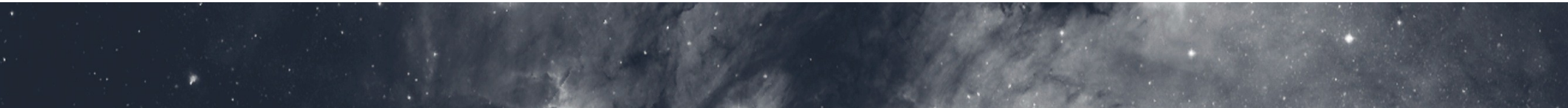
Datalink

Ivan Brossard, Gilles Landais

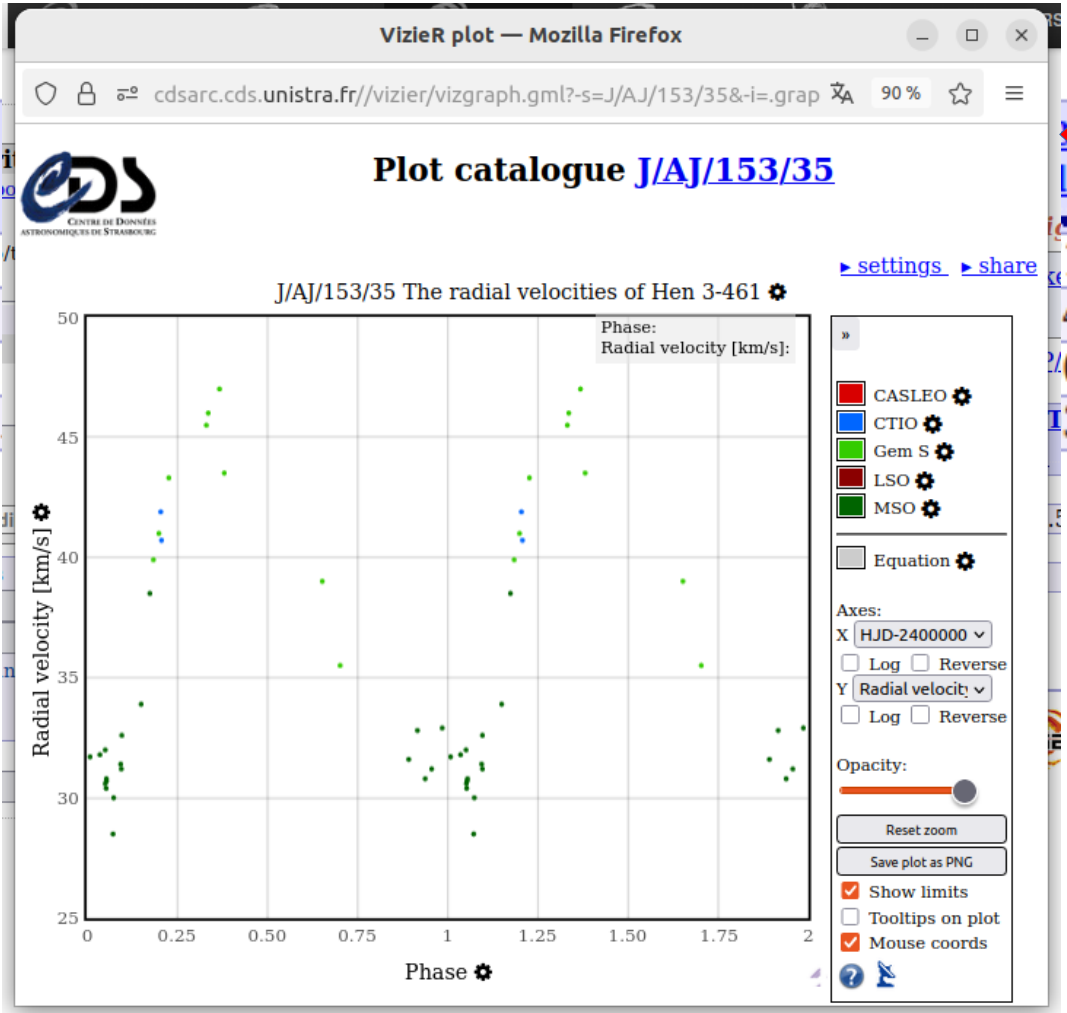


When retrieving data from Vizier

J/AJ/153/35/table1:

Name	Nrv	Vmag mag	Kmag mag	f_	H-K mag	f_	SpT	Per d	M92	B00	VP	Simbad	_RA deg	_DE deg
Hen 3-461	30	12.26	3.84		0.37		M7	2271.0	M92	B00	VP	Simbad	159.78625	-51.40347
SY Mus	58	10.67	4.70		0.30		M4.5	624.4	M92	B00	VP	Simbad	173.04169	-65.41988
Hen 3-828	18	14.30	7.17		0.38		M6	660.5	M92	B00	VP	Simbad	192.74207	-57.84625
AR Pav	51	11.14	7.10	c	0.28	c	M5	603.9	M92	B00	VP	Simbad	275.11617	-66.07859

When retrieving data from Vizier



			VP	Simbad	RA deg	DE deg
1.0	M92	B00	VP	Simbad	159.78625	-51.40347
4.4	M92	B00	VP	Simbad	173.04169	-65.41988
0.5	M92	B00	VP	Simbad	192.74207	-57.84625
3.9	M92	B00	VP	Simbad	275.11617	-66.07859

Basic data :

WRAY 15-1022 -- Symbiotic Star

Other object types:	**Em*** (Hen,SS73,...), **SB*** (2004A&A,SBC9)
ICRS coord. *(ep=J2000)* :	**12 50 58.0841127048 -57 50 46.4891089**
FK4 coord. *(ep=B1950 eq=1950)* :	12 48 01.7022180774 -57 34 27.1727701
Gal coord. *(ep=J2000)* :	302.8691722539075 +05.0254433622651 [
Proper motions *mas/yr* :	**-5.638 -1.434 [0.023 0.027 90] A** 2020y
Radial velocity / Redshift / cz :	**V(km/s) -14.87 [0.31]** / z(~) -0.00005 D 2017AJ....153...35F
Parallaxes *(mas)*:	**0.1794 [0.0285] A** 2020yCat.1350....0G
Spectral type:	**M6 D** 1980MNRAS.192..521A
Fluxes (6) :	**B** 13.5 [~] **E** ~
	V 14.30 [~] **D** 1992A&AS...93..383M
	G 12.631103 [0.003738] **C** 2020yCat.135
	J 8.536 [0.021] **C** 2003yCat.2246....0C
	H 7.53 [0.03] **C** 2003yCat.2246....0C
	K 7.098 [0.024] **C** 2003yCat.2246....0C

