"/>

Display Options

Use [default](#) output.

Return a [VOTable](#) (Virtual Observatory standard)

Use [tabular](#) output even if only one row is returned.

Use [full-screen](#) output even if more than one row is returned.

Return a maximum of  rows.

Sort by...

[Export](#) results to file:

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2.2/[WFI](#)
 3.6/[CES](#)
 ALL  NONE

3.6/[EFOSC2](#)
 VLT/[NACO](#)

3.6/[HARPS](#)

3.6/[TIMMI2](#)

2.2/[FEROS](#)

[Grism](#)

[Grating](#)

[Slit](#)

**Instrument & Mode**  ((ins\_id like 'FORS1%' AND dp\_tech like 'IMA%') or (ins\_id like 'FORS2%' AND dp\_tech like 'IMA%') or (ins\_id like 'HAV

**SEARCH** ShowAll ShowNone Reset

[query Help](#) [Status of Requests](#)

### Additional Tools and Parameters

<a href="#">Airmass</a> <input checked="" type="checkbox"/>	<a href="#">FITS Header Display</a> <input checked="" type="checkbox"/>	<a href="#">Distance</a> <input type="checkbox"/>	<a href="#">Number of Frames / Instrument</a> <input checked="" type="checkbox"/>
<a href="#">DIMM Seeing</a> <input checked="" type="checkbox"/>	<a href="#">FITS Preview</a> <input checked="" type="checkbox"/>	<a href="#">Pos. Angle</a> <input type="checkbox"/>	<a href="#">Cumulative Exptime / Filter</a> <input checked="" type="checkbox"/>
	<a href="#">Calibration Selector Tool</a> <input type="checkbox"/>	<a href="#">MJD-OBS</a> <input checked="" type="checkbox"/>	<a href="#">Sky Map</a> <input checked="" type="checkbox"/>

### Display Options

- Use [default](#) output.
- Return a [VOTable](#) (Virtual Observatory standard)
- Use [tabular](#) output even if only one row is returned.
- Use [full-screen](#) output even if more than one row is returned.

Sort by...

[Export](#) results to file:

Return a maximum of  rows.

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<input type="checkbox"/>		-	-		NGC7020-B-3	05:39:05.25 -69:03:24.8	000. -0000	WFI	SC
<input type="checkbox"/>		-	-		LMC-BAT121	05:39:05.26 -69:03:45.5	<a href="#">074.D-0696(A)</a>	EMMI/2.15	SC
<input type="checkbox"/>		-	-		LMC-BAT121	05:39:05.26 -69:03:45.5	<a href="#">074.D-0696(A)</a>	EMMI/2.15	SC
<input type="checkbox"/>		-	-		LMC-BAT121	05:39:05.26 -69:03:45.5	<a href="#">074.D-0696(A)</a>	EMMI/2.15	SC
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<input type="checkbox"/>		-	-		LMC-BAT122	05:39:12.78 -69:02:00.7	<a href="#">074.D-0696(A)</a>	EMMI/2.15	SC
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<input type="checkbox"/>		-	-		LMC-BAT122	05:39:12.78 -69:02:00.7	<a href="#">074.D-0696(A)</a>	EMMI/2.15	SC

Request Marked Datasets    Reset

A total of 925 were found matching the provided criteria



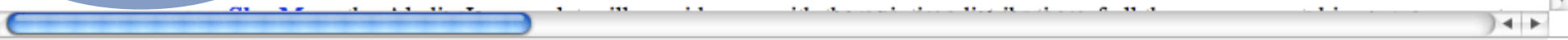




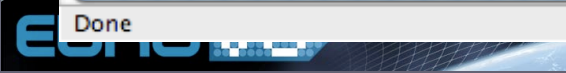
EURO-VO	ESOmail	IACmail	ADS	Journals				
<input type="checkbox"/>		-	-	NGC7020-B-3	05:39:05.25 -69:03:24.8	000. -0000	WFI	SC
<input type="checkbox"/>		-	-	LMC-BAT121	05:39:05.26 -69:03:45.5	<a href="#">074.D-0696(A)</a>	EMMI/2.15	SC
<input type="checkbox"/>		-	-	LMC-BAT121	05:39:05.26 -69:03:45.5	<a href="#">074.D-0696(A)</a>	EMMI/2.15	SC
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<input type="checkbox"/>		-	-	NGC7020-R-4	05:39:08.00 -69:07:29.8	000. -0000	WFI	SC
<input type="checkbox"/>		-	-	NGC7020-V-4	05:39:08.14 -69:07:32.1	000. -0000	WFI	SC
<input type="checkbox"/>		-	-	NGC7020-B-4SH	05:39:08.17 -69:07:30.2	000. -0000	WFI	SC
<input type="checkbox"/>		-	-	NGC7020-B-4	05:39:08.20 -69:07:29.7	000. -0000	WFI	SC
<input type="checkbox"/>		-	-	LMC-BAT122	05:39:12.78 -69:02:00.7	<a href="#">074.D-0696(A)</a>	EMMI/2.15	SC
<input type="checkbox"/>		-	-	LMC-BAT122	05:39:12.78 -69:02:00.7	<a href="#">074.D-0696(A)</a>	EMMI/2.15	SC
<input type="checkbox"/>		-	-	LMC-BAT122	05:39:12.78 -69:02:00.7	<a href="#">074.D-0696(A)</a>	EMMI/2.15	SC

Request Marked Datasets    Reset

A total of 925 were found matching the provided criteria



Done





Cumulative Exposure Time / Instrument / Filter:						
SCIENCE - CRIRES -	1	h	5	min	0	s
SCIENCE - CRIRES - KS	0	h	30	min	0	s
SCIENCE - EFOSC/4.6 - B#639	0	h	1	min	30	s
SCIENCE - EFOSC/4.6 - R#642	0	h	0	min	10	s
SCIENCE - EFOSC/4.6 - V#641	0	h	0	min	30	s
SCIENCE - EMMI/2.15 - FREE	0	h	10	min	0	s
SCIENCE - EMMI/2.15 - FREE,FREE	1	h	46	min	40	s
SCIENCE - EMMI/2.15 - FREE,HA#596	1	h	0	min	0	s
SCIENCE - FEROS -	4	h	36	min	31	s
SCIENCE - FORS1 - FILT_485_37	0	h	2	min	0	s
SCIENCE - FORS1 - FILT_503_5	0	h	4	min	0	s
SCIENCE - FORS1 - H_ALPHA	0	h	1	min	40	s
SCIENCE - FORS1 - I_BESS	0	h	4	min	30	s
SCIENCE - FORS1 - R_BESS	0	h	4	min	27	s
SCIENCE - FORS2 - B_BESS	0	h	1	min	30	s
SCIENCE - FORS2 - I_BESS	0	h	7	min	15	s

Number of Observations / Instrument:



