DataLink

Feedback from an implementation for stellar libraries.

Carlos Rodrigo Blanco[1,2]
Enrique Solano[1,2]

[1]CAB,INTA-CSIC
[2]Spanish Virtual Observatory

Asterics Tech Forum 4
Edinburgh, April 2018

Stellar libraries

- Collections of spectra
  - object properties, classification.
  - spectrum.
  - additional files.
    - observation data.
    - spectra in different formats/resolutions.
    - auxiliary spectra.
    - model fit results, analysis...
- Usually served as web pages.
  - Designed to offer everything together, linking different files.
- How to do a similar thing in the VO?
  - CS, SSAP + Datalink?

International Workshop on Spectral Stellar Libraries

	Monday	Tuesday	Wednesday	Thursday	Friday
09:00-09:30	Opening	**Paula Jofre**	**Eswar Reddy**	**David Montes**	**Claus Leitherer**
09:30-10:00	**Cristina Chiappini**			**Anke Arentsen**	**Gustavo Bruzual**
10:00-10:30		Coffee-break and posters			
10:30-11:00	Coffee-break				
11:00-11:30		**Nicolas Lodieu**	**Bruno Dias**	**Renbin Yan**	**Natacha Zanon**
11:30-12:00	**Anais Gonneau**	**Riano E. Giribaldi**	Round-table "What does the VO do for us?", chair P. Prugniel	**Yue WU**	**Luis Gabriel Dahmer Hahn**
12:00-12:30	**Clare Worley**	**Rodolfo Smiljanic**		**Ranjan Gupta**	Closing
12:30-14:30	Lunch				
14:30-15:00	**Reynier Peletier**	**Petr Skoda**	Free-afternoon	**Alberto Krone-Martins**	Bus leaving Orotour to GRU
15:00-15:30					
15:30-16:00	**Alexa Villaume**	**Philippe Prugniel**		**Adam Burgasser** (**Jupyter notebook** and **github link**)	
16:00-16:30	**Andre Milone**	**Carlos Rodrigo**		**Elizabeth Griffin**	
16:30-17:00	Coffee-break			Coffee-break	

Commission G5 WG Stellar Spectral Libraries

Description

Libraries of stellar spectra (SSL) are at the crossroad of different fields of astrophysics. In particular, they serve as reference for the analysis of large spectroscopic surveys, and they are fundamental ingredients of the models of stellar populations used to study galaxies. These libraries may either consist of observed or theoretical spectra, and they vary by their spectral coverage/domain and resolution.

The goals of the WG are to identify the scientific and technical issues linked with SSL, in particular:
- The coverage in wavelength and parameter space of the current and scheduled libraries
- The dissemination of the libraries and their accurate description
- The characterization of the stars

A particular concern is that despite continuous progress on all aspects of SSL, considerable disagreements on the atmospheric parameters and chemical abundances of stars, and on the ages, metallicities of masses of galaxies, persist for decades. Whereas the internal precision these parameters is of the order of 0.02 or 0.03 dex, the actual accuracy is not better than 0.2 dex.

A number of projects faced these issues whose origins are complex, like for example the GAIA Benchmark Stars, a small library of primary calibrators, and the GAIA-ESO Survey. Even for the best studied stars, different approaches do not agree. These uncertainties on the stellar parameters further propagates to the stellar population models, adding up with our limited knowledge of the stellar evolution, contribution of binary stars, and other interpolation of tricky mathematical questions.

The WG will carry-on an inventory of the different attempts made to explain the discrepancies, and will summarize recommendations for actions that would improve the situation.

A report will be prepared before the next IAU GA in 2018.

Search www.iau.org

Search Scientific Bodies

Search...

Search

Follow the IAU on social media

IAU General Assembly 2018

IWSSL feedback

- Standardization is important.
  - VO: same formats, access protocols...
- One single service for “everything together”.
  - Not implementing different services for the catalogue, the spectra, the related images...
- Improvements in protocols and applications for spectra.
- Work in progress: meeting in Beijing next week.

Stellar libraries: SVOCat

Stellar Spectral Libraries

CaT. Empirical Calibration of the Near-IR Ca II Triplet

The project is dedicated to the empirical calibration of the Ca II triplet and stellar population synthesis modelling. For this purpose, we make use of a new stellar library of 706 stars in the near-IR spectral range (from 8348 Å to 9020 Å with a FWHM of 1.5 Å) which spans a wide range of updated atmospheric parameters.

(More info)

L and T dwarfs (Chiu et al. 2006)

L and T dwarf data archive from Chiu et al. 2006, Golimowski et al. 2004 and Knapp et al. 2004.

(More info)

STELIB.

The objective of the STELIB Stellar Library is to build an homogeneous library of stellar spectra in the visible range (3200 to 9500A), including stars of all spectral types, luminosity classes and metallicity that can be observed from the ground with the current instrumentation.

(More info)

X-Shooter Spectral Library

The X-Shooter Spectral Library is a collection of 3000–25000 Å all stellar spectra observed at a resolving power of R = λ/Δλ ~ 10 000 with the medium-resolution spectrograph X-Shooter at the Very Large Telescope (VLT).

(More info)

FGKM stellar Library, Yee et al. 2017

Precision Stellar Characterization of FGKM Stars using an Empirical Spectral Library.

(More info)

MILES stellar library

The MILES stellar library consist of ~1000 stars spanning a large range in atmospheric parameters. The spectra were obtained at the 2.5m INT telescope and cover the range 3525-7500Å at 2.50Å (FWHM) spectral resolution.

(More info)

The NIRSPEC Brown Dwarf Spectroscopic Survey. Low-Resolution Data.

The Brown Dwarf Spectroscopic Survey (BDSS) is designed to study near-infrared moderate-to-high resolution spectra for a large sample of low-mass stars and sub-stellar mass objects in the M and newly defined L and T dwarf classes.

(More info)

Gaia FGK Benchmark Stars

The Gaia FGK Benchmark Stars are a common set of calibration stars, covering different regions of the HR diagram and spanning a wide range in metallicity. It is a homogeneous library in the visual range (480-680 nm) of high resolution and signal to noise ratio (S/N) spectra corresponding to the 34 Benchmark Stars and 5 metal-poor candidates.

(More info)

SpeX Prism Library

This site is build as a basis to provide Virtual Observatory access to the published spectra in the SpeX Prism Library.

(More info)

UVES/VLT M subdwarfs

This library presents UVES/VLT high resolution spectra of three late-K subdwarfs and 18 M subdwarfs. Our atlas covers the optical region from 6400A up to the near infrared at 8900A. We show spectral details of cool atmospheres at very high resolution (R~40000).

(More info)

If you use this service in your research, please include the following acknowledgement in any resulting publications:

"Based on data from the Spectral Stellar Libraries services developed by the Spanish Virtual Observatory in the framework of the IAU Comission G5 Working Group : Spectral Stellar Libraries".

Stellar libraries: SVOCat

The Gaia FGK Benchmark Stars

Library of high resolution and high signal to noise ratio stellar spectra.

Home | Data retrieval | News | Documentation | Coverage Map | Credits | Help-desk

RA (?) | DEC (?) | Radius (?) | Search | Reset

180 | | | | | | 180 | | | all results | default verb. | (Maximum Search Radius allowed: 180 degrees)

Don't use coordinates as search criterion

[-] Hide additional search fields

Group (?) ---

T_{eff} (?) -

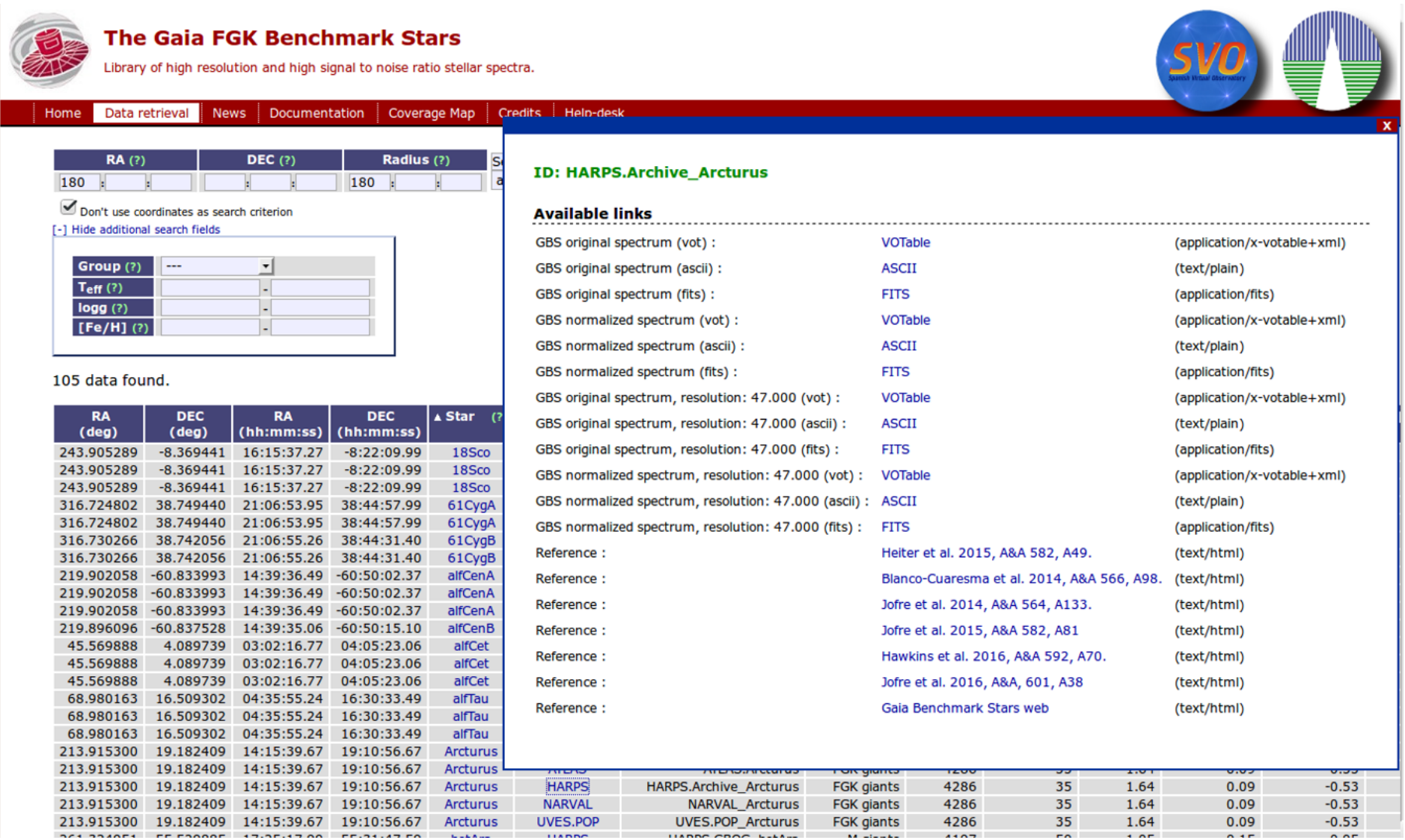
logg (?) -

[Fe/H] (?) -

105 data found.