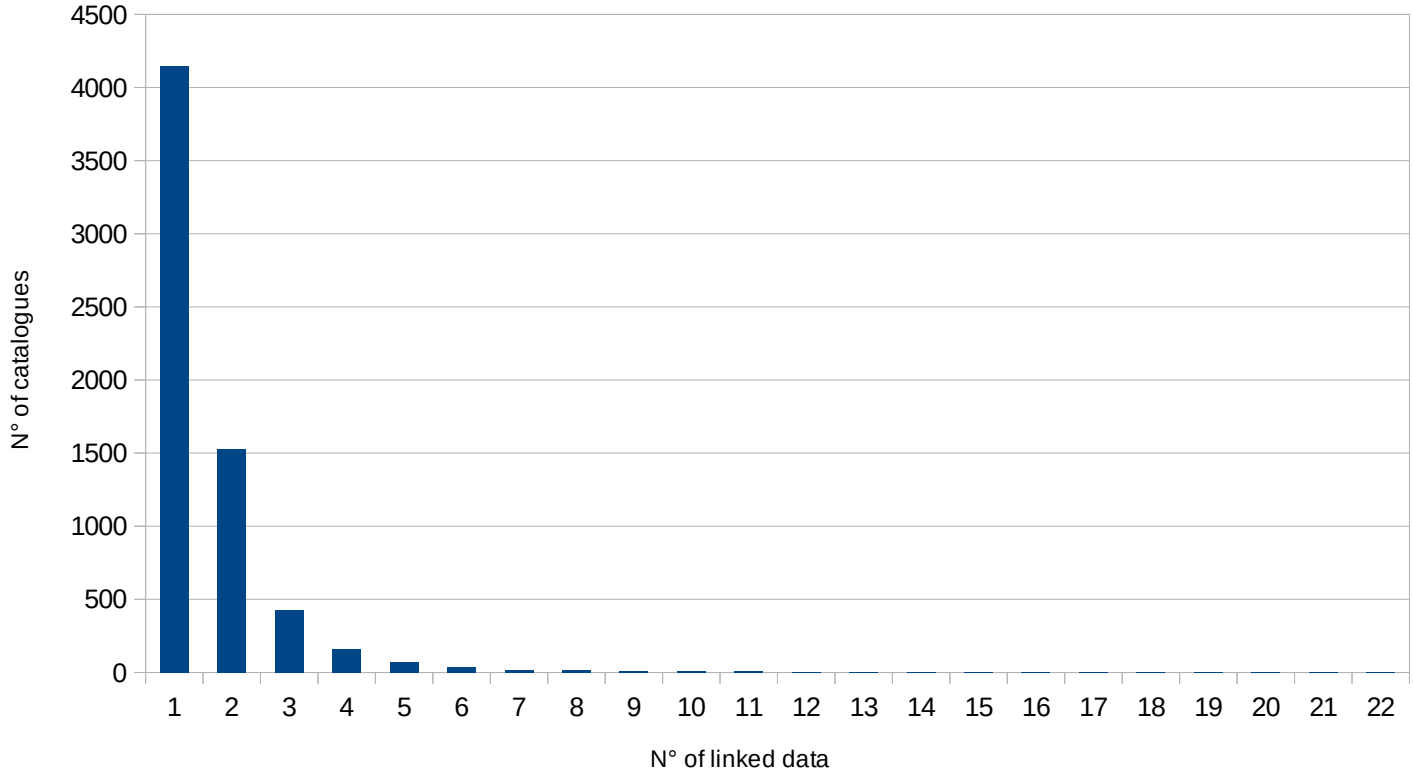
When retrieving data from Vizier

J/AJ/153/35/table1:

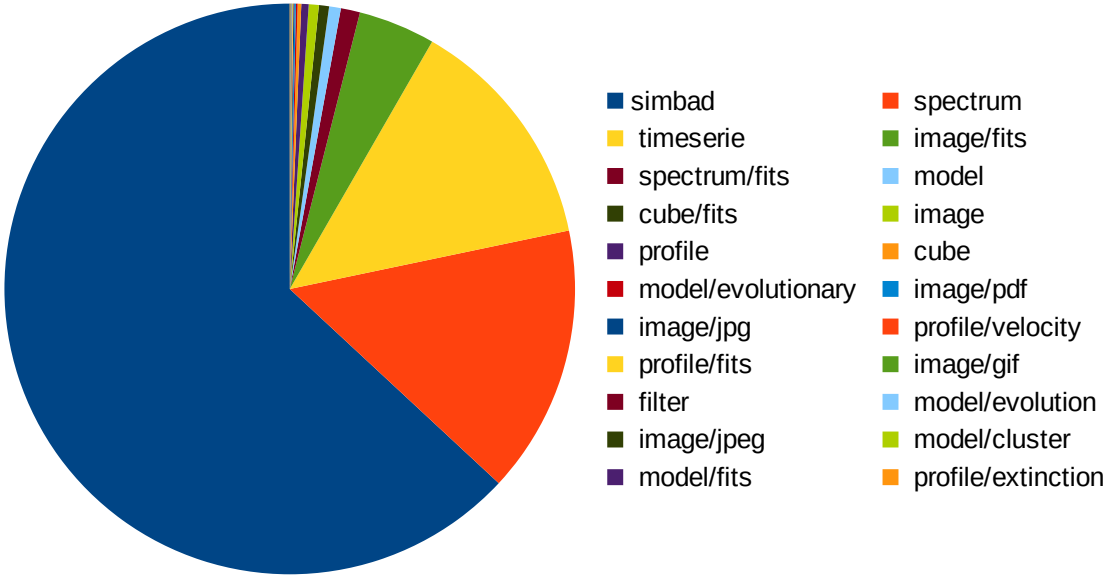
Name	Nrv	Vmag mag	Kmag mag	f_	H-K mag	f_	SpT	Per d	M92	B00	VP	Simbad	_RA deg	_DE deg
Hen 3-461	30	12.26	3.84		0.37		M7	2271.0	M92	B00	VP	Simbad	159.78625	-51.40347
SY Mus	58	10.67	4.70		0.30		M4.5	624.4	M92	B00	VP	Simbad	173.04169	-65.41988
Hen 3-828	18	14.30	7.17		0.38		M6	660.5	M92	B00	VP	Simbad	192.74207	-57.84625
AR Pav	51	11.14	7.10	c	0.28	c	M5	603.9	M92	B00	VP	Simbad	275.11617	-66.07859

