

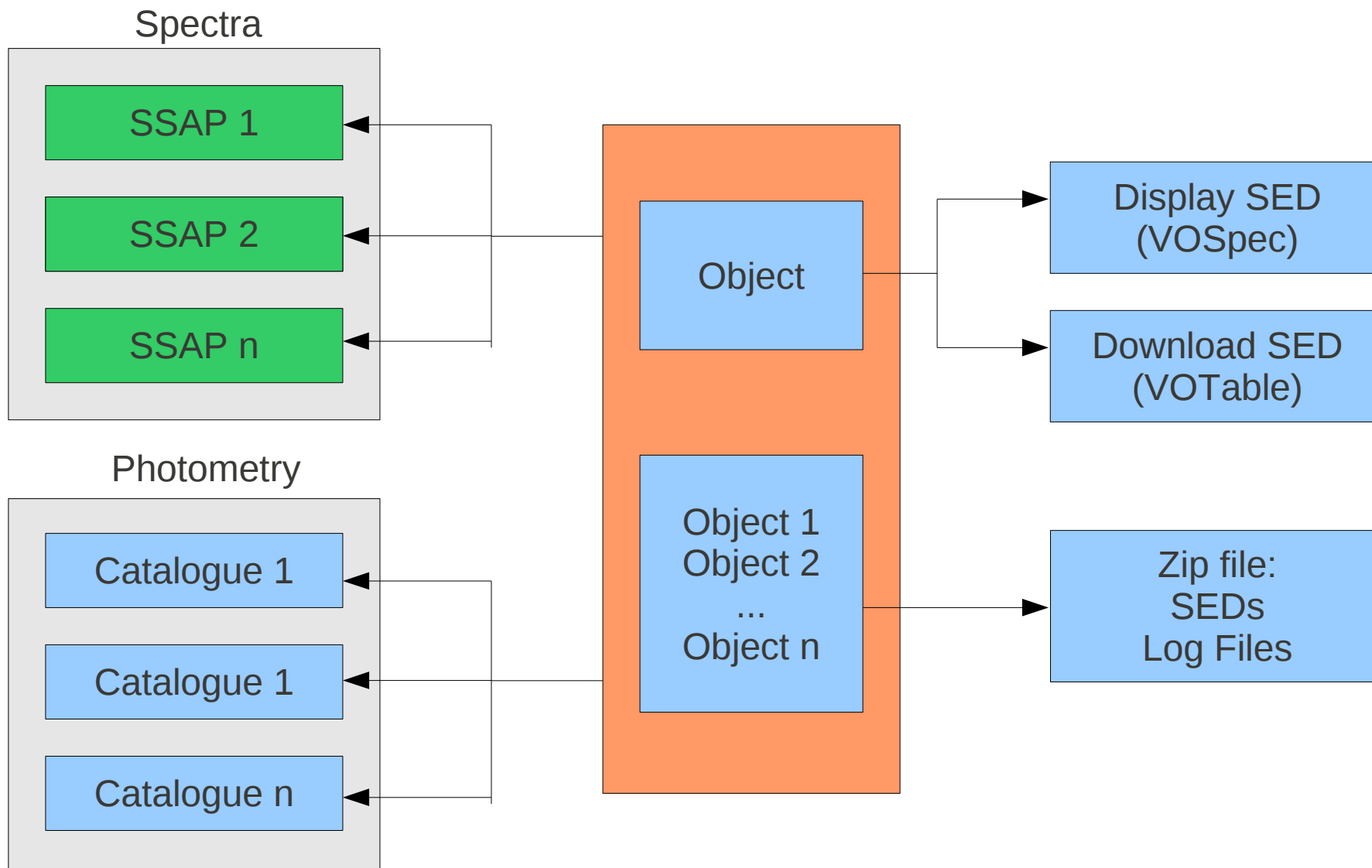
VOSED: a VO tool to build and analyze SEDs