RA (deg)	DEC (deg)	RA (hh:mm:ss)	DEC (hh:mm:ss)	▲ Star (?)	Spectra (?)	ID (?)	Group (?)	T_{eff} (?) (K)	e_T_{eff} (?) (K)	logg (?)	e_logg (?)	[Fe/H] (?)	e_
243.905289	-8.369441	16:15:37.27	-8:22:09.99	18Sco	ESPaDOnS	ESPaDOnS_18Sco-1	G dwarfs	5810	80	4.44	0.03	0.01	
243.905289	-8.369441	16:15:37.27	-8:22:09.99	18Sco	HARPS	HARPS.Archive_18Sco	G dwarfs	5810	80	4.44	0.03	0.01	
243.905289	-8.369441	16:15:37.27	-8:22:09.99	18Sco	NARVAL	NARVAL_18Sco	G dwarfs	5810	80	4.44	0.03	0.01	
316.724802	38.749440	21:06:53.95	38:44:57.99	61CygA	ESPaDOnS	ESPaDOnS_61CygA-1	K dwarfs	4374	22	4.63	0.04	-0.33	
316.724802	38.749440	21:06:53.95	38:44:57.99	61CygA	NARVAL	NARVAL_61CygA	K dwarfs	4374	22	4.63	0.04	-0.33	
316.730266	38.742056	21:06:55.26	38:44:31.40	61CygB	NARVAL	NARVAL_61CygB	K dwarfs	4044	32	4.67	0.04	-0.38	
316.730266	38.742056	21:06:55.26	38:44:31.40	61CygB	ESPaDOnS	ESPaDOnS_61CygB-1	K dwarfs	4044	32	4.67	0.04	-0.38	
219.902058	-60.833993	14:39:36.49	-60:50:02.37	alfCenA	UVES	UVES_alfCenA-1	G dwarfs	5792	16	4.31	0.01	0.24	
219.902058	-60.833993	14:39:36.49	-60:50:02.37	alfCenA	HARPS	HARPS.Archive_alfCenA	G dwarfs	5792	16	4.31	0.01	0.24	
219.902058	-60.833993	14:39:36.49	-60:50:02.37	alfCenA	HARPS	HARPS.Archive_alfCenA-w	G dwarfs	5792	16	4.31	0.01	0.24	
219.896096	-60.837528	14:39:35.06	-60:50:15.10	alfCenB	HARPS	HARPS.Archive_alfCenB-w	G dwarfs	5231	20	4.53	0.03	0.22	
45.569888	4.089739	03:02:16.77	04:05:23.06	alfCet	UVES	UVES_alfCet-1	M giants	3796	65	0.68	0.23	-0.45	
45.569888	4.089739	03:02:16.77	04:05:23.06	alfCet	NARVAL	NARVAL_alfCet	M giants	3796	65	0.68	0.23	-0.45	
45.569888	4.089739	03:02:16.77	04:05:23.06	alfCet	HARPS	HARPS.GBOG_alfCet	M giants	3796	65	0.68	0.23	-0.45	
68.980163	16.509302	04:35:55.24	16:30:33.49	alfTau	UVES	UVES_alfTau	M giants	3927	40	1.11	0.19	-0.37	
68.980163	16.509302	04:35:55.24	16:30:33.49	alfTau	NARVAL	NARVAL_alfTau	M giants	3927	40	1.11	0.19	-0.37	
68.980163	16.509302	04:35:55.24	16:30:33.49	alfTau	HARPS	HARPS.GBOG_alfTau	M giants	3927	40	1.11	0.19	-0.37	
213.915300	19.182409	14:15:39.67	19:10:56.67	Arcturus	UVES	UVES_Arcturus-1	FGK giants	4286	35	1.64	0.09	-0.53	
213.915300	19.182409	14:15:39.67	19:10:56.67	Arcturus	ATLAS	ATLAS.Arcturus	FGK giants	4286	35	1.64	0.09	-0.53	
213.915300	19.182409	14:15:39.67	19:10:56.67	Arcturus	HARPS	HARPS.Archive_Arcturus	FGK giants	4286	35	1.64	0.09	-0.53	
213.915300	19.182409	14:15:39.67	19:10:56.67	Arcturus	NARVAL	NARVAL_Arcturus	FGK giants	4286	35	1.64	0.09	-0.53	
213.915300	19.182409	14:15:39.67	19:10:56.67	Arcturus	UVES.POP	UVES.POP_Arcturus	FGK giants	4286	35	1.64	0.09	-0.53	
261.324951	-55.529885	17:25:17.99	-55:31:47.59	betAra	HARPS	HARPS.GBOG_betAra	M giants	4197	50	1.05	0.15	-0.05	

Stellar libraries: SVOCat



The Gaia FGK Benchmark Stars

Library of high resolution and high signal to noise ratio stellar spectra.

Home | Data retrieval | News | Documentation | Coverage Map | Credits | Help-desk

RA (?) | DEC (?) | Radius (?)

180 | 180

Don't use coordinates as search criterion

[-] Hide additional search fields

Group (?) ---

Teff (?)

logg (?)

[Fe/H] (?)

105 data found.

RA (deg)	DEC (deg)	RA (hh:mm:ss)	DEC (hh:mm:ss)	Star
243.905289	-8.369441	16:15:37.27	-8:22:09.99	18Sco
243.905289	-8.369441	16:15:37.27	-8:22:09.99	18Sco
243.905289	-8.369441	16:15:37.27	-8:22:09.99	18Sco
316.724802	38.749440	21:06:53.95	38:44:57.99	61CygA
316.724802	38.749440	21:06:53.95	38:44:57.99	61CygA
316.730266	38.742056	21:06:55.26	38:44:31.40	61CygB
316.730266	38.742056	21:06:55.26	38:44:31.40	61CygB
219.902058	-60.833993	14:39:36.49	-60:50:02.37	alfCenA
219.902058	-60.833993	14:39:36.49	-60:50:02.37	alfCenA
219.902058	-60.833993	14:39:36.49	-60:50:02.37	alfCenA
219.896096	-60.837528	14:39:35.06	-60:50:15.10	alfCenB
45.569888	4.089739	03:02:16.77	04:05:23.06	alfCet
45.569888	4.089739	03:02:16.77	04:05:23.06	alfCet
45.569888	4.089739	03:02:16.77	04:05:23.06	alfCet
68.980163	16.509302	04:35:55.24	16:30:33.49	alfTau
68.980163	16.509302	04:35:55.24	16:30:33.49	alfTau
68.980163	16.509302	04:35:55.24	16:30:33.49	alfTau
213.915300	19.182409	14:15:39.67	19:10:56.67	Arcturus
213.915300	19.182409	14:15:39.67	19:10:56.67	Arcturus
213.915300	19.182409	14:15:39.67	19:10:56.67	Arcturus
213.915300	19.182409	14:15:39.67	19:10:56.67	Arcturus
213.915300	19.182409	14:15:39.67	19:10:56.67	Arcturus

HARPS	HARPS.Archive_Arcturus	FGK giants	4286	35	1.64	0.09	-0.53	
NARVAL	NARVAL_Arcturus	FGK giants	4286	35	1.64	0.09	-0.53	
UVES.POP	UVES.POP_Arcturus	FGK giants	4286	35	1.64	0.09	-0.53	

ID: HARPS.Archive_Arcturus

Available links

GBS original spectrum (vot) :	VOTable	(application/x-votable+xml)
GBS original spectrum (ascii) :	ASCII	(text/plain)
GBS original spectrum (fits) :	FITS	(application/fits)
GBS normalized spectrum (vot) :	VOTable	(application/x-votable+xml)
GBS normalized spectrum (ascii) :	ASCII	(text/plain)
GBS normalized spectrum (fits) :	FITS	(application/fits)
GBS original spectrum, resolution: 47.000 (vot) :	VOTable	(application/x-votable+xml)
GBS original spectrum, resolution: 47.000 (ascii) :	ASCII	(text/plain)
GBS original spectrum, resolution: 47.000 (fits) :	FITS	(application/fits)
GBS normalized spectrum, resolution: 47.000 (vot) :	VOTable	(application/x-votable+xml)
GBS normalized spectrum, resolution: 47.000 (ascii) :	ASCII	(text/plain)
GBS normalized spectrum, resolution: 47.000 (fits) :	FITS	(application/fits)
Reference :	Heiter et al. 2015, A&A 582, A49.	(text/html)
Reference :	Blanco-Cuaresma et al. 2014, A&A 566, A98.	(text/html)
Reference :	Jofre et al. 2014, A&A 564, A133.	(text/html)
Reference :	Jofre et al. 2015, A&A 582, A81	(text/html)
Reference :	Hawkins et al. 2016, A&A 592, A70.	(text/html)
Reference :	Jofre et al. 2016, A&A, 601, A38	(text/html)
Reference :	Gaia Benchmark Stars web	(text/html)