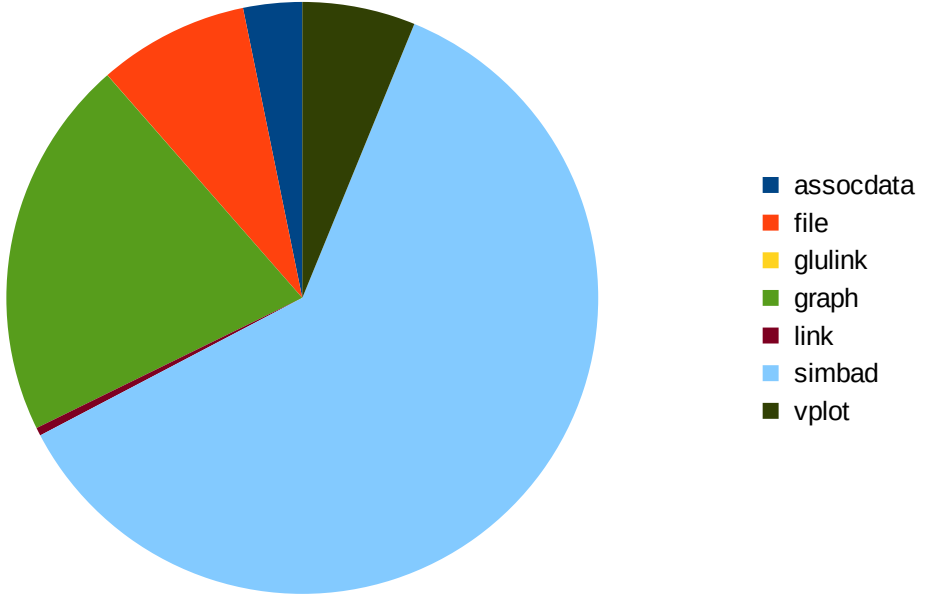
Name	Nrv	Vmag mag	Kmag mag	f_Kmag	H-K mag	f_H-K	SpT	Per d	M92	B00	VP	Simbad	_RA deg	_DE deg
str9	int16	float32	float32	str1	float32	str1	str4	float32	str3	str3	str2	str6	float64	float64
Hen 3-461	30	12.26	3.84		0.37		M7	2271.0	M92	B00	VP	Simbad	159.78625	-51.40347
SY Mus	58	10.67	4.70		0.30		M4.5	624.4	M92	B00	VP	Simbad	173.04169	-65.41988
Hen 3-828	18	14.30	7.17		0.38		M6	660.5	M92	B00	VP	Simbad	192.74207	-57.84625
AR Pav	51	11.14	7.10	c	0.28	c	M5	603.9	M92	B00	VP	Simbad	275.11617	-66.07859

Not a rare issue



Not a rare issue

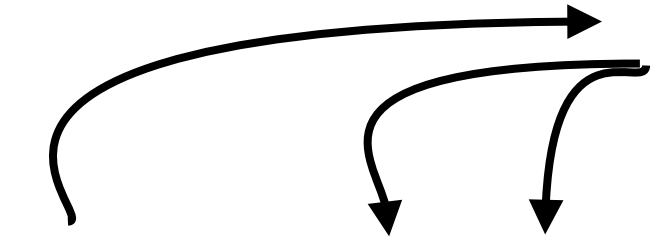




A tool fitted to the issue

- What is Datalink ?
  - An VO tool designed to use metadata to access data ;
  - Authored by Patrick Dowler, François Bonnarel, Laurent Michel, Markus Demleitner, Mark Taylor ;
  - https://www.ivoa.net/documents/DataLink/20231215/REC-DataLink-1.1.html

A tool fitted to the issue



recno	Name	VP	Simbad
1	Hen 3-461	VP	Simbad
2	SY Mus	VP	Simbad
3	Hen 3-828	VP	Simbad
4	AR Pav	VP	Simbad

name	description	field required	value required
ID	Input identifier	yes	yes
access_url	link to data or service	yes	
service_def	reference to a service descriptor resource	yes	one only
error_message	error if an access_url cannot be created	yes	
description	human-readable text describing this link	yes	no
semantics	Term from a controlled vocabulary describing the link	yes	yes
content_type	mime-type of the content the link returns	yes	no
content_length	size of the download the link returns	yes	no
content_qualifier	nature of the content the link returns	no	no
local_semantics	An identifier that allows clients to associate rows from different datalink documents on the same service with each other.	no	no
link_auth	use of the link requires authentication	no	no
link_authorized	caller is authorized to use the link	no	no

What does it look like ?

Datalink service description :

```
−<RESOURCE name="datalink" type="meta" utype="adhoc:service">
   <DESCRIPTION>Datalink service</DESCRIPTION>
   <PARAM arraysize="*" datatype="char" name="standardID" value="ivo://ivoa.net/std/datalink#links-1.1"/>
   <PARAM arraysize="*" datatype="char" name="accessURL" value="http://vizier.cds.unistra.fr/viz-bin/links"/>
  −<GROUP name="inputParams">
     <PARAM name="ID" datatype="char" arraysize="*" value="" ref="t1_c0"/>
   </GROUP>
   <PARAM arraysize="*" datatype="char" name="contentType" value="application/x-votable+xml;content=datalink"/>
 </RESOURCE>
```

New ivoid column :

```
−<FIELD ID="t1_c0" name="_ivoid" ucd="meta.id" datatype="char" arraysize="128">
   <!-- ucd="?" -->
  −<DESCRIPTION>
     Link(s) to associated data (added by CDS, not part of original data)
   </DESCRIPTION>
 </FIELD>
```

```
−<TABLEDATA>
  −<TR>
     <TD>ivo://CDS.VizieR/J/AJ/153/35?table1___recno=1</TD>
     <TD>0.636777</TD>
     <TD>1</TD>
     <TD>Hen 3-461</TD>
     <TD>30</TD>
     <TD>12.26</TD>
     <TD>3.84</TD>
     <TD/>
     <TD>0.37</TD>
     <TD/>
     <TD>M7</TD>
     <TD>2271.0</TD>
     <TD>M92</TD>
     <TD>B00</TD>
     <TD>VP</TD>
     <TD>Simbad</TD>
     <TD>159.78625</TD>
     <TD>-51.40347</TD>
   </TR>
 </TABLEDATA>
```

What does it look like ?