New features

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IVOA Interoperability Meeting.
Naples, 16-20 May 2011

VOSED



Workflow



VOSED

SED Building Tool

Funded by

SED Building Tool: Search Form

Object: [Reset](#)

Examples: HD 142666, V* V1026 Sco, 18:27:45.79 +34:36:18.77

Redshift:

Data Services:

[Spectroscopic Data](#)

Search radius: (arcsec)

Wavelength range: - (Angstrom)

Resolution range: - (Angstrom)

Resolving power range: -

SNR range: -

Mark all

<input checked="" type="checkbox"/>	6dF DR3 Simple Spectra Access
<input checked="" type="checkbox"/>	AXIS-XMS Optical Spectra
<input checked="" type="checkbox"/>	Be Star Spectra SSAP
<input checked="" type="checkbox"/>	Be Stars Spectra database
<input checked="" type="checkbox"/>	CENCOS-VVDS_DEEP SSA (VVDS Deep survey)
<input type="checkbox"/>	ELODIE archive (Service not working)
<input checked="" type="checkbox"/>	ESO Spectrum Service

[Photometric Data](#)

Mark all

	Radius (arcsec)	Filter criteria
<input checked="" type="checkbox"/> 2XMMi	5	<input style="width: 100%;" type="text"/>
<input checked="" type="checkbox"/> Stromgren	5	<input style="width: 100%;" type="text"/>
<input checked="" type="checkbox"/> 2MASS (PSC)	5	<input style="width: 100%;" type="text" value="Qflg=AAA"/>
<input checked="" type="checkbox"/> SDSS (DR7)	5	<input style="width: 100%;" type="text" value="cl=3"/>
<input checked="" type="checkbox"/> Tycho2	5	<input style="width: 100%;" type="text"/>
<input checked="" type="checkbox"/> IRAS PSC	300	<input style="width: 100%;" type="text" value="q_Fnu_12>1;q_Fnu_25>1;q_Fnu_60>1;q_Fnu_100>1"/>
<input checked="" type="checkbox"/> IRAS FSC	300	<input style="width: 100%;" type="text" value="q_Fnu12>1;q_Fnu25>1;q_Fnu60>1;q_Fnu100>1"/>
<input checked="" type="checkbox"/> FIRST	5	<input style="width: 100%;" type="text"/>
<input checked="" type="checkbox"/> WENSS	5	<input style="width: 100%;" type="text" value="flg1=S"/>
<input checked="" type="checkbox"/> GLIMPSE	5	<input style="width: 100%;" type="text"/>
<input checked="" type="checkbox"/> MSX: Complete catalogue in the GP	5	<input style="width: 100%;" type="text" value="q_B1>1;q_B2>1;q_A>1;q_C<1;q_D>1;q_E>1"/>
<input checked="" type="checkbox"/> MSX: High latitude	5	<input style="width: 100%;" type="text" value="q_B1>1;q_B2>1;q_A>1;q_C<1;q_D>1;q_E>1"/>
<input checked="" type="checkbox"/> MSX: Singleton sources	5	<input style="width: 100%;" type="text" value="q_B1>1;q_B2>1;q_A>1;q_C<1;q_D>1;q_E>1"/>
<input checked="" type="checkbox"/> Akari/IRC	5	<input style="width: 100%;" type="text" value="q_S09>2;q_S18>2;X09=0;X18=0"/>
<input checked="" type="checkbox"/> Akari/FIS	10	<input style="width: 100%;" type="text" value="q_S65>2;q_S90>2;q_S140>2;q_S160>2"/>

Workflow



LAEFF VOSED - Search Results - Mozilla Firefox

http://sdc.cab.inta-csic.es/vosed/Pasarela

Más visitados Getting Started Latest Headlines Overview (Java Pla... Overview (Java(TM)... Pattern (Java Platfo... SVO LAEFF VOSED - Ho