VO Service: SSA

```
<FIELD ID="SpecURL" name="SpecURL" utype="ssa:Access.Reference" ucd="meta.ref.url" datatype="char" arraysize="*"/>
<FIELD ID="SpecFmt" name="SpecFmt" utype="ssa:Access.Format" datatype="char" arraysize="*"/>
<FIELD ID="SpecSize" name="SpecSize" utype="ssa:Access.Size" unit="byte" datatype="char" arraysize="*"/>
```

```
- <TD>
    http://svo2.cab.inta-csic.es/vocats/v2/gbs/ssap.php?ID=ESPaDOnS_HD49933-1&label=ori_vot
  </TD>
  <TD>application/x-votable+xml</TD>
  <TD>17000000</TD>
```

```
<FIELD name="access_format" ucd="meta.note" utype="obscore:Access.Format" type="hidden" datatype="char" arraysize="*">
  <DESCRIPTION>Format for link to DataLink</DESCRIPTION>
</FIELD>
<FIELD name="access_url" ucd="meta.ref.url" utype="obscore:Access.Reference" datatype="char" arraysize="*">
  <DESCRIPTION>Link to DataLink</DESCRIPTION>
  <LINK content-role="type" content-type="application/x-votable+xml;content=datalink" href="ivo://ivoa.net/std/DataLink#links-1.0"
  title="Datalink"/>
</FIELD>
```

```
  <TD>application/x-votable+xml;content=datalink</TD>
- <TD>
    http://svo2.cab.inta-csic.es/vocats/v2/gbs/dl.php?ID=ESPaDOnS_HD49933-1&splabel=ori_vot
  </TD>
```

```
- <RESOURCE type="meta" utype="adhoc:service">
    <PARAM name="standardID" datatype="char" arraysize="*" value="ivo://ivoa.net/std/DataLink#links-1.0"/>
    <PARAM name="accessURL" datatype="char" arraysize="*" value="http://svo2.cab.inta-csic.es/vocats/v2/gbs/dl.php"/>
  - <GROUP name="inputParams">
      <PARAM name="ID" datatype="char" arraysize="*" value="" ref="gbsid"/>
    </GROUP>
  </RESOURCE>
</VOTABLE>
```

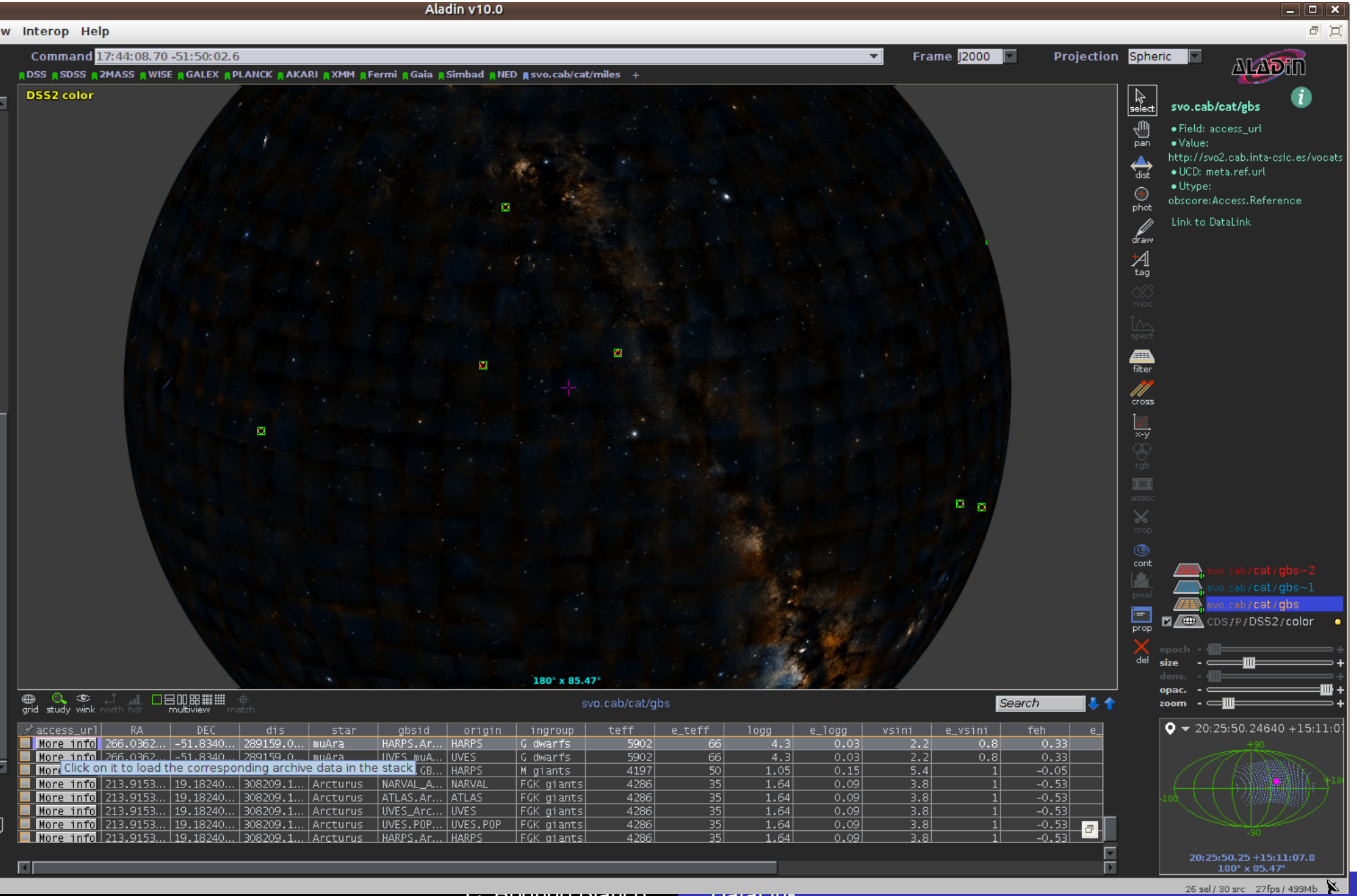
VO Service: DataLink


```
-<VOTABLE version="1.1" xsi:schemaLocation="http://www.ivoa.net/xml/VOTable/v1.1">
 -<RESOURCE type="results">
    <INFO name="standardID" value="ivo://ivoa.net/std/DataLink#links-1.0"/>
    <INFO name="QUERY_STATUS" value="OK"/>
   -<TABLE name="dlresponse">
      <DESCRIPTION>Data links for ESPaDOnS_betVir-1</DESCRIPTION>
     -<FIELD ID="ID" arraysize="*" datatype="char" name="ID" ucd="meta.id;meta.main">
       -<DESCRIPTION>
          Publisher data set id; this is an identifier for the dataset in question and can be used to retrieve the data.
        </DESCRIPTION>
      </FIELD>
     -<FIELD ID="access_url" arraysize="*" datatype="char" name="access_url" ucd="meta.ref.url">
        <DESCRIPTION>URL to retrieve the data.</DESCRIPTION>
      </FIELD>
```


	ID	access_url	description	semantics	content_type
1	ESPaDOnS_betVir-1	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ssap.php?...	GBS original spectrum (vot)	#this	application/x-votable+xml
2	ESPaDOnS_betVir-1	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ssap.php?...	GBS original spectrum (ascii)	#auxiliary	text/plain
3	ESPaDOnS_betVir-1	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ssap.php?...	GBS original spectrum (fits)	#auxiliary	application/fits
4	ESPaDOnS_betVir-1	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ssap.php?...	GBS normalized spectrum (vot)	#auxiliary	application/x-votable+xml
5	ESPaDOnS_betVir-1	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ssap.php?...	GBS normalized spectrum (ascii)	#auxiliary	text/plain
6	ESPaDOnS_betVir-1	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ssap.php?...	GBS normalized spectrum (fits)	#auxiliary	application/fits
7	ESPaDOnS_betVir-1	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ssap.php?...	GBS original spectrum, resolution: 47.000 (vot)	#auxiliary	application/x-votable+xml
8	ESPaDOnS_betVir-1	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ssap.php?...	GBS original spectrum, resolution: 47.000 (ascii)	#auxiliary	text/plain
9	ESPaDOnS_betVir-1	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ssap.php?...	GBS original spectrum, resolution: 47.000 (fits)	#auxiliary	application/fits
10	ESPaDOnS_betVir-1	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ssap.php?...	GBS normalized spectrum, resolution: 47.000 (vot)	#auxiliary	application/x-votable+xml
11	ESPaDOnS_betVir-1	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ssap.php?...	GBS normalized spectrum, resolution: 47.000 (ascii)	#auxiliary	text/plain
12	ESPaDOnS_betVir-1	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ssap.php?...	GBS normalized spectrum, resolution: 47.000 (fits)	#auxiliary	application/fits
13	ESPaDOnS_betVir-1	http://cdsads.u-strasbg.fr/abs/2015A&A...582A..49H	Reference: Heiter et al. 2015, A&A 582, A49.	http://www.ivoa.net/rdf/Vocabularies/UCD#Met...	text/html
14	ESPaDOnS_betVir-1	http://cdsads.u-strasbg.fr/abs/2014A&A...566A..98B	Reference: Blanco-Cuaresma et al. 2014, A&A 566, A9...	http://www.ivoa.net/rdf/Vocabularies/UCD#Met...	text/html
15	ESPaDOnS_betVir-1	http://cdsads.u-strasbg.fr/abs/2014A&A...564A.133J	Reference: Jofre et al. 2014, A&A 564, A133.	http://www.ivoa.net/rdf/Vocabularies/UCD#Met...	text/html
16	ESPaDOnS_betVir-1	http://cdsads.u-strasbg.fr/abs/2015A&A...582A..81J	Reference: Jofre et al. 2015, A&A 582, A81	http://www.ivoa.net/rdf/Vocabularies/UCD#Met...	text/html
17	ESPaDOnS_betVir-1	http://cdsads.u-strasbg.fr/abs/2016A&A...592A..70H	Reference: Hawkins et al. 2016, A&A 592, A70.	http://www.ivoa.net/rdf/Vocabularies/UCD#Met...	text/html
18	ESPaDOnS_betVir-1	http://cdsads.u-strasbg.fr/abs/2017A%26A...601A..3...	Reference: Jofre et al. 2016, A&A, 601, A38	http://www.ivoa.net/rdf/Vocabularies/UCD#Met...	text/html
19	ESPaDOnS_betVir-1	https://www.blancocuaresma.com/s/benchmarkstars	Reference: Gaia Benchmark Stars web	http://www.ivoa.net/rdf/Vocabularies/UCD#Met...	text/html