Alternatively, new datalink column :

```
<FIELD ID="t1_c0" name="_links" ucd="meta.ref.url" datatype="char" arraysize="128">
  <!-- ucd="?" -->
  <DESCRIPTION>
    Link(s) to associated data (added by CDS, not part of original data)
  </DESCRIPTION>
  <LINK content-type="application/x-votable+xml;content=Datalink" title="Datalink"> </LINK>
</FIELD>

<TR>
  <TD>
    http://vizier.cds.unistra.fr/viz-bin/links?ID=ivo://CDS.VizieR/J/AJ/153/35?table1___recno=1
  </TD>
  <TD>1</TD>
  <TD>Hen 3-461</TD>
  <TD>30</TD>
  <TD>12.26</TD>
  <TD>3.84</TD>
  <TD/>
  <TD>0.37</TD>
  <TD/>
  <TD>M7</TD>
  <TD>2271.0</TD>
  <TD>M92</TD>
  <TD>B00</TD>
  <TD>VP</TD>
  <TD>Simbad</TD>
  <TD>159.78625</TD>
  <TD>-51.40347</TD>
</TR>
```

What does it look like ?


```
−<VOTABLE version="1.4">
 −<RESOURCE type="results">
  −<TABLE>
    <FIELD name="ID" datatype="char" arraysize="*" ucd="meta.id;meta.main"/>
    <FIELD name="access_url" datatype="char" arraysize="*" ucd="meta.ref.url"/>
    <FIELD name="service_def" datatype="char" arraysize="*" ucd="meta.ref"/>
    <FIELD name="error_message" datatype="char" arraysize="*" ucd="meta.code.error"/>
    <FIELD name="semantics" datatype="char" arraysize="*" ucd="meta.code"/>
    <FIELD name="description" datatype="char" arraysize="*" ucd="meta.note"/>
    <FIELD name="content_type" datatype="char" arraysize="*" ucd="meta.code.mime"/>
    <FIELD name="content_qualifier" datatype="char" arraysize="*" ucd="meta.code.mime"/>
   −<DATA>
    −<TABLEDATA>
     −<TR>
        <TD>ivo://CDS.VizieR/J/AJ/153/35?table1__recno=1</TD>
       −<TD>
          http://cdsarc.cds.unistra.fr/viz-bin/vizgraph?-s=J/AJ/153/35&-i=.graph_sql&Name=Hen%203-461&Per=2271.0&--output=votable
        </TD>
        <TD/>
        <TD/>
        <TD>auxiliary</TD>
        <TD>Velocity Plot (timeserie) from J/AJ/153/35</TD>
        <TD>application/x-votable+xml?content=timeserie</TD>
        <TD>timeserie</TD>
      </TR>
     −<TR>
        <TD>ivo://CDS.VizieR/J/AJ/153/35?table1__recno=1</TD>
       −<TD>
          https://simbad.cds.unistra.fr/simbad/sim-basic?Ident=Hen%25203-461
        </TD>
        <TD/>
        <TD/>
        <TD>counterpart</TD>
        <TD>Simbad column added by the CDS () from J/AJ/153/35</TD>
        <TD>text/html</TD>
        <TD>measurement</TD>
      </TR>
    </TABLEDATA>
   </DATA>
  </TABLE>
```