Done





<b>Cumulative Exposure Time / Instrument / Filter:</b>						
SCIENCE - CRIRES -	1	h	5	min	0	s
SCIENCE - CRIRES - KS	0	h	30	min	0	s
SCIENCE - EFOSC/4.6 - B#639	0	h	1	min	30	s
SCIENCE - EFOSC/4.6 - R#642	0	h	0	min	10	s
SCIENCE - EFOSC/4.6 - V#641	0	h	0	min	30	s
SCIENCE - EMMI/2.15 - FREE	0	h	10	min	0	s
SCIENCE - EMMI/2.15 - FREE,FREE	1	h	46	min	40	s
SCIENCE - EMMI/2.15 - FREE,HA#596	1	h	0	min	0	s
SCIENCE - FEROS -	4	h	36	min	31	s
SCIENCE - FORS1 - FILT_485_37	0	h	2	min	0	s
SCIENCE - FORS1 - FILT_503_5	0	h	4	min	0	s
SCIENCE - FORS1 - H_ALPHA	0	h	1	min	40	s
SCIENCE - FORS1 - I_BESS	0	h	4	min	30	s
SCIENCE - FORS1 - R_BESS	0	h	4	min	27	s
SCIENCE - FORS2 - B_BESS	0	h	1	min	30	s
SCIENCE - FORS2 - I_BESS	0	h	7	min	15	s

Number of Observations / Instrument:



Done





Number of Observations / Instrument:	
CRIRES	47
EFOSC/4.6	5
EMMI/2.15	25
FEROS	12
FORS1	10
FORS2	16
GIRAFFE	138
ISAAC	292
NAOS+CONICA	72
SINFONI	188
UVES	76
WFI	44
Total	925

SCIENCE - FORS2 - B_BESS	0	h	1	min	30	s
SCIENCE - FORS2 - I_BESS	0	h	7	min	15	s
SCIENCE - FORS2 - R_SPECIAL	0	h	6	min	0	s
SCIENCE - FORS2 - V_BESS	0	h	0	min	45	s
SCIENCE - GIRAFFE - HR14,A,10	7	h	55	min	44	s
SCIENCE - GIRAFFE - HR15,B,10	2	h	53	min	59	s
SCIENCE - GIRAFFE - LR2,B,7	0	h	32	min	0	s
SCIENCE - ISAAC -	1	h	18	min	10	s
SCIENCE - ISAAC - JS,OPEN	2	h	17	min	40	s
SCIENCE - ISAAC - KS,OPEN	2	h	51	min	0	s
SCIENCE - ISAAC - OPEN,NB_1.21	0	h	9	min	0	s
SCIENCE - ISAAC - OPEN,NB_1.28	0	h	9	min	0	s
SCIENCE - ISAAC - SH,OPEN	0	h	20	min	0	s
SCIENCE - ISAAC - SK,OPEN	1	h	3	min	20	s
SCIENCE - ISAAC - SL,OPEN	0	h	1	min	11	s
SCIENCE - NAOS+CONICA -	4	h	40	min	56	s
SCIENCE - NAOS+CONICA -	1	h	20	min	16	s
SCIENCE - SINFONI - H+K	3	h	30	min	0	s





<b>Number of Observations / Instrument:</b>	
CRIRES	47
EFOSC/4.6	5
EMMI/2.15	25
FEROS	12
FORS1	10
FORS2	16
GIRAFFE	138
ISAAC	292
NAOS+CONICA	72
SINFONI	188
UVES	76
WFI	44
<b>Total</b>	<b>925</b>

SCIENCE - FORS2 - B_BESS	0	h	1	min	30	s
SCIENCE - FORS2 - I_BESS	0	h	7	min	15	s
SCIENCE - FORS2 - R_SPECIAL	0	h	6	min	0	s
SCIENCE - FORS2 - V_BESS	0	h	0	min	45	s
SCIENCE - GIRAFFE - HR14,A,10	7	h	55	min	44	s
SCIENCE - GIRAFFE - HR15,B,10	2	h	53	min	59	s
SCIENCE - GIRAFFE - LR2,B,7	0	h	32	min	0	s
SCIENCE - ISAAC -	1	h	18	min	10	s
SCIENCE - ISAAC - JS,OPEN	2	h	17	min	40	s
SCIENCE - ISAAC - KS,OPEN	2	h	51	min	0	s
SCIENCE - ISAAC - OPEN,NB_1.21	0	h	9	min	0	s
SCIENCE - ISAAC - OPEN,NB_1.28	0	h	9	min	0	s
SCIENCE - ISAAC - SH,OPEN	0	h	20	min	0	s
SCIENCE - ISAAC - SK,OPEN	1	h	3	min	20	s
SCIENCE - ISAAC - SL,OPEN	0	h	1	min	11	s
SCIENCE - NAOS+CONICA -	4	h	40	min	56	s
SCIENCE - NAOS+CONICA -	1	h	20	min	16	s
SCIENCE - SINFONI - H+K	3	h	30	min	0	s



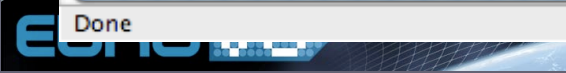




MarkAll UnMarkAll

Request Marked Datasets Reset

M	More	HDR	PRV	OBJECT	Target Ra, Dec	Program ID	Instrument	Ca
<input checked="" type="checkbox"/>		<a href="#">Header</a>	-		05:37:47.00 -69:10:23.0	<a href="#">60.A-9203(E)</a>	FORS2	SC
<input checked="" type="checkbox"/>		<a href="#">Header</a>	-		05:37:47.00 -69:10:23.0	<a href="#">60.A-9203(E)</a>	FORS2	SC
<input checked="" type="checkbox"/>		<a href="#">Header</a>	-		05:37:47.00 -69:10:23.0	<a href="#">60.A-9203(E)</a>	FORS2	SC
<input checked="" type="checkbox"/>		-	-	P706	05:38:24.95 -69:06:25.3	<a href="#">60.A-9122(B)</a>	FEROS	SC
<input checked="" type="checkbox"/>		-	-	P706	05:38:25.11 -69:06:26.1	<a href="#">60.A-9122(B)</a>	FEROS	SC
<input checked="" type="checkbox"/>		-	-	P706	05:38:25.21 -69:06:25.6	<a href="#">60.A-9122(B)</a>	FEROS	SC
<input checked="" type="checkbox"/>		-	-	P706	05:38:25.42 -69:06:24.1	<a href="#">60.A-9122(B)</a>	FEROS	SC
<input checked="" type="checkbox"/>		-	-	P93-124	05:38:28.05 -69:06:29.7	<a href="#">074.D-0041(A)</a>	EMMI/2.15	SC
<input checked="" type="checkbox"/>		-	-	P93-124	05:38:28.05 -69:06:29.7	<a href="#">074.D-0041(A)</a>	EMMI/2.15	SC
<input checked="" type="checkbox"/>		-	-	P93-124	05:38:28.05 -69:06:29.7	<a href="#">074.D-0041(A)</a>	EMMI/2.15	SC
<input checked="" type="checkbox"/>		-	-	P93-124	05:38:28.05 -69:06:29.7	<a href="#">074.D-0041(A)</a>	EMMI/2.15	SC
<input checked="" type="checkbox"/>		-	-	P93-124	05:38:28.46 -69:06:33.2	<a href="#">074.D-0041(A)</a>	EMMI/2.15	SC