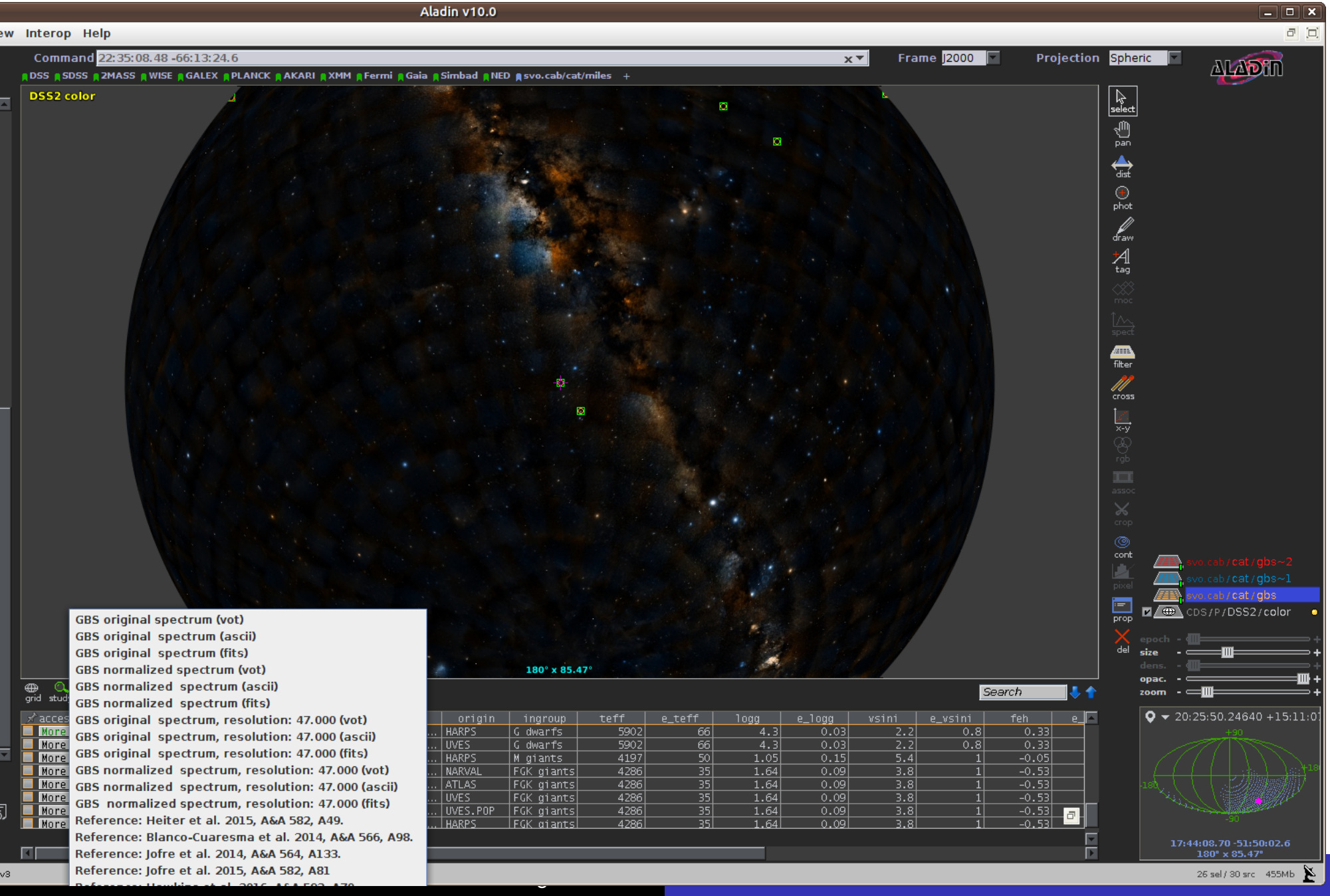

```
     -<FIELD ID="content_length" datatype="long" name="content_length" ucd="phys.size;meta.file" unit="byte">
        <DESCRIPTION>Size of the resource at access_url</DESCRIPTION>
        <VALUES null="-1"> </VALUES>
      </FIELD>
     -<DATA>
```

Aladin v10.0

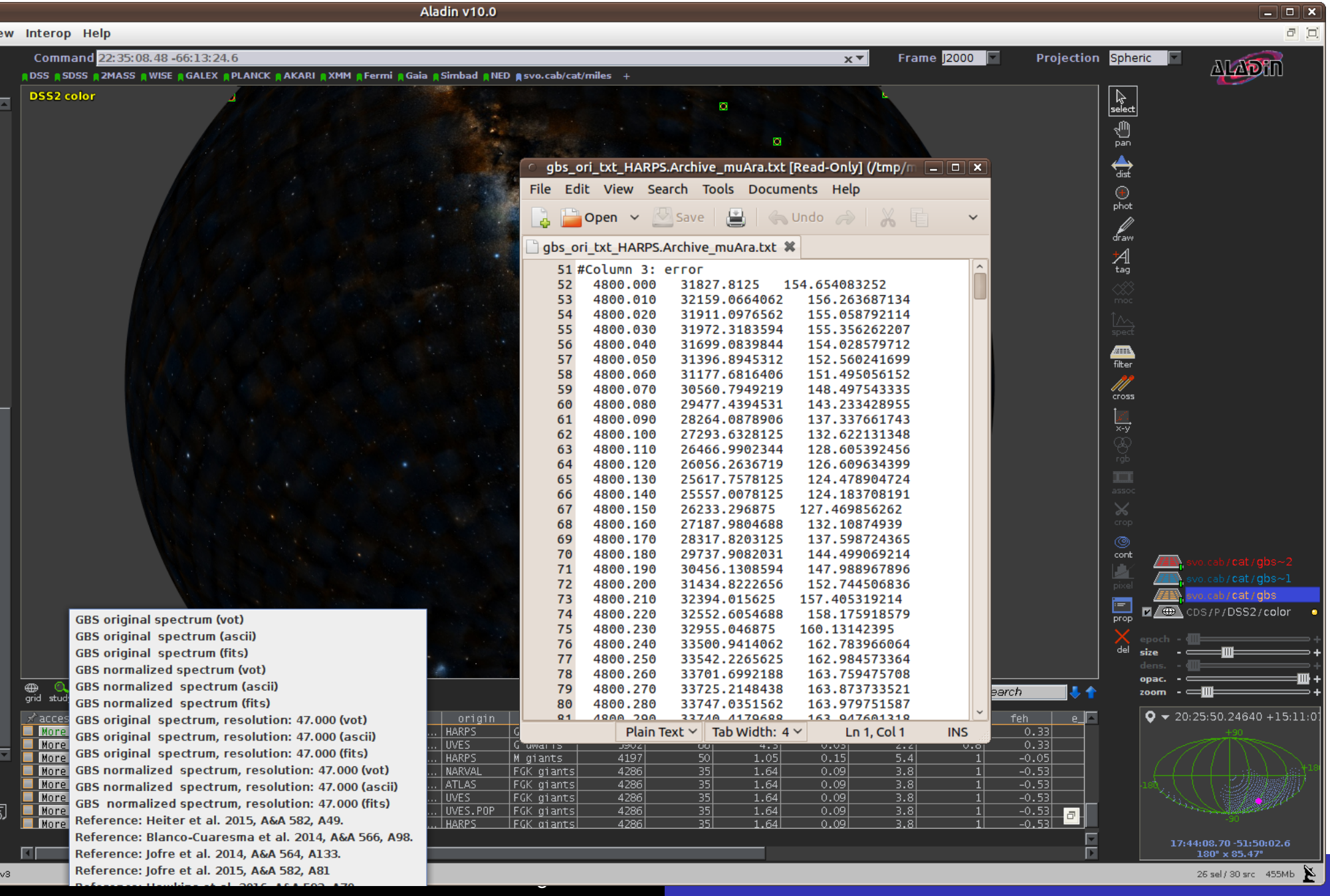


access_url	RA	DEC	dis	star	gbsid	origin	ingroup	teff	e_teff	logg	e_logg	vsini	e_vsini	feh	e_
More info	266.0362...	-51.8340...	289159.0...	muAra	HARPS.Ar...	HARPS	G dwarfs	5902	66	4.3	0.03	2.2	0.8	0.33	
More info	266.0362...	-51.8340...	289159.0...	muAra	UVES_muA...	UVES	G dwarfs	5902	66	4.3	0.03	2.2	0.8	0.33	
More					GB...	HARPS	M giants	4197	50	1.05	0.15	5.4	1	-0.05	
More info	213.9153...	19.18240...	308209.1...	Arcturus	NARVAL_A...	NARVAL	FGK giants	4286	35	1.64	0.09	3.8	1	-0.53	
More info	213.9153...	19.18240...	308209.1...	Arcturus	ATLAS.Ar...	ATLAS	FGK giants	4286	35	1.64	0.09	3.8	1	-0.53	
More info	213.9153...	19.18240...	308209.1...	Arcturus	UVES_Arc...	UVES	FGK giants	4286	35	1.64	0.09	3.8	1	-0.53	
More info	213.9153...	19.18240...	308209.1...	Arcturus	UVES.POP...	UVES.POP	FGK giants	4286	35	1.64	0.09	3.8	1	-0.53	
More info	213.9153...	19.18240...	308209.1...	Arcturus	HARPS.Ar...	HARPS	FGK giants	4286	35	1.64	0.09	3.8	1	-0.53	