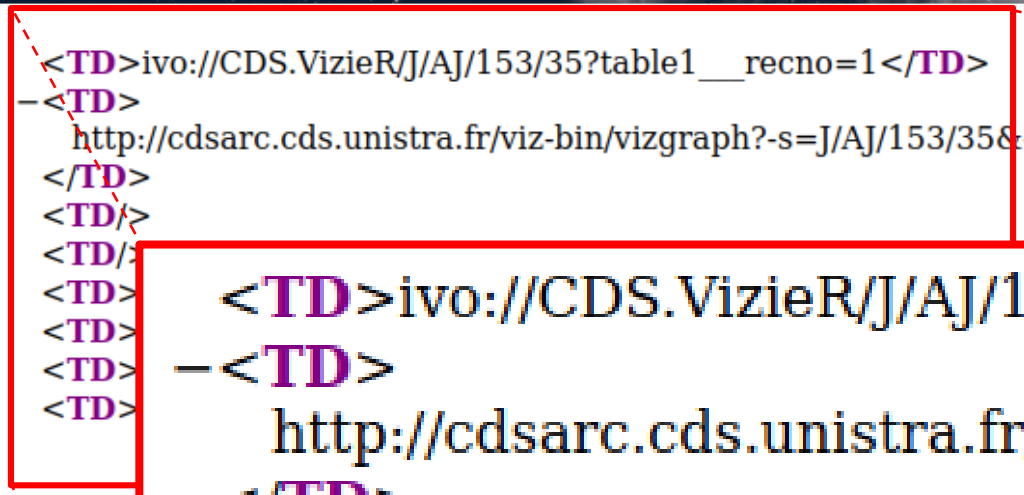
Description Data

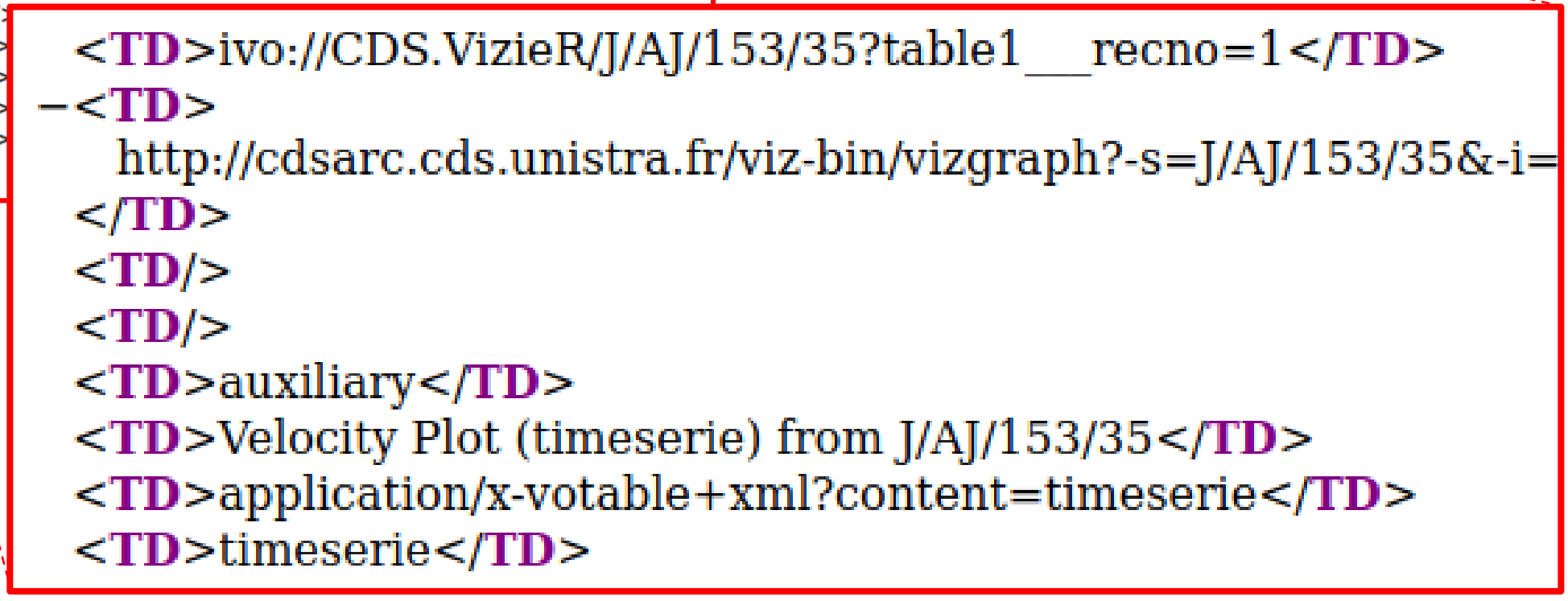

```
−<VOTABLE version="1.4">
  −<RESOURCE type="results">
    −<TABLE>
        <FIELD name="ID" datatype="char" arraysize="*" ucd="meta.id;meta.main"/>
        <FIELD name="access_url" datatype="char" arraysize="*" ucd="meta.ref.url"/>
        <FIELD name="service_def" datatype="char" arraysize="*" ucd="meta.ref"/>
        <FIELD name="error_message" datatype="char" arraysize="*" ucd="meta.code.error"/>
        <FIELD name="semantics" datatype="char" arraysize="*" ucd="meta.code"/>
        <FIELD name="description" datatype="char" arraysize="*" ucd="meta.note"/>
        <FIELD name="content_type" datatype="char" arraysize="*" ucd="meta.code.mime"/>
        <FIELD name="content_qualifier" datatype="char" arraysize="*" ucd="meta.code.mime"/
```

“Actual” Data


```
<TD>ivo://CDS.VizieR/J/AJ/153/35?table1___recno=1</TD>
−<TD>
    http://cdsarc.cds.unistra.fr/viz-bin/vizgraph?-s=J/AJ/153/35&-i=.graph_sql&Name=Hen%203-461&Per=2271.0&--output=votable
</TD>
<TD/>
<TD/>
<TD>auxiliary</TD>
<TD>Velocity Plot (timeserie) from J/AJ/153/35</TD>
<TD>application/x-votable+xml?content=timeserie</TD>
<TD>timeserie</TD>
```

“Actual” Data


<TD>ivo://CDS.VizieR/J/AJ/153/35?table1___recno=1</TD>
−<TD>
http://cdsarc.cds.unistra.fr/viz-bin/vizgraph?-s=J/AJ/153/35&-i=.graph_sql&Name=Hen%203-461&Per=2271.0&--output=votable
</TD>
<TD/>
<TD/>
<TD>


<TD>ivo://CDS.VizieR/J/AJ/153/35?table1___recno=1</TD>
−<TD>
http://cdsarc.cds.unistra.fr/viz-bin/vizgraph?-s=J/AJ/153/35&-i=
</TD>
<TD/>
<TD/>
<TD>auxiliary</TD>
<TD>Velocity Plot (timeserie) from J/AJ/153/35</TD>
<TD>application/x-votable+xml?content=timeserie</TD>
<TD>timeserie</TD>

Drilling down...

- Following the access_url, we can get the data which makes up the plot...


```
−<TABLE name="MSO" id="MSO">
   <FIELD name="HJD-2400000 [d]" ID="HJD-2400000_[d]" datatype="float"/>
   <FIELD name="Radial velocity [km/s]" ID="Radial_velocity_[km/s]" datatype="float"/>
  −<DATA>
   −<TABLEDATA>
    −<TR>
       <TD>51988.096 </TD>
       <TD> 31.6</TD>
     </TR>
    −<TR>
       <TD>52043.960 </TD>
       <TD> 32.8</TD>
     </TR>
    −<TR>
       <TD>52092.919 </TD>
       <TD> 30.8</TD>
     </TR>
    −<TR>
       <TD>52133.887 </TD>
```

Drilling down...

- ...or access the linked simbad page

Query : Hen3-461

Basic data :

WRAY 15-619 -- Symbiotic Star

Other object types:	**Sy*** (), **MIR** (AKARI,WISEA,...), **SB*** (2004A&A,SBC9), **Em*** (Hen,WRAY), **PN** (PK), **LP?** (2022yCat), * (Gaia), **NIR** (2MASS), **IR** (IRAS)
ICRS coord. *(ep=J2000) :*	**10 39 08.6786794704 -51 24 12.651866460 (Optical) [0.0412 0.0396 90] A** 2020yCat.1350....0G
FK5 coord. *(ep=J2000 eq=2000) :*	10 39 08.6815032465 -51 24 12.667281930 [0.0412 0.0396 90]
FK4 coord. *(ep=B1950 eq=1950) :*	10 37 04.1432900507 -51 08 33.657188917 [0.0412 0.0396 90]
Gal coord. *(ep=J2000) :*	282.9046289183628 +06.2499921378949 [0.0412 0.0396 90]
Proper motions *mas/yr* :	**-11.193 3.065 [0.059 0.052 90] A** 2020yCat.1350....0G
Radial velocity / Redshift / cz :	**V(km/s) 43.29 [1.04] /** z(spectroscopic) 0.000144 [0.000003] **/** cz 43.29 [1.04] **(Opt) B** 2022yCat.1355....0G
Parallaxes *(mas)*:	**0.6782 [0.0494] A** 2020yCat.1350....0G
Spectral type:	**M7 D** 1993yCat.3170....0M
Fluxes (5) :	**V 12.26 [~] D** 1992A&AS...93..383M **G 9.608948 [0.005816] C** 2020yCat.1350....0G **J 5.235 [0.024] C** 2003yCat.2246....0C **H 4.191 [0.232] D** 2003yCat.2246....0C **K 3.864 [0.274] D** 2003yCat.2246....0C