**MarkAll** UnMarkAll

Request Marked Datasets Reset

M	More	HDR	PRV	OBJECT	Target Ra, Dec	Program ID	Instrument	Ca
<input checked="" type="checkbox"/>		<a href="#">Header</a>	-		05:37:47.00 -69:10:23.0	<a href="#">60.A-9203(E)</a>	FORS2	SC
<input checked="" type="checkbox"/>		<a href="#">Header</a>	-		05:37:47.00 -69:10:23.0	<a href="#">60.A-9203(E)</a>	FORS2	SC
<input checked="" type="checkbox"/>		<a href="#">Header</a>	-		05:37:47.00 -69:10:23.0	<a href="#">60.A-9203(E)</a>	FORS2	SC
<input checked="" type="checkbox"/>		-	-	P706	05:38:24.95 -69:06:25.3	<a href="#">60.A-9122(B)</a>	FEROS	SC
<input checked="" type="checkbox"/>		-	-	P706	05:38:25.11 -69:06:26.1	<a href="#">60.A-9122(B)</a>	FEROS	SC
<input checked="" type="checkbox"/>		-	-	P706	05:38:25.21 -69:06:25.6	<a href="#">60.A-9122(B)</a>	FEROS	SC
<input checked="" type="checkbox"/>		-	-	P706	05:38:25.42 -69:06:24.1	<a href="#">60.A-9122(B)</a>	FEROS	SC
<input checked="" type="checkbox"/>		-	-	P93-124	05:38:28.05 -69:06:29.7	<a href="#">074.D-0041(A)</a>	EMMI/2.15	SC
<input checked="" type="checkbox"/>		-	-	P93-124	05:38:28.05 -69:06:29.7	<a href="#">074.D-0041(A)</a>	EMMI/2.15	SC
<input checked="" type="checkbox"/>		-	-	P93-124	05:38:28.05 -69:06:29.7	<a href="#">074.D-0041(A)</a>	EMMI/2.15	SC
<input checked="" type="checkbox"/>		-	-	P93-124	05:38:28.05 -69:06:29.7	<a href="#">074.D-0041(A)</a>	EMMI/2.15	SC
<input checked="" type="checkbox"/>		-	-	P93-124	05:38:28.46 -69:06:33.2	<a href="#">074.D-0041(A)</a>	EMMI/2.15	SC







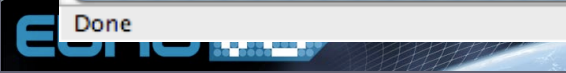
MarkAll

UnMarkAll

Request Marked Datasets

Reset

M	More	HDR	PRV	OBJECT	Target Ra, Dec	Program ID	Instrument	Ca
<input checked="" type="checkbox"/>		<a href="#">Header</a>	-		05:37:47.00 -69:10:23.0	<a href="#">60.A-9203(E)</a>	FORS2	SC
<input checked="" type="checkbox"/>		<a href="#">Header</a>	-		05:37:47.00 -69:10:23.0	<a href="#">60.A-9203(E)</a>	FORS2	SC
<input checked="" type="checkbox"/>		<a href="#">Header</a>	-		05:37:47.00 -69:10:23.0	<a href="#">60.A-9203(E)</a>	FORS2	SC
<input checked="" type="checkbox"/>		-	-	P706	05:38:24.95 -69:06:25.3	<a href="#">60.A-9122(B)</a>	FEROS	SC
<input checked="" type="checkbox"/>		-	-	P706	05:38:25.11 -69:06:26.1	<a href="#">60.A-9122(B)</a>	FEROS	SC
<input checked="" type="checkbox"/>		-	-	P706	05:38:25.21 -69:06:25.6	<a href="#">60.A-9122(B)</a>	FEROS	SC
<input checked="" type="checkbox"/>		-	-	P706	05:38:25.42 -69:06:24.1	<a href="#">60.A-9122(B)</a>	FEROS	SC
<input checked="" type="checkbox"/>		-	-	P93-124	05:38:28.05 -69:06:29.7	<a href="#">074.D-0041(A)</a>	EMMI/2.15	SC
<input checked="" type="checkbox"/>		-	-	P93-124	05:38:28.05 -69:06:29.7	<a href="#">074.D-0041(A)</a>	EMMI/2.15	SC
<input checked="" type="checkbox"/>		-	-	P93-124	05:38:28.05 -69:06:29.7	<a href="#">074.D-0041(A)</a>	EMMI/2.15	SC
<input checked="" type="checkbox"/>		-	-	P93-124	05:38:28.05 -69:06:29.7	<a href="#">074.D-0041(A)</a>	EMMI/2.15	SC
<input checked="" type="checkbox"/>		-	-	P93-124	05:38:28.46 -69:06:33.2	<a href="#">074.D-0041(A)</a>	EMMI/2.15	SC