SVO LAEFF VOSED - Search Results

SSAP query: <http://archives.esac.esa.int/ida/aio/jsp/siap.jsp?imageType=spectrum&POS=239.16676292,-22.02778139&>

Mark						
<input checked="" type="checkbox"/>	44901283	File	ISO SWS01 Spectrum Target: HD142666	1997-02-07 19:12:46.491	1997-02-07 21:01:44.491	239.16699
<input checked="" type="checkbox"/>	45400311	File	ISO LWS01 Spectrum Target: HD 142666	1997-02-12 10:10:13.491	1997-02-12 10:46:59.491	239.167005
<input type="checkbox"/>	10402952	File	ISO SWS01 Spectrum Target: HD142666	1996-02-29 18:23:12.491	1996-02-29 19:20:54.491	239.16705000000002
<input type="checkbox"/>	10402846	File	ISO PHT22 Spectrum Target: HD142666	1996-02-29 17:45:50.491	1996-02-29 17:58:24.491	239.16717
<input type="checkbox"/>	10402847	File	ISO PHT40 Spectrum Target: HD142666	1996-02-29 17:59:06.491	1996-02-29 18:01:26.491	239.16717

2MASS (PSC) ^

Mark	distance (arcmin)	_RAJ2000	_DEJ2000	_r	Jmag	e_Jmag	Qflg	Hmag	e_Hmag	Kmag	e_Km
<input checked="" type="checkbox"/>	0.00039	239.166756	-22.027782	0.000006	7.351	0.026	AAA	6.739	0.027	6.077	0.01

Tycho2 ^

Mark	distance (arcmin)	_RAJ2000	_DEJ2000	_r	BTmag	e_BTmag	VTmag	e_VTmag	TYC1	TYC2
<input checked="" type="checkbox"/>	0.00041	239.166756	-22.027779	0.000059	9.480	0.020	8.884	0.016	6199	618

IRAS PSC ^

Mark	distance (arcmin)	_RAJ2000	_DEJ2000	_r	Fnu_12	e_Fnu_12	q_Fnu_12	Fnu_25	e_Fnu_25	q_Fr
<input checked="" type="checkbox"/>	0.07108	239.1655	-22.0276	0.00120	8.57e+00	4	3	1.12e+01	6	

IRAS FSC ^

Mark	distance (arcmin)	_RAJ2000	_DEJ2000	_r	Fnu12	e_Fnu12	q_Fnu12	Fnu25	e_Fnu25	q_Fnu25
<input checked="" type="checkbox"/>	0.01143	239.1667	-22.0276	0.00022	8.67e+00	4	3	1.15e+01	5	3

Display SED Retrieve Marked Data

Version 1.7 - November 2010 © LAEFF-INTA Home

Workflow



The data may be:

1. Downloaded
2. Open with VOSpec

The screenshot shows the VOSpec software interface overlaid on a web browser displaying search results for 'hd 141266'. The browser window title is 'LAEFF VOSED - Search Results - Mozilla Firefox'. The URL is 'http://sdc.laeff.inta.es/vosed/Pasarela'. The search results table shows the following data:

Resolved Object	
Search Name	hd 141266
SIMBAD Name	hd 141266
Type	
RA	237.49062
DEC	-3.92166

Below the table, there is a 'Products found' section with a list of data products including 'INES: The IUE Newly Extracted', 'Infrared Space Observatory', 'ESO Science Archive Spectra', 'Far Ultraviolet Spectroscopic', 'Stromgren photometry', '2MASS (PSC) photometry', 'Tycho2 photometry', and 'IRAS PSC photometry'. The VOSpec software window has a menu bar (File, Edit, View, Operations, Plastic, SAMP, Help) and a toolbar. The main window displays a 'VOSpec Spectral Analysis Tool' with a plot of Flux (Jy, logarithmic) vs. Wavelength (micron, logarithmic). The plot shows a spectrum with several absorption lines. The Y-axis ranges from 1e-04 to 1e+02, and the X-axis ranges from 5.0 to 1e+02. Below the plot, there is a list of data products with checkboxes: 'ISO SW501 Spectrum Target: HD142666', 'ISO LWS01 Spectrum Target: HD 142666', '2MASS (PSC)', 'Tycho2', and 'IRAS PSC'. At the bottom of the VOSpec window, there are buttons for 'I finished', 'RETRIEVE', 'Unmark All', and 'Reset'. A red circle highlights the 'Display SED' and 'Retrieve Marked Data' buttons at the bottom of the browser window.