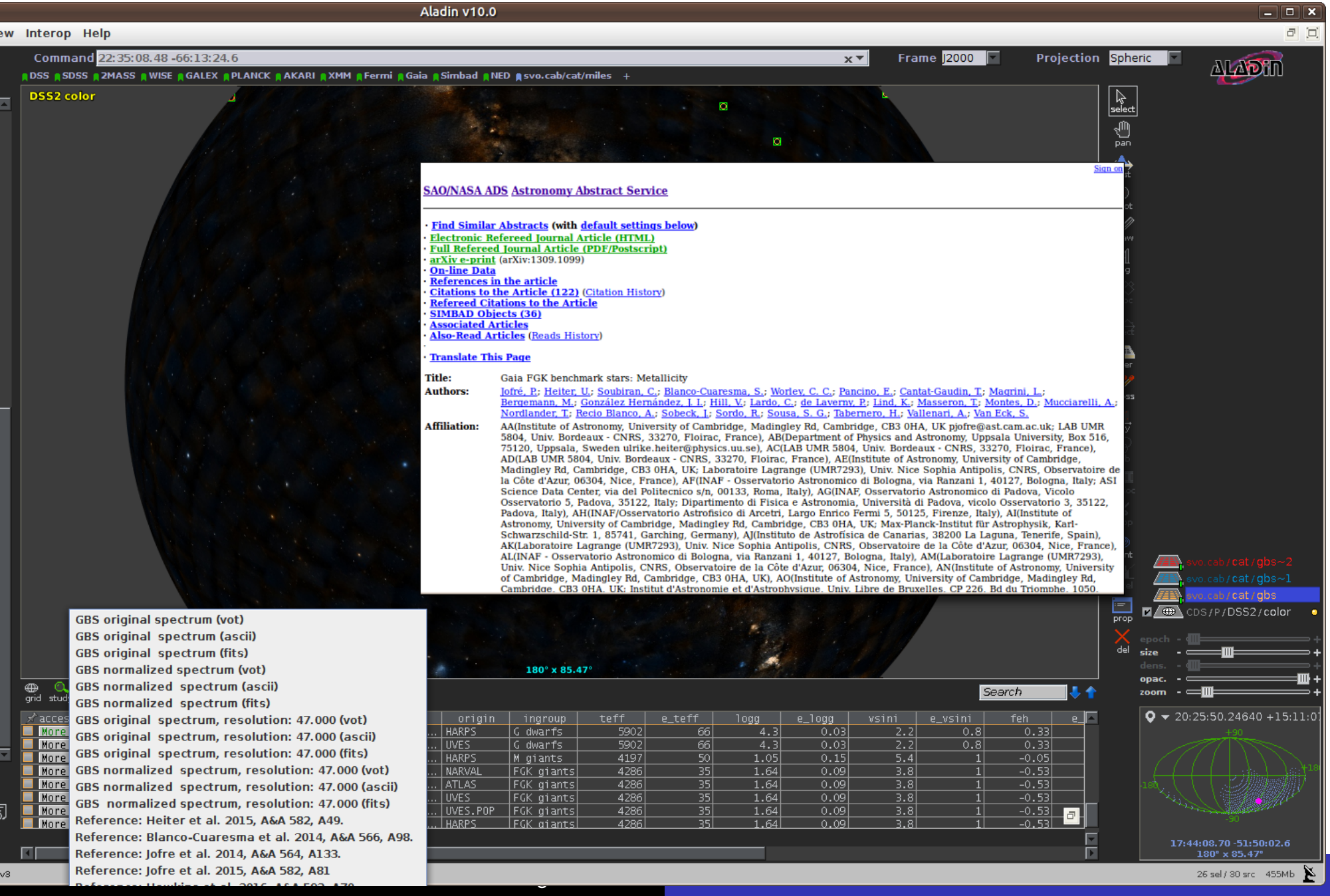
Aladin v10.0


Aladin v10.0
Interop
Help
Command
22:35:08.48 -66:13:24.6
Frame
J2000
Projection
Spheric
DSS
SDSS
2MASS
WISE
GALEX
PLANCK
AKARI
XMM
Fermi
Gaia
Simbad
NED
svo.cab/cat/miles
DSS2 color
select
pan
dist
phot
draw
tag
moc
spect
filter
cross
x-y
rgb
assoc
crop
cont
pixel
prop
del
svo.cab/cat/gbs~2
svo.cab/cat/gbs~1
svo.cab/cat/gbs
CDS/P/DSS2/color
epoch
size
dens.
opac.
zoom
180° x 85.47°
Search
GBS original spectrum (vot)
GBS original spectrum (ascii)
GBS original spectrum (fits)
GBS normalized spectrum (vot)
GBS normalized spectrum (ascii)
GBS normalized spectrum (fits)
GBS original spectrum, resolution: 47.000 (vot)
GBS original spectrum, resolution: 47.000 (ascii)
GBS original spectrum, resolution: 47.000 (fits)
GBS normalized spectrum, resolution: 47.000 (vot)
GBS normalized spectrum, resolution: 47.000 (ascii)
GBS normalized spectrum, resolution: 47.000 (fits)
Reference: Heiter et al. 2015, A&A 582, A49.
Reference: Blanco-Cuaresma et al. 2014, A&A 566, A98.
Reference: Jofre et al. 2014, A&A 564, A133.
Reference: Jofre et al. 2015, A&A 582, A81
origin
ingroup
teff
e_teff
logg
e_logg
vsini
e_vsini
feh
HARPS G dwarfs 5902 66 4.3 0.03 2.2 0.8 0.33
UVES G dwarfs 5902 66 4.3 0.03 2.2 0.8 0.33
HARPS M giants 4197 50 1.05 0.15 5.4 1 -0.05
NARVAL FGK giants 4286 35 1.64 0.09 3.8 1 -0.53
ATLAS FGK giants 4286 35 1.64 0.09 3.8 1 -0.53
UVES FGK giants 4286 35 1.64 0.09 3.8 1 -0.53
UVES.POP FGK giants 4286 35 1.64 0.09 3.8 1 -0.53
HARPS FGK giants 4286 35 1.64 0.09 3.8 1 -0.53
20:25:50.24640 +15:11:07
17:44:08.70 -51:50:02.6
180° x 85.47°
26 sel / 30 src
455Mb

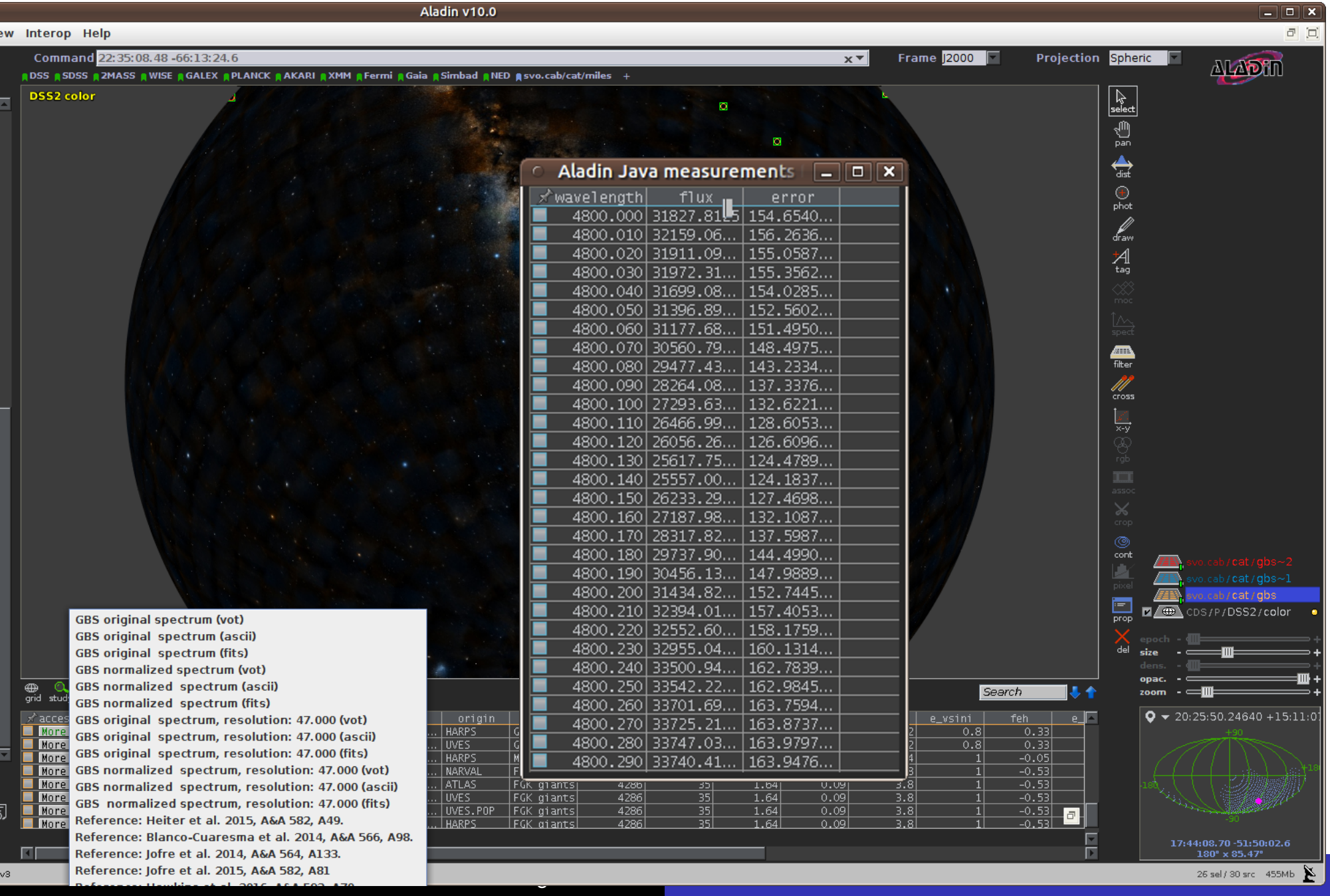
Aladin v10.0


Aladin v10.0
Interop Help
Command 22:35:08.48 -66:13:24.6
Frame J2000
Projection Spheric
DSS SDSS 2MASS WISE GALEX PLANCK AKARI XMM Fermi Gaia Simbad NED svo.cab/cat/miles
DSS2 color
gbs_ori_txt_HARPS.Archive_muAra.txt [Read-Only] (/tmp/
File Edit View Search Tools Documents Help
Open Save Undo
gbs_ori_txt_HARPS.Archive_muAra.txt
51 #Column 3: error
52 4800.000 31827.8125 154.654083252
53 4800.010 32159.0664062 156.263687134
54 4800.020 31911.0976562 155.058792114
55 4800.030 31972.3183594 155.356262207
56 4800.040 31699.0839844 154.028579712
57 4800.050 31396.8945312 152.560241699
58 4800.060 31177.6816406 151.495056152
59 4800.070 30560.7949219 148.497543335
60 4800.080 29477.4394531 143.233428955
61 4800.090 28264.0878906 137.337661743
62 4800.100 27293.6328125 132.622131348
63 4800.110 26466.9902344 128.605392456
64 4800.120 26056.2636719 126.609634399
65 4800.130 25617.7578125 124.478904724
66 4800.140 25557.0078125 124.183708191
67 4800.150 26233.296875 127.469856262
68 4800.160 27187.9804688 132.10874939
69 4800.170 28317.8203125 137.598724365
70 4800.180 29737.9082031 144.499069214
71 4800.190 30456.1308594 147.988967896
72 4800.200 31434.8222656 152.744506836
73 4800.210 32394.015625 157.405319214
74 4800.220 32552.6054688 158.175918579
75 4800.230 32955.046875 160.13142395
76 4800.240 33500.9414062 162.783966064
77 4800.250 33542.2265625 162.984573364
78 4800.260 33701.6992188 163.759475708
79 4800.270 33725.2148438 163.873733521
80 4800.280 33747.0351562 163.979751587
Plain Text Tab Width: 4 Ln 1, Col 1 INS
GBS original spectrum (vot)
GBS original spectrum (ascii)
GBS original spectrum (fits)
GBS normalized spectrum (vot)
GBS normalized spectrum (ascii)
GBS normalized spectrum (fits)
GBS original spectrum, resolution: 47.000 (vot)
GBS original spectrum, resolution: 47.000 (ascii)
GBS original spectrum, resolution: 47.000 (fits)
GBS normalized spectrum, resolution: 47.000 (vot)
GBS normalized spectrum, resolution: 47.000 (ascii)
GBS normalized spectrum, resolution: 47.000 (fits)
Reference: Heiter et al. 2015, A&A 582, A49.
Reference: Blanco-Cuaresma et al. 2014, A&A 566, A98.
Reference: Jofre et al. 2014, A&A 564, A133.
Reference: Jofre et al. 2015, A&A 582, A81
svo.cab/cat/gbs~2
svo.cab/cat/gbs~1
svo.cab/cat/gbs
CDS/P/DSS2/color
epoch
size
dens.
opac.
zoom
20:25:50.24640 +15:11:07
17:44:08.70 -51:50:02.6
180° x 85.47°
26 sel / 30 src 455Mb