SIMBAD Query around within 2 arcmin

2MASS DSS SDSS

All (CDSPortal)

Send to Aladin

Photometry within 5 arcsec

Example

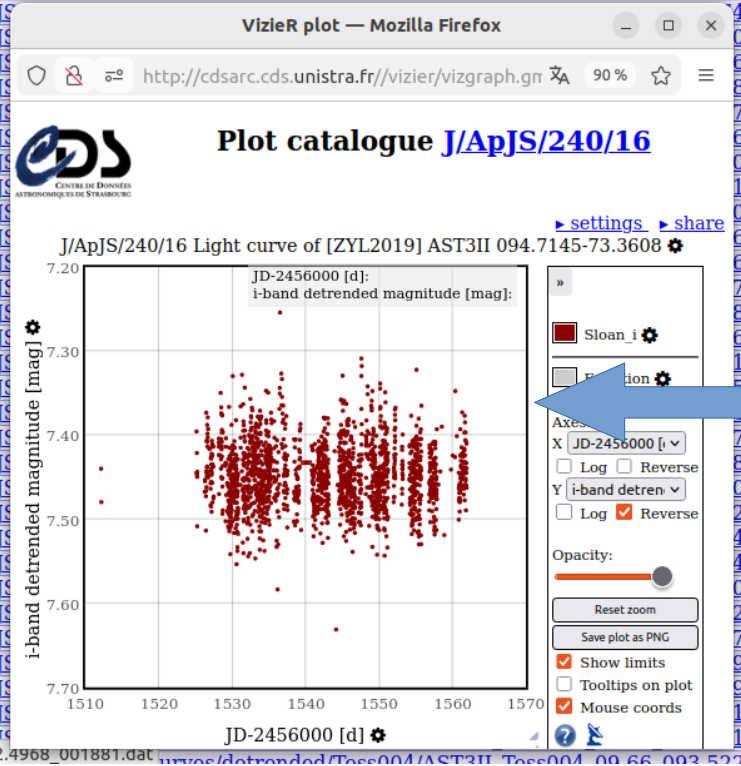
J/ApJS/240/16/dr1lcs *Post annotation*

Exoplanets in the Antarctic sky. I. AST3-II DR1 (Zhang+, 2019)
AST3-II DR1 detrended light curves list; table added by CDS *(27798 rows)*

2019ApJS..240...16Z Re

start AladinLite | plot the output | query using TAP/SQL

Full	_RAJ2000 "h:m:s"	_DEJ2000 "d:m:s"	Field	Var	imag mag	RAJ2000 deg	DEJ2000 deg	FileName	LC
1	06 18 51.480	-73 21 38.88	Tess004	0	7.68	094.7145	-73.3608	J/ApJS/240/16/lightcurves/detrended/Tess004/AST3II_Tess004_07.68_094.7145-73.3608_001866.dat	LC
2	06 14 41.928	-73 37 35.40	Tess004	0	7.81	093.6747	-73.6265	J/ApJS	LC
3	06 20 00.000	-72 45 06.12	Tess004	0	8.02	095.0000	-72.7517	J/ApJS	LC
4	06 05 56.712	-72 38 53.16	Tess004	0	8.12	091.4863	-72.6481	J/ApJS	LC
5	06 09 11.544	-73 35 52.08	Tess004	0	8.18	092.2981	-73.5978	J/ApJS	LC
6	06 10 42.576	-73 00 46.80	Tess004	0	8.21	092.6774	-73.0130	J/ApJS	LC
7	06 15 54.240	-73 12 59.04	Tess004	0	8.27	093.9760	-73.2164	J/ApJS	LC
8	06 15 12.120	-73 27 09.72	Tess004	0	8.42	093.8005	-73.4527	J/ApJS	LC
9	06 19 36.360	-73 05 13.56	Tess004	0	8.44	094.9015	-73.0871	J/ApJS	LC
10	06 14 57.768	-72 29 48.48	Tess004	0	8.51	093.7407	-72.4968	J/ApJS	LC
11	06 08 35.256	-74 23 36.24	Tess004	0	8.70	092.1469	-74.3934	J/ApJS	LC
12	06 17 27.888	-72 41 50.28	Tess004	0	8.79	094.3662	-72.6973	J/ApJS	LC
13	06 11 13.872	-73 35 55.68	Tess004	0	8.83	092.8078	-73.5988	J/ApJS	LC
14	06 12 21.192	-72 48 27.36	Tess004	0	8.91	093.0883	-72.8076	J/ApJS	LC
15	06 05 54.432	-73 58 52.32	Tess004	0	8.97	091.4768	-73.9812	J/ApJS	LC
16	06 15 38.784	-73 01 58.08	Tess004	0	9.08	093.9116	-73.0328	J/ApJS	LC
17	06 08 56.592	-72 46 31.08	Tess004	0	9.15	092.2358	-72.7753	J/ApJS	LC
18	06 20 10.776	-73 48 24.12	Tess004	0	9.16	095.0449	-73.8067	J/ApJS	LC
19	06 22 35.424	-74 10 52.32	Tess004	0	9.30	095.6476	-74.1812	J/ApJS	LC
20	06 17 37.968	-73 12 31.32	Tess004	0	9.36	094.4082	-73.2087	J/ApJS	LC
21	06 18 50.568	-73 47 36.96	Tess004	0	9.37	094.7107	-73.7936	J/ApJS	LC
22	06 16 46.272	-73 02 56.04	Tess004	0	9.39	094.1928	-73.0489	J/ApJS	LC
23	06 16 58.704	-72 39 42.48	Tess004	0	9.41	094.2446	-72.6618	J/ApJS	LC
24	06 05 46.776	-73 42 03.24	Tess004	0	9.46	091.4449	-73.7009	J/ApJS	LC
25	06 21 36.120	-71 45 47.88	Tess004	0	9.46	095.4005	-71.7633	J/ApJS	LC
26	06 21 55.752	-74 24 20.16	Tess004	0	9.46	095.4823	-74.4056	J/ApJS	LC
27	06 15 13.872	-73 50 11.76	Tess004	0	9.55	093.8078	-73.8366	J/ApJS	LC
28	06 04 33.504	-73 20 49.92	Tess004	0	9.58	091.1396	-73.3472	J/ApJS	LC
29	06 15 21.480	-73 24 57.24	Tess004	0	9.59	093.8395	-73.4159	J/ApJS	LC
30	06 06 24.288	-72 43 08.04	Tess004	0	9.63	091.6012	-72.7189	J/ApJS	LC
31	06 12 53.064	-73 58 22.80	Tess004	0	9.65	093.2211	-73.9730	J/ApJS	LC