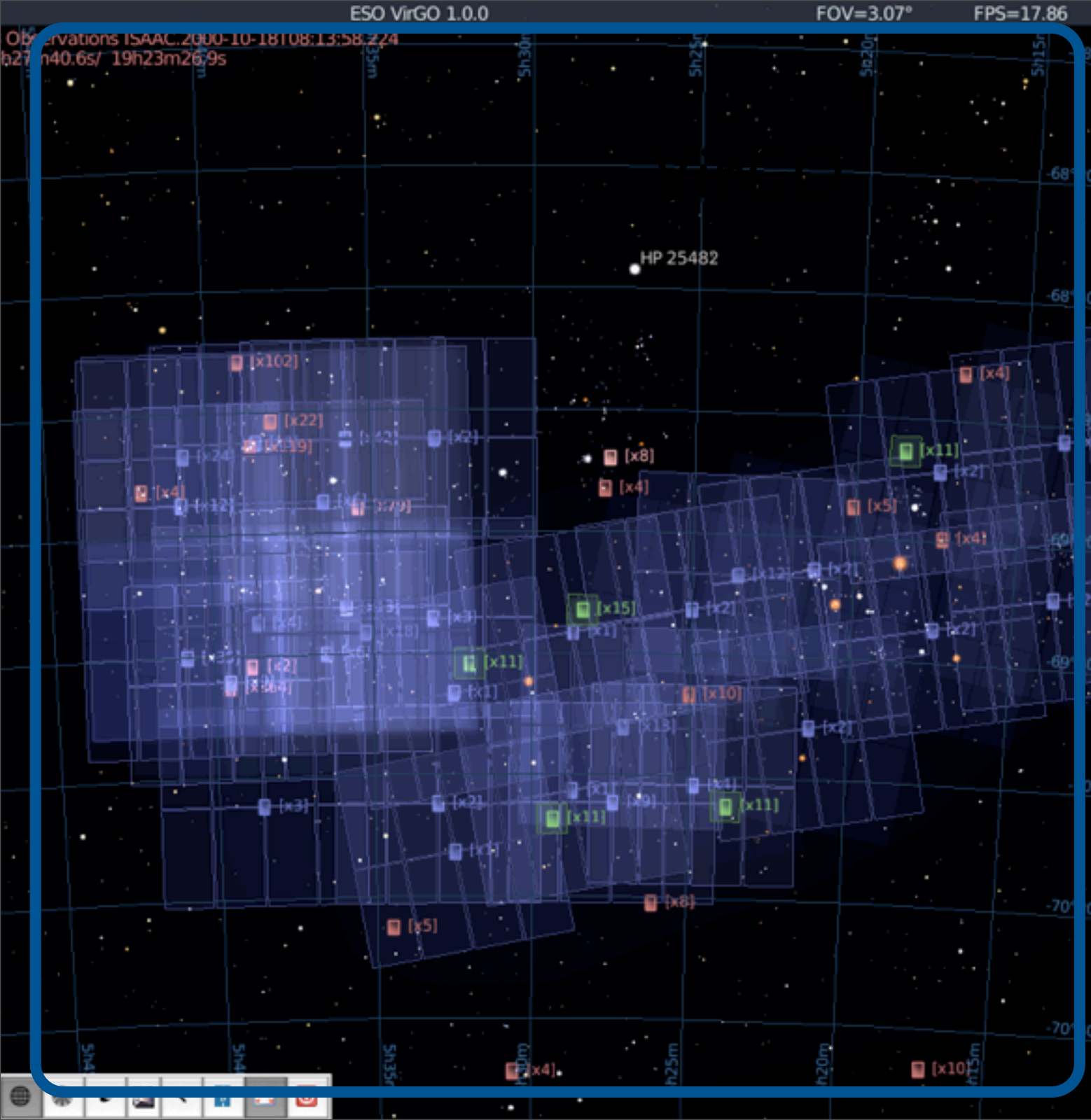




# VirGO



Observations ISAAC.2000-10-18T08:13:58.224  
h27m40.6s/ 19h23m26.9s



View:  All  Selected

Select: [All](#), [None](#) Selected: [Show Preview](#), [H](#)

Date	review	ExpTime	Instrument
2001-02-28		10	ISAAC
2006-10-31		20	ISAAC
2001-02-28		10	ISAAC
2001-02-28		10	ISAAC
2006-11-01		30	ISAAC
1999-10-27		30	ISAAC
2006-10-31		60	ISAAC
2000-10-08		10	ISAAC
2000-10-17		0.104	ISAAC
2006-10-31		60	ISAAC

Image: ISAAC.2000-10-18T08:13:58.224

**Image: ISAAC.2000-10-18T08:13:58.224**  
 Instrument: ISAAC  
 Date: 2000-10-17  
 Pos (FK5, 2000.0): 5h27m40.6s / -69d8'15"  
 Band: L  
[Data set](#) [image/fits: 1024x1024]  
[Transmission Curve](#) [VOTable]



View Selector

Type:   
 Processing:   
 Date: 1995-01-1   
 Exp Time: 0.000   
 Custom:

- VLT
- ISAAC
- 2.2m
- WFI
- NTT
- SOFI

Target Selection

Simbad:  Found!   
 RA: 5h    
 Dec: -69°





















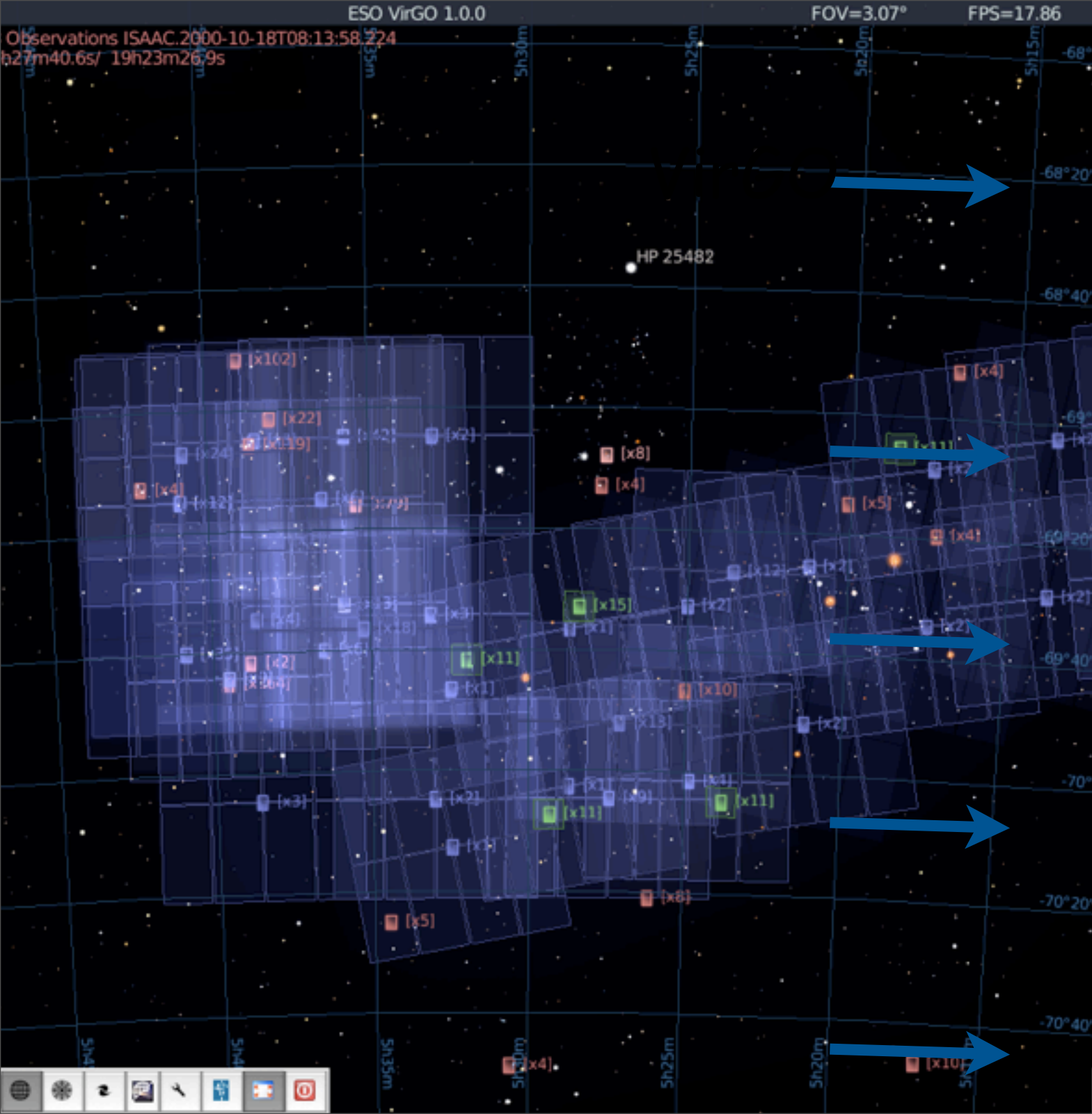












View:  All  Selected

Select: [All](#), [None](#) Selected: [Show Preview](#), [H](#)