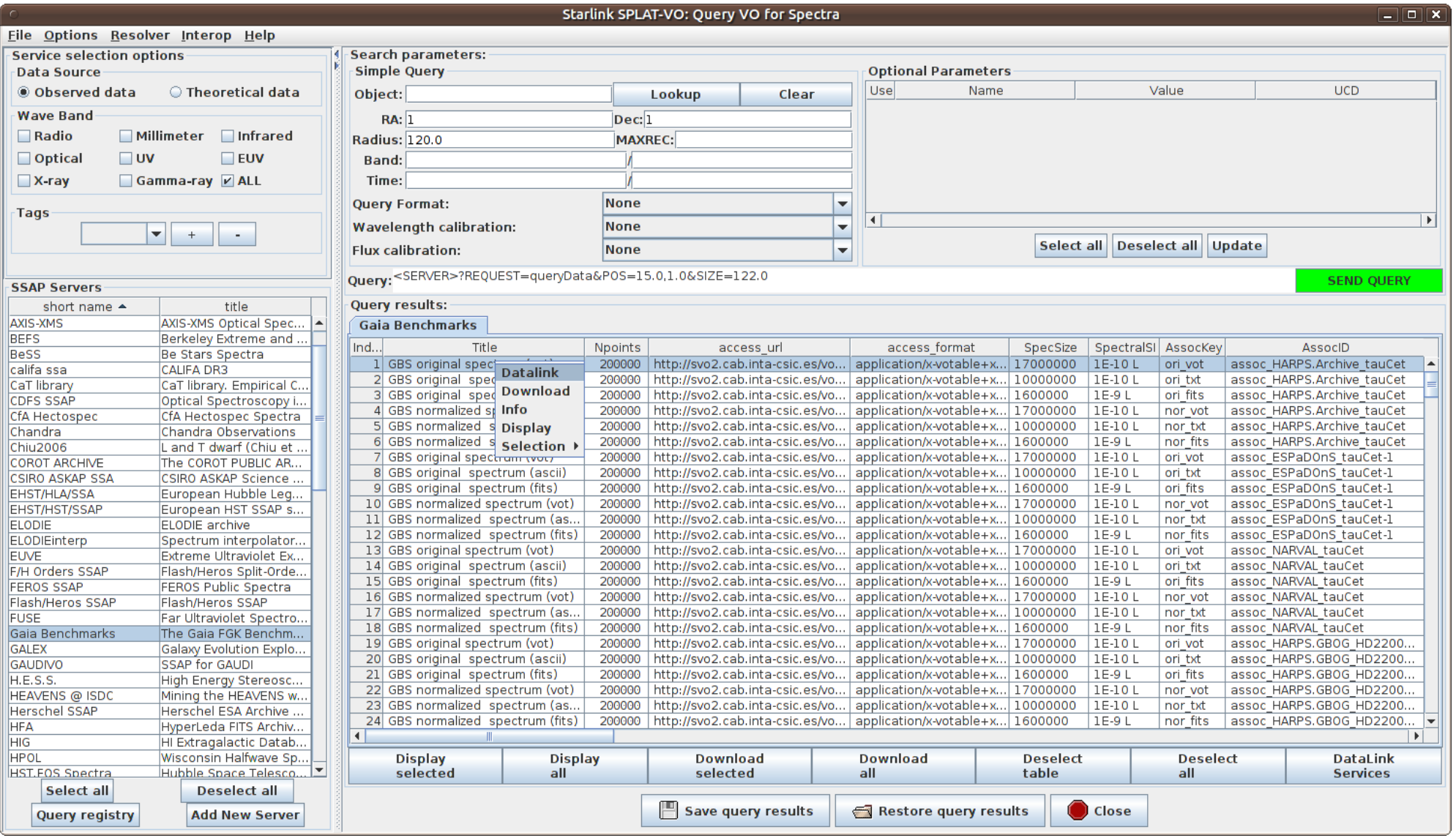
Aladin v10.0


Aladin v10.0
Interop Help
Command 22:35:08.48 -66:13:24.6
Frame J2000
Projection Spheric
DSS SDSS 2MASS WISE GALEX PLANCK AKARI XMM Fermi Gaia Simbad NED svo.cab/cat/miles
DSS2 color
SAO/NASA ADS Astronomy Abstract Service
Find Similar Abstracts (with default settings below)
Electronic Refereed Journal Article (HTML)
Full Refereed Journal Article (PDF/Postscript)
arXiv e-print (arXiv:1309.1099)
On-line Data
References in the article
Citations to the Article (122) (Citation History)
Refereed Citations to the Article
SIMBAD Objects (36)
Associated Articles
Also-Read Articles (Reads History)
Translate This Page
Title: Gaia FGK benchmark stars: Metallicity
Authors: Jofré, P.; Heiter, U.; Soubiran, C.; Blanco-Cuaresma, S.; Worley, C. C.; Pancino, E.; Cantat-Gaudin, T.; Magrini, L.; Bergemann, M.; González Hernández, J. I.; Hill, V.; Lardo, C.; de Laverny, P.; Lind, K.; Masseron, T.; Montes, D.; Mucciarelli, A.; Nordlander, T.; Recio Blanco, A.; Sobeck, J.; Sordo, R.; Sousa, S. G.; Tabernero, H.; Vallenari, A.; Van Eck, S.
Affiliation: AA(Institute of Astronomy, University of Cambridge, Madingley Rd, Cambridge, CB3 0HA, UK pjofre@ast.cam.ac.uk; LAB UMR 5804, Univ. Bordeaux - CNRS, 33270, Floirac, France), AB(Department of Physics and Astronomy, Uppsala University, Box 516, 75120, Uppsala, Sweden ulrike.heiter@physics.uu.se), AC(LAB UMR 5804, Univ. Bordeaux - CNRS, 33270, Floirac, France), AD(LAB UMR 5804, Univ. Bordeaux - CNRS, 33270, Floirac, France), AE(Institute of Astronomy, University of Cambridge, Madingley Rd, Cambridge, CB3 0HA, UK; Laboratoire Lagrange (UMR7293), Univ. Nice Sophia Antipolis, CNRS, Observatoire de la Côte d'Azur, 06304, Nice, France), AF(INAF - Osservatorio Astronomico di Bologna, via Ranzani 1, 40127, Bologna, Italy; ASI Science Data Center, via del Politecnico s/n, 00133, Roma, Italy), AG(INAF, Osservatorio Astronomico di Padova, Vicolo Osservatorio 5, Padova, 35122, Italy; Dipartimento di Fisica e Astronomia, Università di Padova, vicolo Osservatorio 3, 35122, Padova, Italy), AH(INAF/Osservatorio Astrofisico di Arcetri, Largo Enrico Fermi 5, 50125, Firenze, Italy), AI(Institute of Astronomy, University of Cambridge, Madingley Rd, Cambridge, CB3 0HA, UK; Max-Planck-Institut für Astrophysik, Karl-Schwarzschild-Str. 1, 85741, Garching, Germany), AJ(Instituto de Astrofísica de Canarias, 38200 La Laguna, Tenerife, Spain), AK(Laboratoire Lagrange (UMR7293), Univ. Nice Sophia Antipolis, CNRS, Observatoire de la Côte d'Azur, 06304, Nice, France), AL(INAF - Osservatorio Astronomico di Bologna, via Ranzani 1, 40127, Bologna, Italy), AM(Laboratoire Lagrange (UMR7293), Univ. Nice Sophia Antipolis, CNRS, Observatoire de la Côte d'Azur, 06304, Nice, France), AN(Institute of Astronomy, University of Cambridge, Madingley Rd, Cambridge, CB3 0HA, UK), AO(Institute of Astronomy, University of Cambridge, Madingley Rd, Cambridge, CB3 0HA, UK; Institut d'Astronomie et d'Astrophysique, Univ. Libre de Bruxelles, CP 226, Bd du Triomphe, 1050,
GBS original spectrum (vot)
GBS original spectrum (ascii)
GBS original spectrum (fits)
GBS normalized spectrum (vot)
GBS normalized spectrum (ascii)
GBS normalized spectrum (fits)
GBS original spectrum, resolution: 47.000 (vot)
GBS original spectrum, resolution: 47.000 (ascii)
GBS original spectrum, resolution: 47.000 (fits)
GBS normalized spectrum, resolution: 47.000 (vot)
GBS normalized spectrum, resolution: 47.000 (ascii)
GBS normalized spectrum, resolution: 47.000 (fits)
Reference: Heiter et al. 2015, A&A 582, A49.
Reference: Blanco-Cuaresma et al. 2014, A&A 566, A98.
Reference: Jofre et al. 2014, A&A 564, A133.
Reference: Jofre et al. 2015, A&A 582, A81
origin ingroup teff e_teff logg e_logg vsini e_vsini feh
HARPS G dwarfs 5902 66 4.3 0.03 2.2 0.8 0.33
UVES G dwarfs 5902 66 4.3 0.03 2.2 0.8 0.33
HARPS M giants 4197 50 1.05 0.15 5.4 1 -0.05
NARVAL FGK giants 4286 35 1.64 0.09 3.8 1 -0.53
ATLAS FGK giants 4286 35 1.64 0.09 3.8 1 -0.53
UVES FGK giants 4286 35 1.64 0.09 3.8 1 -0.53
UVES.POP FGK giants 4286 35 1.64 0.09 3.8 1 -0.53
HARPS FGK giants 4286 35 1.64 0.09 3.8 1 -0.53
180° x 85.47°
Search
select
pan
prop
del
epoch
size
dens.
opac.
zoom
20:25:50.24640 +15:11:01
17:44:08.70 -51:50:02.6
180° x 85.47°
26 sel / 30 src
455Mb