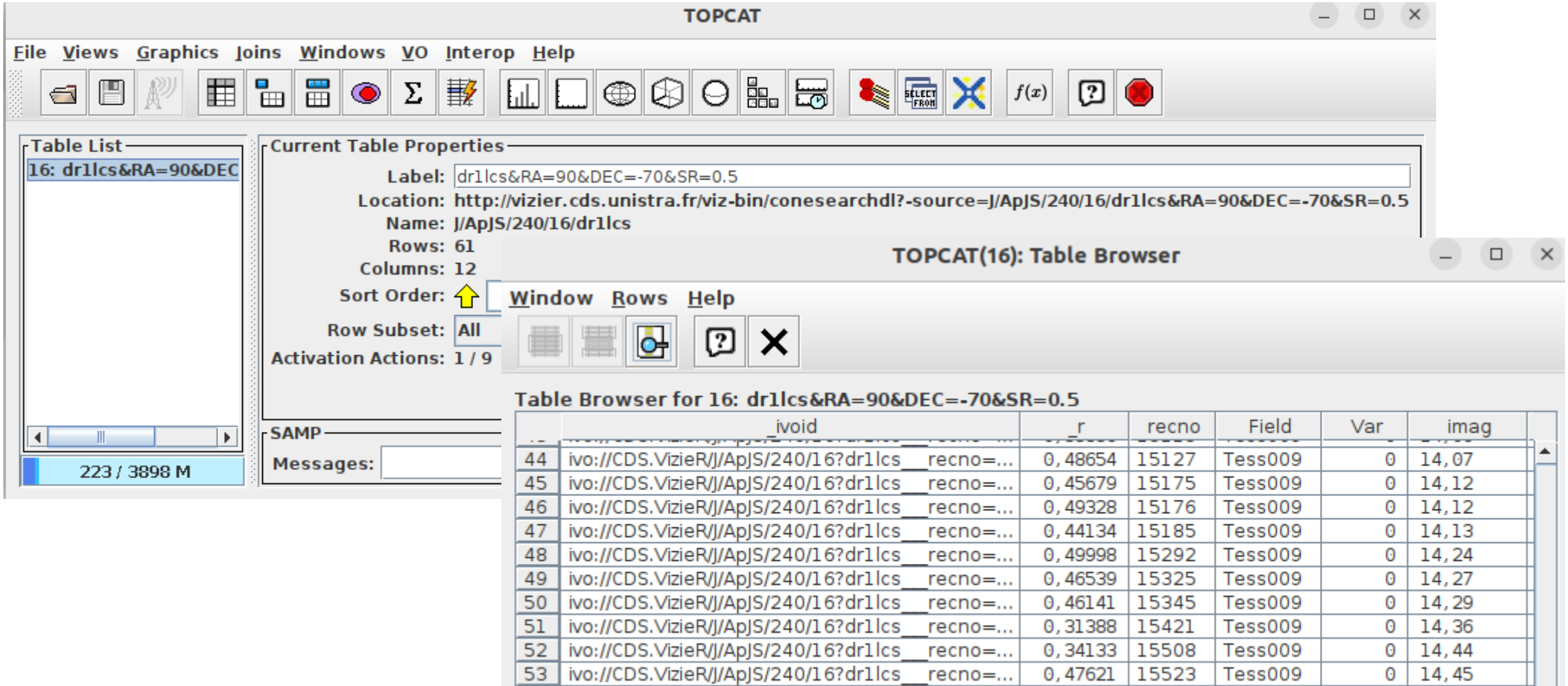


I want to access this !

/ftp-index?J/ApJS/240/16/lightcurves/detrended/Tess004/AST3II_Tess004_08.51_093.7407-72.4968_001881.dat