Date	review	ExpTime	Instrument
2001-02-28		10	ISAAC
2006-10-31		20	ISAAC
2001-02-28		10	ISAAC
2001-02-28		10	ISAAC
2006-11-01		30	ISAAC
1999-10-27		30	ISAAC
2006-10-31		60	ISAAC
2000-10-08		10	ISAAC
2000-10-17		0.104	ISAAC
2006-10-31		60	ISAAC

Image: ISAAC.2000-10-18T08:13:58.224

**Image: ISAAC.2000-10-18T08:13:58.224**

Instrument: ISAAC

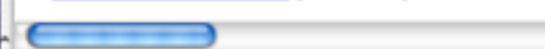
Date: 2000-10-17

Pos (FK5, 2000.0): 5h27m40.6s / -69d8'15"

Band: L

[Data set](#) [image/fits: 1024x1024]

[Transmission Curve](#) [VOTable]



View Selector

Type:

Processing:

Date: 1995-01-1

Exp Time: 0.000

Custom:

- VLT
- ISAAC
- 2.2m
- WFI
- NTT
- SOFI

Target Selection

Simbad:  Found!

RA: 5h

Dec: -69°

[Sho...](#) [ESO Scienc...](#) [Vis...](#) [Fil...](#)







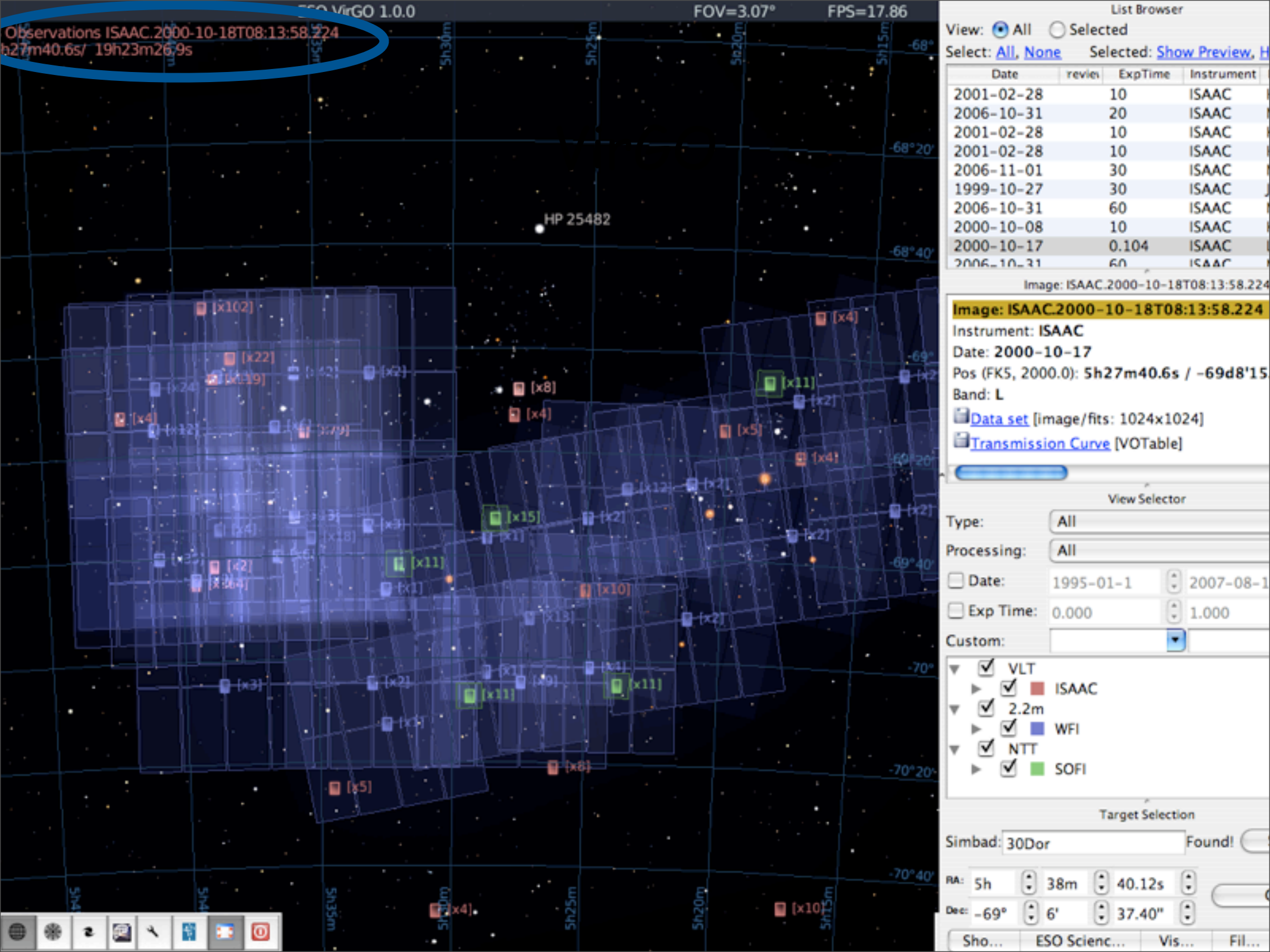












Observations ISAAC.2000-10-18T08:13:58.224  
 5h27m40.6s/ 19h23m26.9s

HP 25482

FOV=3.07° FPS=17.86

List Browser

View:  All  Selected

Select: [All](#), [None](#) Selected: [Show Preview](#), [H](#)

Date	review	ExpTime	Instrument
2001-02-28		10	ISAAC
2006-10-31		20	ISAAC
2001-02-28		10	ISAAC
2001-02-28		10	ISAAC
2006-11-01		30	ISAAC
1999-10-27		30	ISAAC
2006-10-31		60	ISAAC
2000-10-08		10	ISAAC
2000-10-17		0.104	ISAAC
2006-10-31		60	ISAAC

Image: ISAAC.2000-10-18T08:13:58.224

**Image: ISAAC.2000-10-18T08:13:58.224**

Instrument: ISAAC  
 Date: 2000-10-17  
 Pos (FK5, 2000.0): 5h27m40.6s / -69d8'15"  
 Band: L