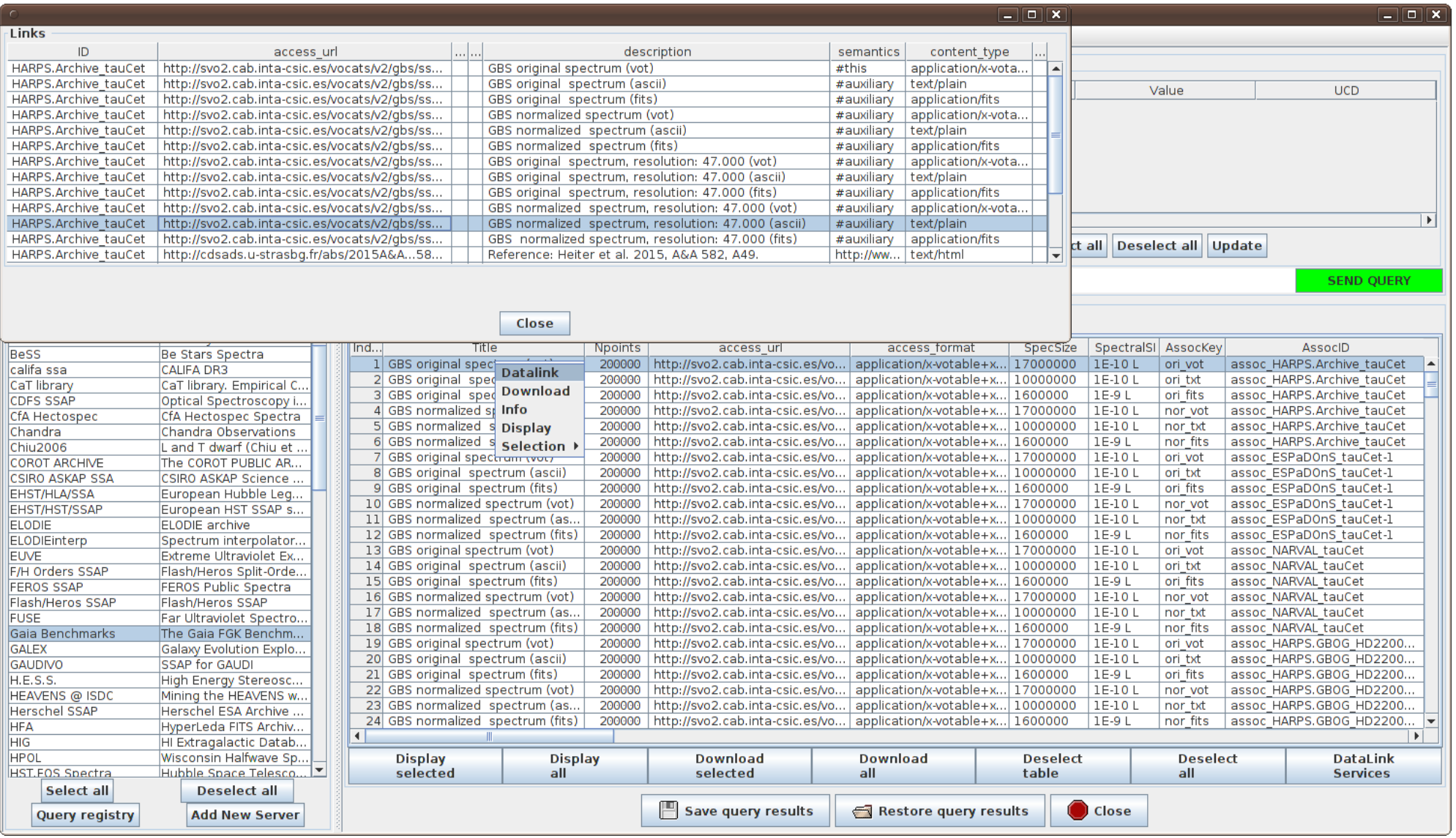
Aladin v10.0


Aladin v10.0
Interop Help
Command 22:35:08.48 -66:13:24.6
Frame J2000
Projection Spheric
DSS SDSS 2MASS WISE GALEX PLANCK AKARI XMM Fermi Gaia Simbad NED svo.cab/cat/miles
DSS2 color
Aladin Java measurements
wavelength flux error
4800.000 31827.81... 154.6540...
4800.010 32159.06... 156.2636...
4800.020 31911.09... 155.0587...
4800.030 31972.31... 155.3562...
4800.040 31699.08... 154.0285...
4800.050 31396.89... 152.5602...
4800.060 31177.68... 151.4950...
4800.070 30560.79... 148.4975...
4800.080 29477.43... 143.2334...
4800.090 28264.08... 137.3376...
4800.100 27293.63... 132.6221...
4800.110 26466.99... 128.6053...
4800.120 26056.26... 126.6096...
4800.130 25617.75... 124.4789...
4800.140 25557.00... 124.1837...
4800.150 26233.29... 127.4698...
4800.160 27187.98... 132.1087...
4800.170 28317.82... 137.5987...
4800.180 29737.90... 144.4990...
4800.190 30456.13... 147.9889...
4800.200 31434.82... 152.7445...
4800.210 32394.01... 157.4053...
4800.220 32552.60... 158.1759...
4800.230 32955.04... 160.1314...
4800.240 33500.94... 162.7839...
4800.250 33542.22... 162.9845...
4800.260 33701.69... 163.7594...
4800.270 33725.21... 163.8737...
4800.280 33747.03... 163.9797...
4800.290 33740.41... 163.9476...
GBS original spectrum (vot)
GBS original spectrum (ascii)
GBS original spectrum (fits)
GBS normalized spectrum (vot)
GBS normalized spectrum (ascii)
GBS normalized spectrum (fits)
GBS original spectrum, resolution: 47.000 (vot)
GBS original spectrum, resolution: 47.000 (ascii)
GBS original spectrum, resolution: 47.000 (fits)
GBS normalized spectrum, resolution: 47.000 (vot)
GBS normalized spectrum, resolution: 47.000 (ascii)
GBS normalized spectrum, resolution: 47.000 (fits)
Reference: Heiter et al. 2015, A&A 582, A49.
Reference: Blanco-Cuaresma et al. 2014, A&A 566, A98.
Reference: Jofre et al. 2014, A&A 564, A133.
Reference: Jofre et al. 2015, A&A 582, A81
select
pan
dist
phot
draw
tag
moc
spect
filter
cross
x-y
rgb
assoc
crop
cont
pixel
prop
del
svo.cab/cat/gbs~2
svo.cab/cat/gbs~1
svo.cab/cat/gbs
CDS/P/DSS2/color
epoch
size
dens.
opac.
zoom
Search
origin
e_vsini
feh
HARPS
UVES
HARPS
NARVAL
ATLAS
UVES
UVES_POP
HARPS
FGK giants
20:25:50.24640 +15:11:07
17:44:08.70 -51:50:02.6
180° x 85.47°
26 sel / 30 src
455Mb