SAC recommendations



In February 2011 the EURO-VO Science Advisory Committee suggested some improvements of VOSED:

- Extend queries to infrared photometric catalogs.
- Adapted search radii.
- Allow queries by quality flags.
- Allow restriction of wavelength range.
- Link to image server for validation.

New photometric catalogs




Photometric Data

Mark all

	Radius	Filter criteria
<input checked="" type="checkbox"/> 2XMMi	5	
<input checked="" type="checkbox"/> Stromgren	5	
<input checked="" type="checkbox"/> 2MASS (PSC)	5	Qflg=AAA
<input checked="" type="checkbox"/> SDSS (DR7)	5	cl=3
<input checked="" type="checkbox"/> Tycho2	5	
<input checked="" type="checkbox"/> IRAS PSC	300	q_Fnu_12>1;q_Fnu_25>1;q_Fnu_60>1;q_Fnu_100>1
<input checked="" type="checkbox"/> IRAS FSC	300	q_Fnu12>1;q_Fnu25>1;q_Fnu60>1;q_Fnu100>1
<input checked="" type="checkbox"/> FIRST	5	
<input checked="" type="checkbox"/> WENSS	5	flg1=S
<input checked="" type="checkbox"/> GLIMPSE	5	
<input checked="" type="checkbox"/> MSX: Complete catalogue in the SP	5	q_B1>1;q_B2>1;q_A>1;q_C<1;q_D>1;q_E>1
<input checked="" type="checkbox"/> MSX: High latitude	5	q_B1>1;q_B2>1;q_A>1;q_C<1;q_D>1;q_E>1
<input checked="" type="checkbox"/> MSX: Singleton sources	5	q_B1>1;q_B2>1;q_A>1;q_C<1;q_D>1;q_E>1
<input checked="" type="checkbox"/> Akari/IRC	5	q_S09>2;q_S18>2;X09=0;X18=0
<input checked="" type="checkbox"/> Akari/FIS	10	q_S65>2;q_S90>2;q_S140>2;q_S160>2

Adapted search radii





SED

Object:

Examples: HD 142666, V* V1026 Sco, 18:27

Redshift:

Data Services:

[Spectroscopic Data](#)

Search radius:

Wavelength range:

Resolution range:

Resolving power range:

SNR range:

Mark all

- 6dF DR3 Simple Spectra Access
- AXIS-XMS Optical Spectra
- Be Star Spectra SSAP
- Be Stars Spectra database
- CENCOS-VVDS_DEEP SSA (VVDS)
- ELODIE archive (Service not wor
- ESO Spectrum Service