[Data set](#) [image/fits: 1024x1024]  
[Transmission Curve](#) [VOTable]

View Selector

Type:

Processing:

Date: 1995-01-1

Exp Time: 0.000

Custom:

- VLT
- ISAAC
- 2.2m
- WFI
- NTT
- SOFI

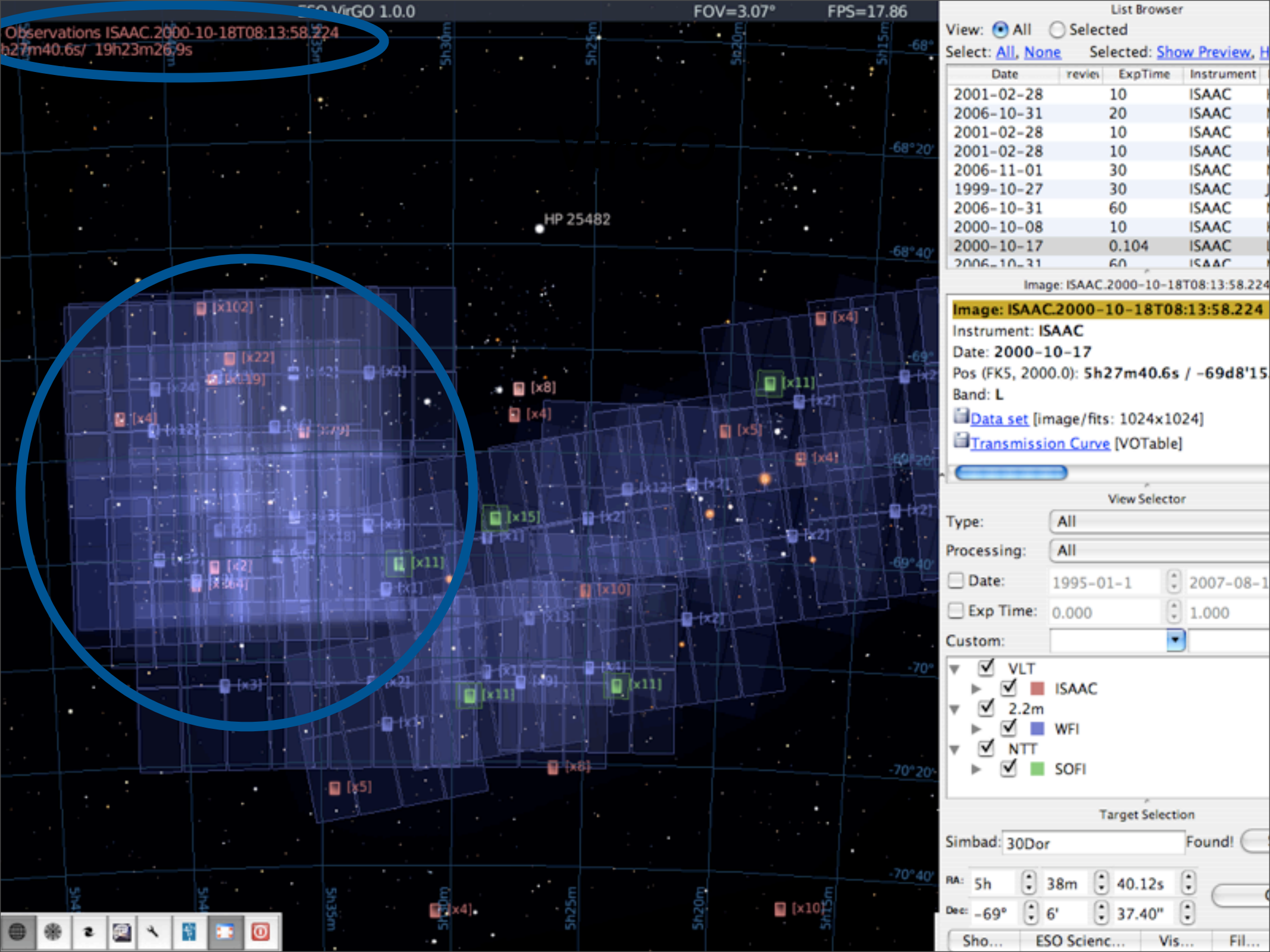
Target Selection

Simbad:  Found!