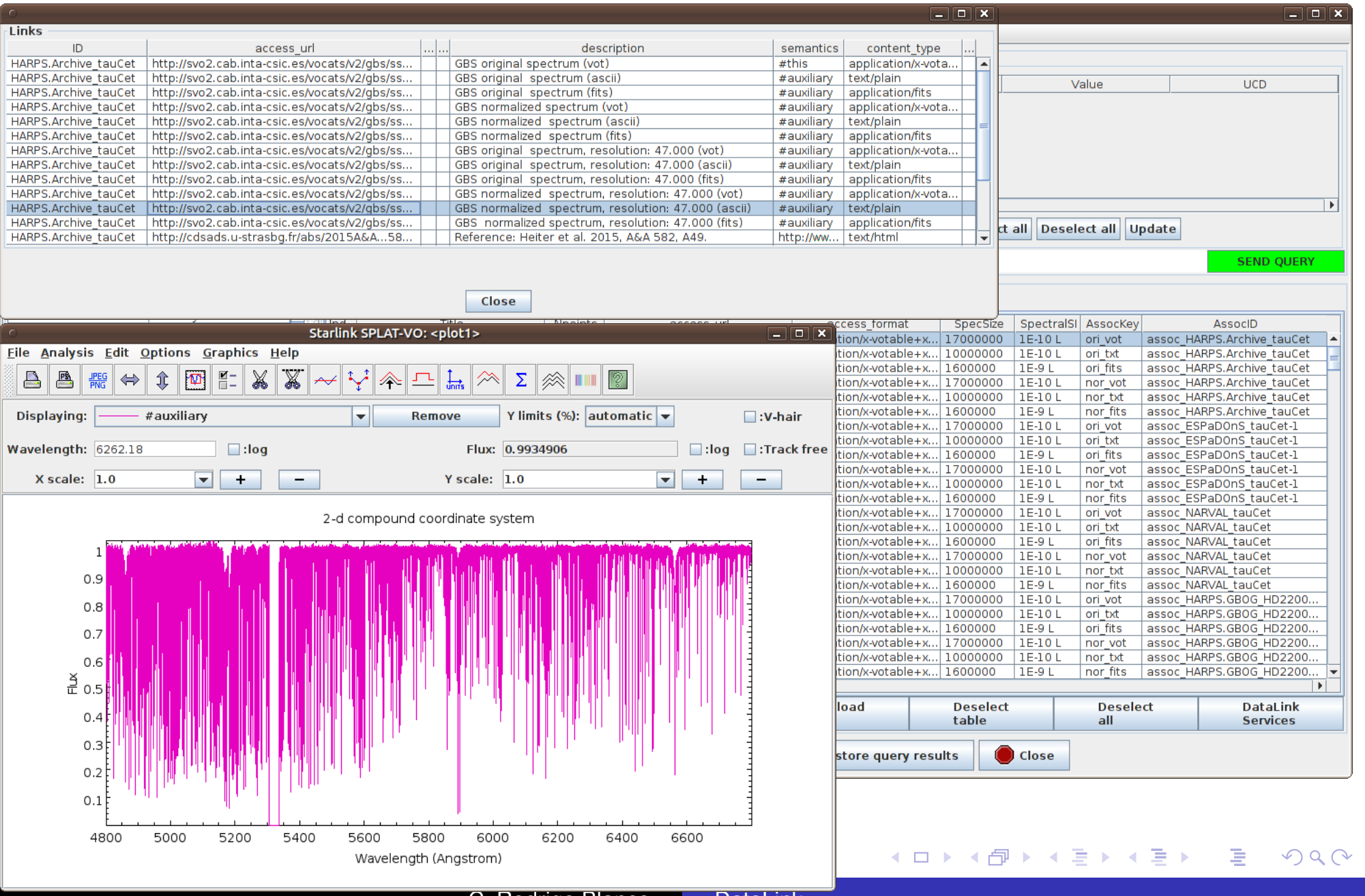
SPLAT-VO 3.14beta.2



SPLAT-VO 3.14beta.2



SPLAT-VO 3.14beta.2



SPLAT-VO 3.14beta.2

Links

ID	access_url	...	...	description	semantics	content_type	...
HARPS.Archive_tauCet	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ss...			GBS original spectrum (vot)	#this	application/x-vota...	
HARPS.Archive_tauCet	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ss...			GBS original spectrum (ascii)	#auxiliary	text/plain	
HARPS.Archive_tauCet	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ss...			GBS original spectrum (fits)	#auxiliary	application/fits	
HARPS.Archive_tauCet	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ss...			GBS normalized spectrum (vot)	#auxiliary	application/x-vota...	
HARPS.Archive_tauCet	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ss...			GBS normalized spectrum (ascii)	#auxiliary	text/plain	
HARPS.Archive_tauCet	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ss...			GBS normalized spectrum (fits)	#auxiliary	application/fits	
HARPS.Archive_tauCet	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ss...			GBS original spectrum, resolution: 47.000 (vot)	#auxiliary	application/x-vota...	
HARPS.Archive_tauCet	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ss...			GBS original spectrum, resolution: 47.000 (ascii)	#auxiliary	text/plain	
HARPS.Archive_tauCet	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ss...			GBS original spectrum, resolution: 47.000 (fits)	#auxiliary	application/fits	
HARPS.Archive_tauCet	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ss...			GBS normalized spectrum, resolution: 47.000 (vot)	#auxiliary	application/x-vota...	
HARPS.Archive_tauCet	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ss...			GBS normalized spectrum, resolution: 47.000 (ascii)	#auxiliary	text/plain	
HARPS.Archive_tauCet	http://svo2.cab.inta-csic.es/vocats/v2/gbs/ss...			GBS normalized spectrum, resolution: 47.000 (fits)	#auxiliary	application/fits	
HARPS.Archive_tauCet	http://cdsads.u-strasbg.fr/abs/2015A&A...58...			Reference: Heiter et al. 2015, A&A 582, A49.	http://ww...	text/html	

Close

Value | UCD

Deselect all | Update

SEND QUERY

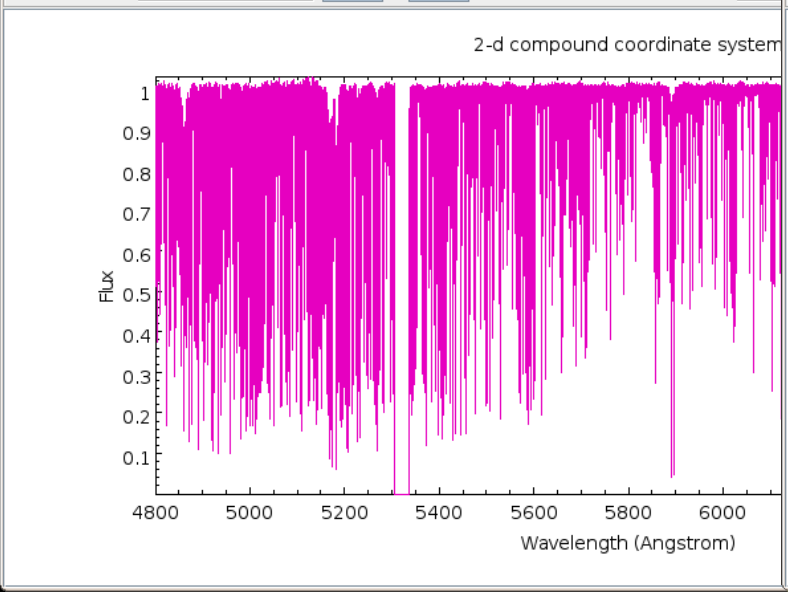
Starlink SPLAT-VO: <plot1>

File Analysis Edit Options Graphics Help

Displaying: #auxiliary | Remove | Y lim

Wavelength: 6262.18 :log | Flux: 0.99

X scale: 1.0 + − | Y scale: 1.0



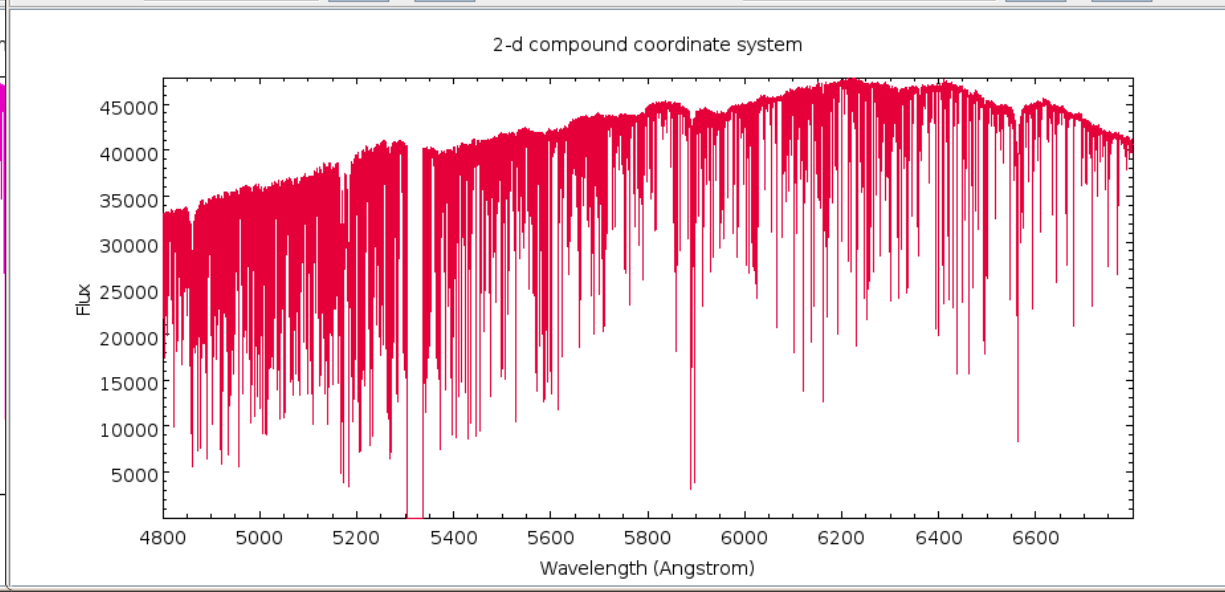
Starlink SPLAT-VO: <plot2>

File Analysis Edit Options Graphics Help

Displaying: #auxiliary | Remove | Y limits (%): automatic | :V-hair

Wavelength: 5029.51 :log | Flux: 33397.34 :log :Track free

X scale: 1.0 + − | Y scale: 1.0 + −



I miss

- Aladin v10.0
  - download spectra (VOTable, Fits)
  - Send spectra to SAMP?.
- SPLAT-VO 3.14beta.2
  - Better visibility of Datalink.
  - Ability to link ascii files.
  - Ability to link html links.
- TOPCAT

Datalink core ontology

This is the description of the namespace `http://www.ivoa.net/rdf/datalink/core/core` as of 2014-10-30.

Terms in this vocabulary are intended for use in the semantics column in the output from the DataLink-1.0 {links} capability. The terms here describe the relationship of the linked resource to the thing identified by the input ID value(s) and ID field in the record.

As specified in DataLink-1.0, terms from the vocabulary may be used in the Dataink output using only the fragment (e.g. #word) form (since this is the core vocabulary). We use this form below as the short form of the equivalent fully qualified term (e.g. http://www.ivoa.net/rdf/datalink/core#word).

Alternate formats: RDF TTL

Predicate	Parent	Label	Comment
#this		the data itself	the primary (as opposed to related) data of the identified resource
#progenitor		Progenitor	data resources that were used to create this dataset (e.g. input raw data)
#derivation		Derivation	data resources that are derived from this dataset (e.g. output data products)
#auxiliary		Auxiliary	auxiliary resources
#weight	#auxiliary	Weight map	resource with array(s) containing weighting values
#error	#auxiliary	Error map	resource with array(s) containing error values
#noise	#auxiliary	Noise map	resource with array(s) containing noise values
#calibration		Calibration data	resource used to calibrate the primary data
#bias	#calibration	Bias calibration data	used to subtract the detector offset level
#dark	#calibration	Dark calibration data	used to subtract the accumulated detector dark current
#flat	#calibration	Flat field calibration data	used to calibrate variations in detector sensitivity
#preview		Preview	low fidelity but easily viewed representation of the data
#preview-image	#preview	Image preview	preview of the data as a 2-dimensional image
#preview-plot	#preview	Plot preview	preview of the data as a plot (e.g. spectrum or light-curve)
#proc		Processing	server-side data processing result
#cutout	#proc	Cutout	a subsection of the primary data

DataLink Semantics

Datalink core ontology

This is the description of the namespace `http://www.ivoa.net/rdf/datalink/core/core` as of 2014-10-30.

Terms in this vocabulary are intended for use in the semantics column in the output from the DataLink-1.0 {links} capability. The terms here describe the relationship of the linked resource to the thing identified by the input ID value(s) and ID field in the record.

As specified in DataLink-1.0, terms from the vocabula
vocabulary). We use this form below as the short form

Alternate formats: RDF TTL

Predicate	Parent	Label
#this		the data itself
#progenitor		Progenitor
#derivation		Derivation
#auxiliary		Auxiliary
#weight	#auxiliary	Weight map
#error	#auxiliary	Error map
#noise	#auxiliary	Noise map
#calibration		Calibration data
#bias	#calibration	Bias calibration data
#dark	#calibration	Dark calibration data
#flat	#calibration	Flat field calibration da
#preview		Preview
#preview-image	#preview	Image preview
#preview-plot	#preview	Plot preview
#proc		Processing
#cutout	#proc	Cutout

more precise vocabulary?

- auxiliary-spectrum
  - auxiliary-spectrum-science
  - auxiliary-spectrum-error
- auxiliary-image
- auxiliary-bibcode
- ...

alternative? UCD column?

THANK YOU!