Photometric Data

Mark all

	Radius (arcsec)	Filter criteria
<input checked="" type="checkbox"/> 2XMMi	5	
<input checked="" type="checkbox"/> Stromgren	5	
<input checked="" type="checkbox"/> 2MASS (PSC)	5	Qflg=AAA
<input checked="" type="checkbox"/> SDSS (DR7)	5	cl=3
<input checked="" type="checkbox"/> Tycho2	5	
<input checked="" type="checkbox"/> IRAS PSC	300	q_Fnu_12>1;q_Fnu_25>1;q_Fnu_60>1;q_Fnu_100>1
<input checked="" type="checkbox"/> IRAS FSC	300	q_Fnu12>1;q_Fnu25>1;q_Fnu60>1;q_Fnu100>1
<input checked="" type="checkbox"/> FIRST	5	
<input checked="" type="checkbox"/> WENSS	5	flg1=S
<input checked="" type="checkbox"/> GLIMPSE	5	
<input checked="" type="checkbox"/> MSX: Complete catalogue in the GP	5	q_B1>1;q_B2>1;q_A>1;q_C<1;q_D>1;q_E>1
<input checked="" type="checkbox"/> MSX: High latitude	5	q_B1>1;q_B2>1;q_A>1;q_C<1;q_D>1;q_E>1
<input checked="" type="checkbox"/> MSX: Singleton sources	5	q_B1>1;q_B2>1;q_A>1;q_C<1;q_D>1;q_E>1
<input checked="" type="checkbox"/> Akari/IRC	5	q_S09>2;q_S18>2;X09=0;X18=0
<input checked="" type="checkbox"/> Akari/FIS	10	q_S65>2;q_S90>2;q_S140>2;q_S160>2

User defined quality flags



Photometric Data

Mark all

- 2XMMi
- Tycho2
- Stromgren
- SDSS (DR7)
- 2MASS (PSC)
- GLIMPSE
- Akari/IRC
- Akari/FIS
- MSX: Complete catalogue in the GP
- MSX: High latitude
- MSX: Singleton sources
- IRAS PSC
- IRAS FSC
- WENSS
- FIRST

Radius
(arcsec)

- 5
- 5
- 5
- 5
- 5
- 5
- 5
- 10
- 5
- 5
- 5
- 300
- 300
- 5
- 5

Filter criteria

-
-
-
- cl=6
- Qflg=AAA
-
- q_S09>2;q_S18>2;X09=0;X18=0
- q_S65>2;q_S90>2;q_S140>2;q_S160>2
- q_B1>1;q_B2>1;q_A>1;q_C>1;q_D>1;q_E>1
- q_B1>1;q_B2>1;q_A>1;q_C>1;q_D>1;q_E>1
- q_B1>1;q_B2>1;q_A>1;q_C>1;q_D>1;q_E>1
- q_Fnu_12>1;q_Fnu_25>1;q_Fnu_60>1;q_Fnu_100>1
- q_Fnu12>1;q_Fnu25>1;q_Fnu60>1;q_Fnu100>1
- flg1=S
-

Filtering by wavelength... and more



Searches by range of:

- Wavelength
- Resolution
- Resolving power
- SNR

Data Services:

Spectroscopic Data

Search radius: (arcsec)

Wavelength range: - (Angstrom)

Resolution range: - (Angstrom)

Resolving power range: -

SNR range: -

Mark all

<input checked="" type="checkbox"/>	6dF DR3 Simple Spectra Access
<input checked="" type="checkbox"/>	AXIS-XMS Optical Spectra
<input checked="" type="checkbox"/>	Be Star Spectra SSAP

Filtering by wavelength... and more



Object: [Reset](#)

Examples: HD 142666, V* V1026 Sco, 18:27:45.79 +34:36:18.77

Redshift:

Data Services:
[Spectroscopic Data](#)

Search radius: (arcsec)

Wavelength range: - (Angstrom)

Resolution range: - (Angstrom)

Resolving power range: -

SNR range: -

Products found matching your criteria

POS = 279.234735 , 38.783692 SIZE = 0.001389

[INES: The IUE Newly Extracted Spectra](#) **150**

Data Services:
[Spectroscopic Data](#)

Search radius: (arcsec)

Wavelength range: - (Angstrom)

Resolution range: - (Angstrom)

Resolving power range: -

SNR range: -

Products found matching your criteria

POS = 279.234735 , 38.783692 SIZE = 0.001389

[INES: The IUE Newly Extracted Spectra](#) **72**

Photometry representation



VOSED
SED Building Tool

SED Building Tool: Resolved Object

Resolved Object			
Search Name	hd 142666	HD 142666	BD-2
SIMBAD Name	hd 142666	IRAS 15537-2153	IRAS
Type	TT*	2MASS J15564002-2201400	NSV
RA	239.16676	SAO 183956	SV*
DEC	-22.02778	YZ 111 6584	AAVS