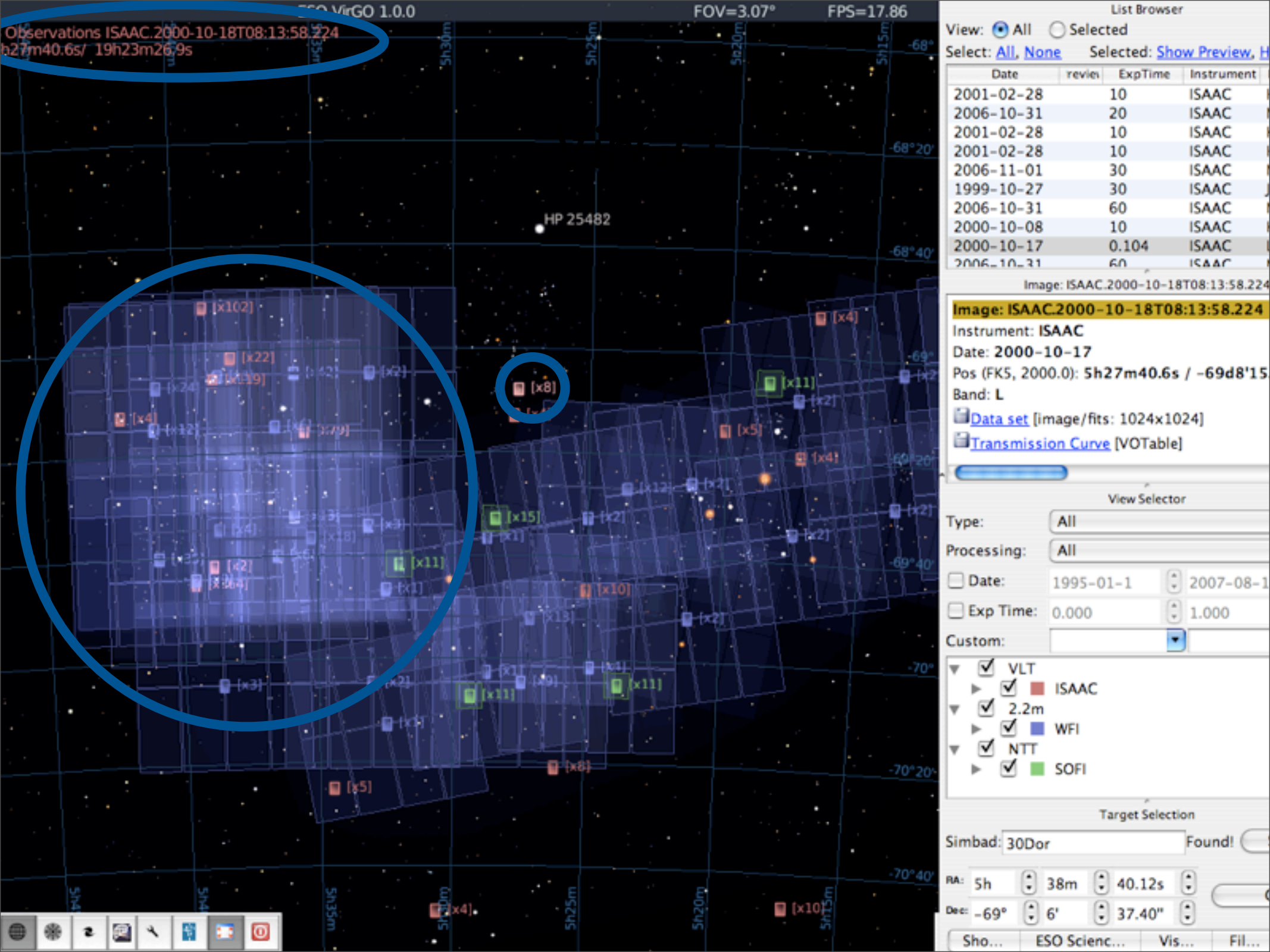
RA: 5h

Dec: -69°

[Sho...](#) [ESO Scienc...](#) [Vis...](#) [Fil...](#)

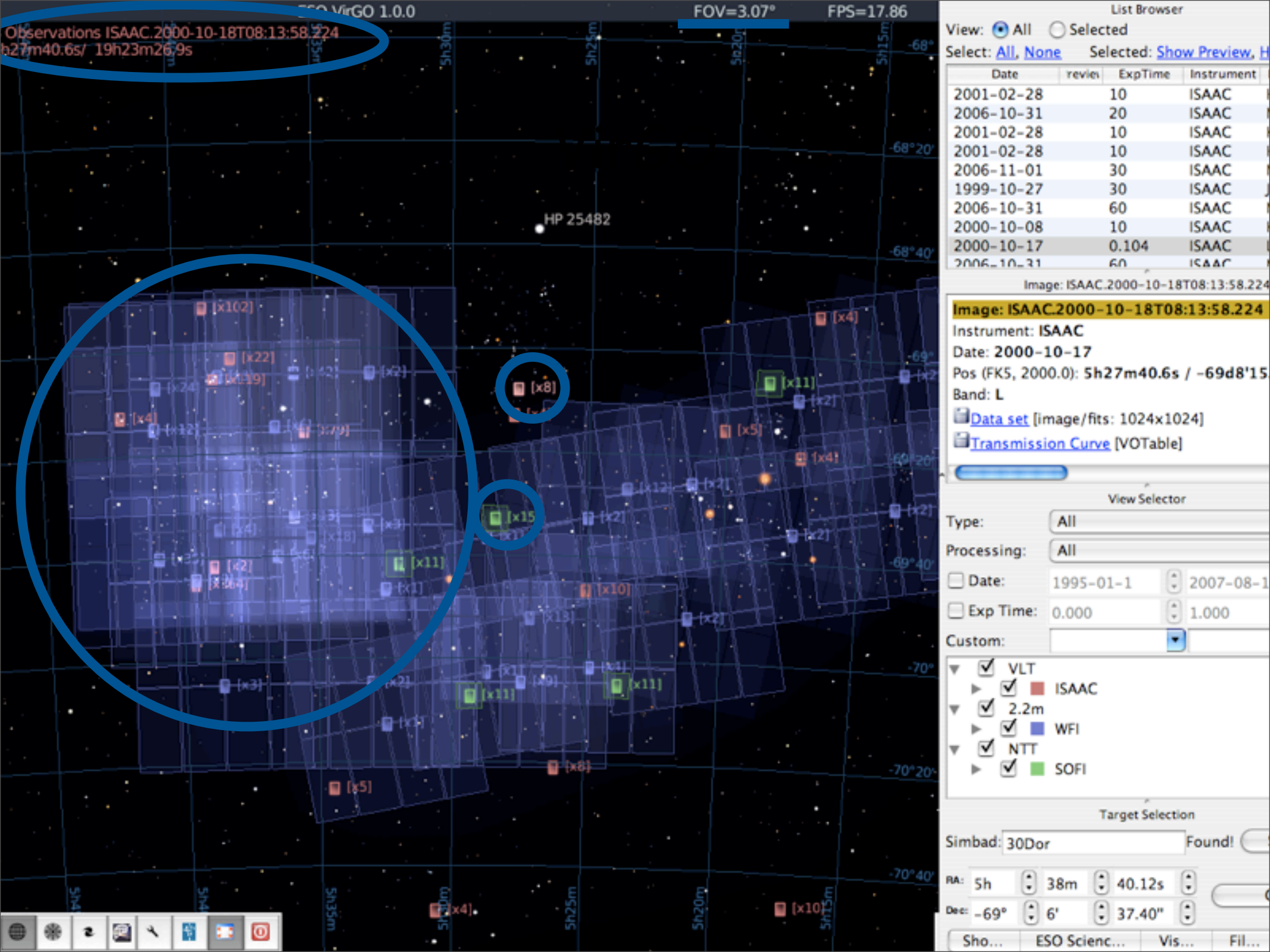














# VirGO



## Welcome to the ESO/ST-ECF Science Archive Facility

The ESO/ST-ECF science archive is a joint collaboration of the [European Organisation for Astronomical Research in the Southern Hemisphere](#) (ESO) and the [Space Telescope - European Coordinating Facility](#) (ST-ECF). ESO observational data can be requested after the proprietary period by the astronomical community. Please read the official [ESO Data Access Policy](#) statement for more information. Both the ESO and HST archives are available world-wide. To request data you have [log in to the ESO User Portal](#). Please [acknowledge](#) the use of archive data in your publications.

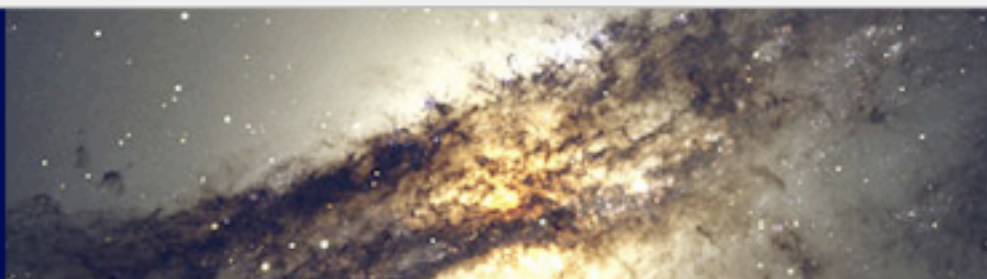
To browse the contents of the ESO archive, use the [main ESO archive query form](#) or the [VirGO](#) application.