Products found matching your criteria	
POS = 239.166763 , -22.027781	SIZE = 0.001389
2XMMi photometry	
Tycho2 photometry	1
Stromgren photometry	
SDSS (DR7) photometry	
2MASS (PSC) photometry	1
GLIMPSE photometry	
Akari/IRC photometry	1
Akari/FIS photometry	
MSX: Complete catalogue in the GP photometry	
MSX: High latitude photometry	
MSX: Singleton sources photometry	
IRAS PSC photometry	1
IRAS FSC photometry	1
WENSS photometry	
FIRST photometry	

Mark all

Display SED Retrieve Marked Data **Display Photometry**

Aladin v7.0

File Edit Image Catalog Overlay Tool View Interop Help

Location Clear Frame ICRS

★Allsky opt ★Allsky IR ★DSS ★Simbad ★NED ★PPMX ★2MASS

2massJ

14.88' x 10.83'

8.533' x 17.07'

Search

(c) 2010 UDS/CNRS - by CDS - Distributed under GNU GPLv3

0 sel / 5 src 21Mb

Data server validation



Table Browser for 1: SEDGenerationLog_dataFound_votable.vot

	Object	Data Found	Serv. name	Error	Query URL
22	hd 25204	Service error	Espadons/Narval legacy database (Castor)	Error parsing VOTable.	http://magics.bagn.obs-mip.fr/cgi-bin/get_resources?...
23	hd 25204	Service error	GIRAFFE archive of reduced spectra	UNKNOWN ERROR	UNKNOWN
24	hd 25204	Service error	High Energy Stereoscopic System	SQLSTATE[08006] [7] FATAL: no pg_hba.conf ent...	http://voparis-srv.obspm.fr/srv/ssa-hess_spectrum.p...
25	hd 25204	22 OK, 0 failed	INES: The IUE Newly Extracted Spectra		http://sdc.cab.inta-csic.es/ines/jsp/ssap.jsp?POS=60...
1	hd 142666	0 OK, 1 failed	ESO Spectrum Service	Not supported units for Flux: arbitrary	http://archive.eso.org/apps/ssaserver/EsoProxySsap?...
2	hd 142666	1 OK, 0 failed	Far Ultraviolet Spectroscopic Explorer		http://archive.stsci.edu/ssap/search2.php?id=FUSE&P...
3	hd 142666	0 OK, 1 failed	Far Ultraviolet Spectroscopic Explorer (Simple Spe...	Warning: Spectral and Flux axes not identified by ...	http://vo.obspm.fr/cgi-bin/siap/ssapFUSE.pl?POS=23...
4	hd 142666	Service error	GIRAFFE archive of reduced spectra	UNKNOWN ERROR	UNKNOWN
5	hd 142666	Service error	High Energy Stereoscopic System	SQLSTATE[08006] [7] FATAL: no pg_hba.conf ent...	http://voparis-srv.obspm.fr/srv/ssa-hess_spectrum.p...
6	hd 142666	9 OK, 0 failed	INES: The IUE Newly Extracted Spectra		http://sdc.cab.inta-csic.es/ines/jsp/ssap.jsp?POS=23...
7	hd 142666	5 OK, 0 failed	International Ultraviolet Explorer		http://archive.stsci.edu/ssap/search2.php?id=IUE&PO...
8	hd 142666	Service error	SSA Service for Optical Spectroscopy in the CDF-5	Invalid RA value: RA = 239.16676292.	http://www.g-vo.org/ssampe_102/SSA?archiveid=CDF...
9	hd 142666	Service error	SSA Service for zCOSMOS Bright Spectroscopic Ob...	Invalid RA value: RA = 239.16676292.	http://www.g-vo.org/ssampe_102/SSA?archiveid=ZCO...
10	hd 142666	5 OK, 0 failed	The ISO Data Archive InterOperability System		http://archives.esac.esa.int/ida/aio/jsp/siap.jsp?imag...
11	hd 141569	0 OK, 1 failed	ESO Spectrum Service	Warning: Spectral and Flux axes not identified by ...	http://archive.eso.org/apps/ssaserver/EsoProxySsap?...
12	hd 141569	1 OK, 0 failed	Far Ultraviolet Spectroscopic Explorer		http://archive.stsci.edu/ssap/search2.php?id=FUSE&P...
13	hd 141569	0 OK, 1 failed	Far Ultraviolet Spectroscopic Explorer (Simple Spe...	Warning: Spectral and Flux axes not identified by ...	http://vo.obspm.fr/cgi-bin/siap/ssapFUSE.pl?POS=23...
14	hd 141569	Service error	GIRAFFE archive of reduced spectra	UNKNOWN ERROR	UNKNOWN
15	hd 141569	Service error	High Energy Stereoscopic System	SQLSTATE[08006] [7] FATAL: no pg_hba.conf ent...	http://voparis-srv.obspm.fr/srv/ssa-hess_spectrum.p...
16	hd 141569	9 OK, 0 failed	INES: The IUE Newly Extracted Spectra		http://sdc.cab.inta-csic.es/ines/jsp/ssap.jsp?POS=23...
17	hd 141569	3 OK, 0 failed	International Ultraviolet Explorer		http://archive.stsci.edu/ssap/search2.php?id=IUE&PO...
18	hd 141569	Service error	SSA Service for Optical Spectroscopy in the CDF-5	Invalid RA value: RA = 237.49062042.	http://www.g-vo.org/ssampe_102/SSA?archiveid=CDF...
19	hd 141569	Service error	SSA Service for zCOSMOS Bright Spectroscopic Ob...	Invalid RA value: RA = 237.49062042.	http://www.g-vo.org/ssampe_102/SSA?archiveid=ZCO...
20	hd 141569	0 OK, 1 failed	ST-ECF Hubble Space Telescope Spectra	No units found for Wavelength.	http://www.stecf.org/hst-vo/hst_ssa?POS=237.49062...
21	hd 141569	3 OK, 0 failed	The ISO Data Archive InterOperability System		http://archives.esac.esa.int/ida/aio/jsp/siap.jsp?imag...