## Latest News and Updates

- [GaBoDS/WFI data release: Version 1.1 \(2008-03-19\)](#)
- [ESO/MVM data reduction software release \(2008-02-28\)](#)
- [GOODS/VIMOS Spectroscopy Data Release: Version 1.0 \(2008-02-21\)](#)
- [MAD Science Demonstration Data Release \(2008-02-06\)](#)
- ['Monitor' NGC 2547/WFI Data Release: Version 1.0 \(2008-01-21\)](#)
- [GOODS/FORS2 Final Data Release: Version 3.0 \(2007-11-07\)](#)
- [HAWK-I Science Verification \(2007-11-01\)](#)
- [zCOSMOS DR1 Advanced Data Products now available \(2007-10-30\)](#)



ESO  
European Organisation  
for Astronomical  
Research in the  
Southern Hemisphere



# Science Archive Facility



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- Hubble Space Telescope Data
- Virtual Observatory Tools
- Catalogues & DSS
- Tools & Documentation
- The JSky Initiative
- The ESO SkyCat Tool
- The ESO DSS Batch Tool
- ESO Catalog Server SW
- The VLT Archive System
- ESO's Data Interface
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- VirGO, the Visual Archive Browser
- Data Availability Status
- Related External Services
- ESO & HST Image Galleries

## VirGO



VirGO is the next generation Visual Browser for the ESO Science Archive Facility developed by the VO Systems Department. It is a plug-in for the popular open source software [Stellarium](#) with added capabilities for browsing professional astronomical data. VirGO gives astronomers the possibility to easily discover and select data from millions of observations in a new visual and intuitive way. Its main feature is to perform real-time access and graphical display of a large number of observations by showing instrumental footprints and image previews, and to allow their selection and filtering for subsequent retrieval. It reads FITS images and catalogues in VOTable format. It superimposes DSS background images and allows to view the sky in a *real life* mode as seen from the main ESO sites. Data interfaces are based on Virtual Observatory [standards](#) enabling access to images and spectra hosted by other data centers and to exchange data with other VO applications through the [PLASTIC](#) messaging system.

A large fraction of ESO's non proprietary science products are already accessible through VirGO and more are to come:  
[Data Availability Status Page](#)

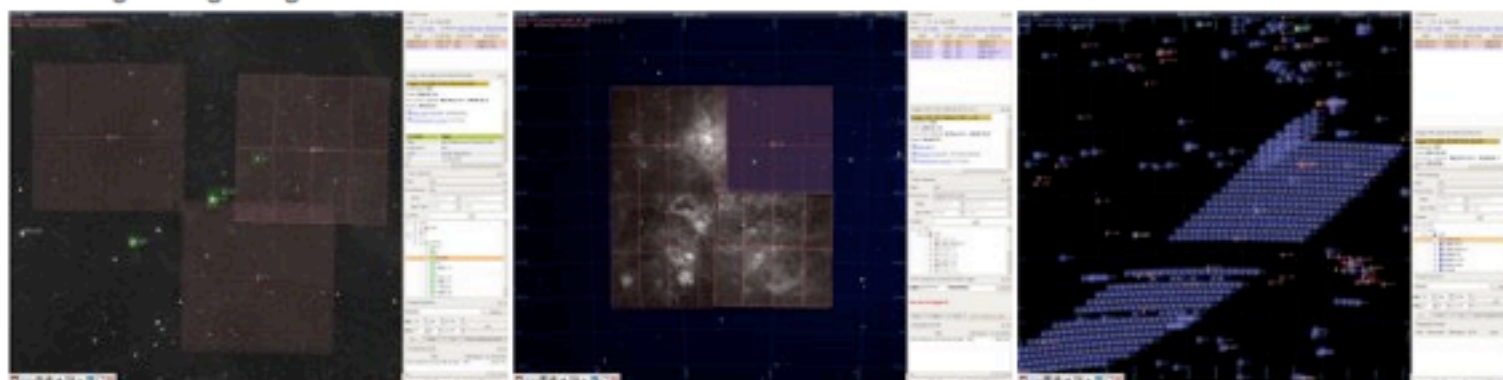
### Screenshots

These screenshots illustrate some of the main features of VirGO such as footprints, DSS background, images previews or



## Screenshots

These screenshots illustrate some of the main features of VirGO such as footprints, DSS background, images previews or browsing through large number of data sets.



## Download

VirGO-1.3.1 (February 20th 2008) is distributed as a binary compiled for linux-i386, MacOSX and windows. The package contains a binary version of Stellarium 0.9.1, the VirGO plug-in for ESO archive access and some extra star catalogs and landscapes.

It is possible to add some extra star catalogs to allow seeing more than the default 2.3 million stars (up to 210 millions) by [downloading the files star5-8](#) and saving them in the VirGO-1.3.1-xxxx/stars/default/ directory, then restarting the program.



for Linux i386  
32bits

[VirGO-1.3.1-linux32.tgz](#)

(66mb)

md5sum =

99e72292b283e1a94b50cb116a63009d



for MacOSX  
powerpc

[VirGO-1.3.1-macosx-powerpc.tgz](#)

(102mb)

md5sum =

57baccfb987424374b66c5f2852a6a8c



for MacOSX Intel

[VirGO-1.3.1-macosx-intel.tgz](#)

(106mb)

md5sum = 489ff6f49a0edc760ee954bfafdd9d1a

## Installation

- If a previous installation of Stellarium exists, one may need to delete the `$HOME/.stellarium` directory to restore the default configuration.
- On Linux and MacOSX: download the package matching the architecture, uncompress it and run `./VirGO.sh` in a console from the new directory. For example, on Linux issue the following commands on a terminal:

```
tar -xzf VirGO-1.3.1-linux32.tgz
cd VirGO-1.3.1-linux32
./VirGO.sh
```
- On Windows: download the zip file, uncompress it and double click on `stellarium.exe`
- Optional: edit the `VirGO-1.3.1-xxx/modules/VirGO/DataResources.ini` file to specify custom SIA/SSA services incl. settings such as the default query size.

## Requirements

- A 32 bit linux machine (i86 architectures only) or MacOSX or Windows 32 bits.
- Hardware OpenGL acceleration. On Linux one can verify proper hardware acceleration using the `glxinfo` command. Installation of recent graphic drivers resolves performance problems.
- Data requests through the data basket require an ESO [user portal account](#).

## Quick Start Guide

First time users should take a few minutes to go through the getting started section. Click on the respective screenshot when getting stuck.

a) Browsing Observations ([screenshot](#))

Visual browsing of archive content through *VirGO* is mostly based on auto-generated positional queries. To trigger a query

1. choose the *Target Selection* tab
2. specify *Simbad* resolvable name or coordinates and press *Go!*