- Data services issues:

- Services down
- Services not complying standards.

Data server validation



On Data Providers: Key Information (S/N, resolution, aperture) available in Native Data but missing in the VOTable

*Telescopio Bernard Lyot
Narval archive*

Query Query results Plotting Quicklook Statistics VO Tools User's guide

14cet_narval_14sep08_int_Normal_I_001_NotNormalized_tbl.fits

able by <shift>+click or /and <ctrl>+click.

	SNR(max)	SNR(550nm)	Hour Angle	Air Mass
20.195	373	348	-1.7300	1.54700
20.195	354	331	-1.5470	1.51200
20.195	360	336	-1.3630	1.48200
20.195	419	395	-1.1800	1.45600
20.195	749	702	-1.4550	1.49900
20.195	753	717	-1.4550	1.49900

```
- <TD>
  14cet_narval_14sep08_int_Normal_I_001_NotNormalized_tbl.fits
</TD>
<TD>214150</TD>
<TD>8.8868,-0.5056</TD>
<TD>FLUX</TD>
<TD>AWAV</TD>
<TD>nm</TD>
<TD>dimensionless</TD>
<TD>1E-9 L</TD>
<TD>1</TD>
<TD>spectrum/fits</TD>
- <TD>
```

Data server validation



42 SSAP Services analyzed and some issues found:

- Not working services
- Services not fully SSAP compliant
- Interesting information (wavelength, resolution, SNR) available but not provided.

Servers contacted: 17

No contact available: 2

Responses: 15

Services updated: 5

Thanks

<http://sdc.cab.inta-csic.es/vosed>