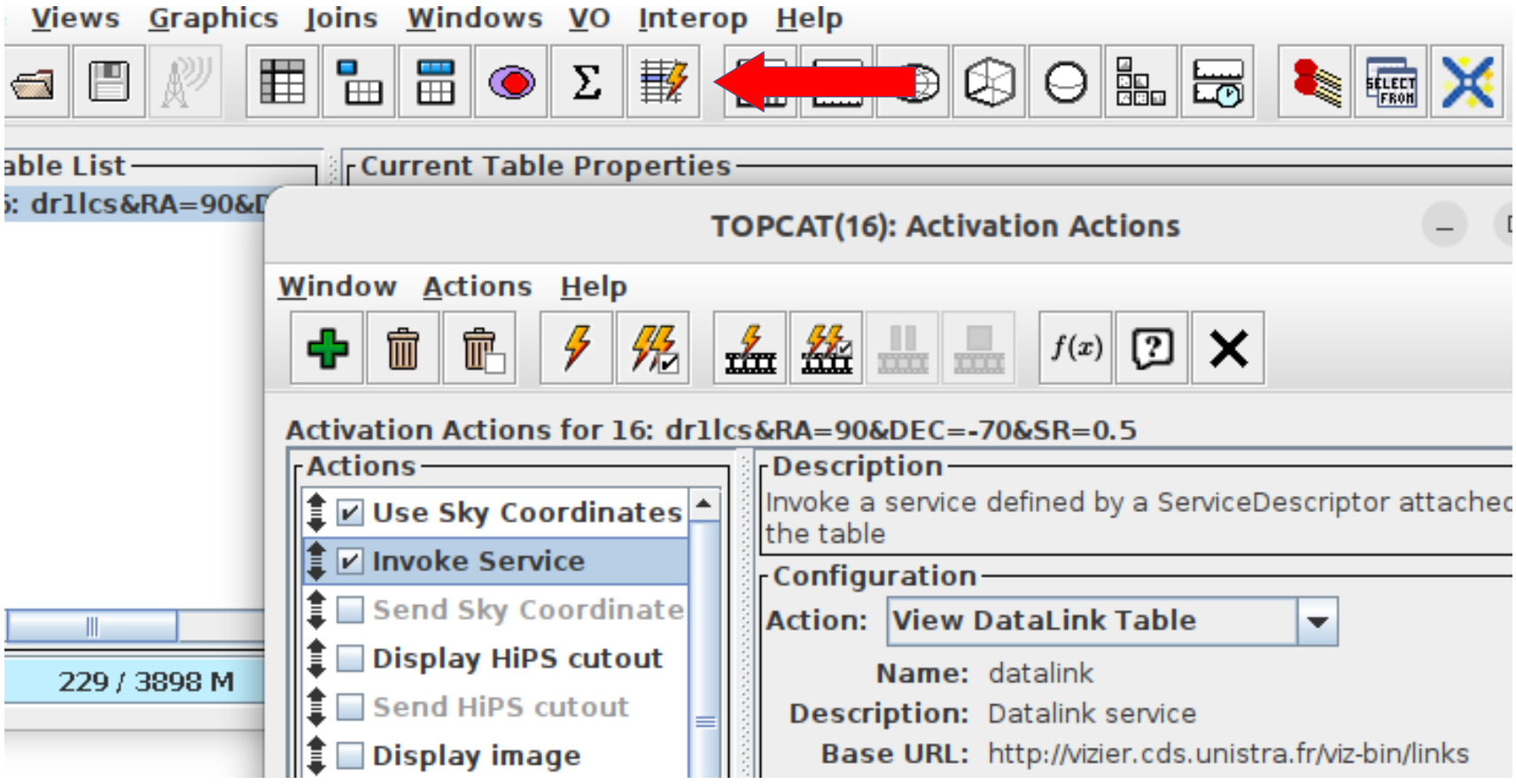
Access points

I can use TOPCAT:

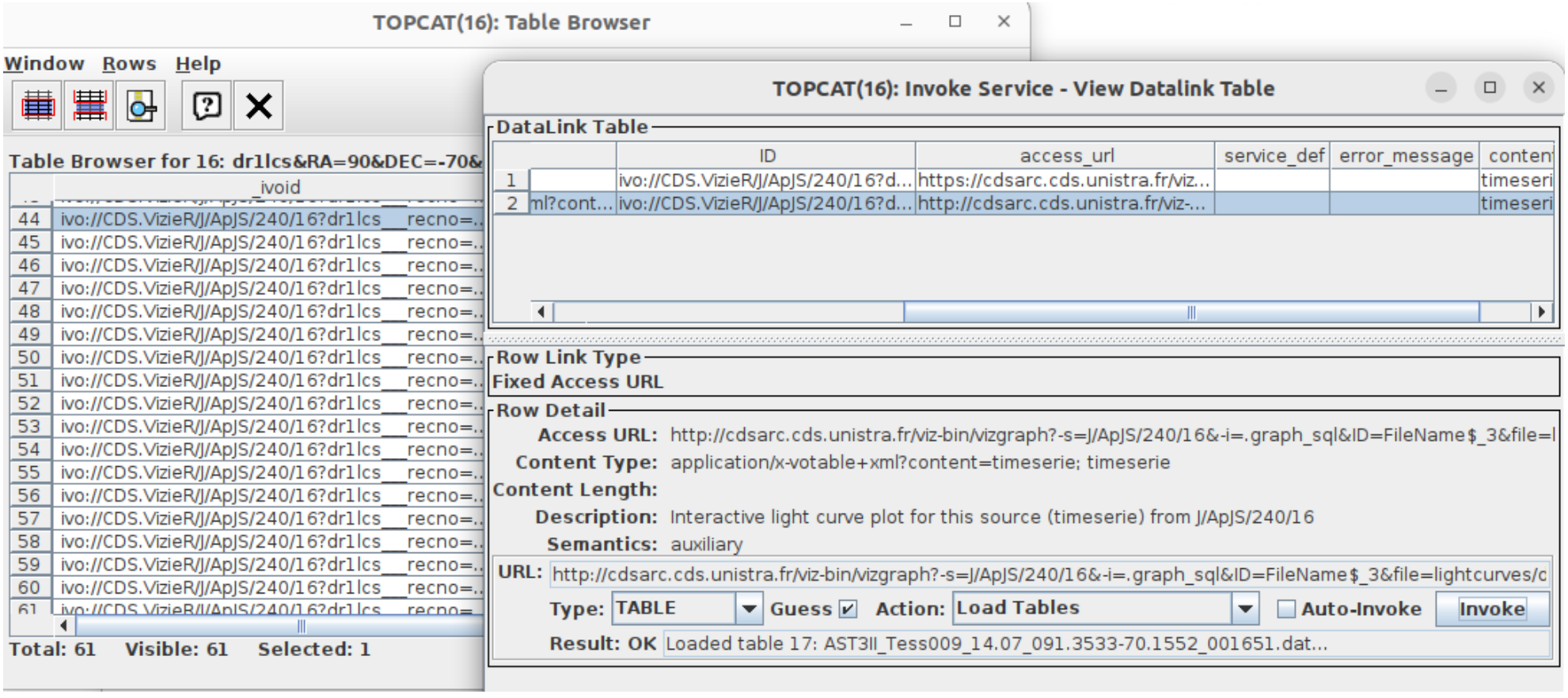


	ivoid	r	recno	Field	Var	imag
44	ivo://CDS.VizieR/J/ApJS/240/16?dr1lcs__recno=...	0,48654	15127	Tess009	0	14,07
45	ivo://CDS.VizieR/J/ApJS/240/16?dr1lcs__recno=...	0,45679	15175	Tess009	0	14,12
46	ivo://CDS.VizieR/J/ApJS/240/16?dr1lcs__recno=...	0,49328	15176	Tess009	0	14,12
47	ivo://CDS.VizieR/J/ApJS/240/16?dr1lcs__recno=...	0,44134	15185	Tess009	0	14,13
48	ivo://CDS.VizieR/J/ApJS/240/16?dr1lcs__recno=...	0,49998	15292	Tess009	0	14,24
49	ivo://CDS.VizieR/J/ApJS/240/16?dr1lcs__recno=...	0,46539	15325	Tess009	0	14,27
50	ivo://CDS.VizieR/J/ApJS/240/16?dr1lcs__recno=...	0,46141	15345	Tess009	0	14,29
51	ivo://CDS.VizieR/J/ApJS/240/16?dr1lcs__recno=...	0,31388	15421	Tess009	0	14,36
52	ivo://CDS.VizieR/J/ApJS/240/16?dr1lcs__recno=...	0,34133	15508	Tess009	0	14,44
53	ivo://CDS.VizieR/J/ApJS/240/16?dr1lcs__recno=...	0,47621	15523	Tess009	0	14,45

Access points



Access points



Access points

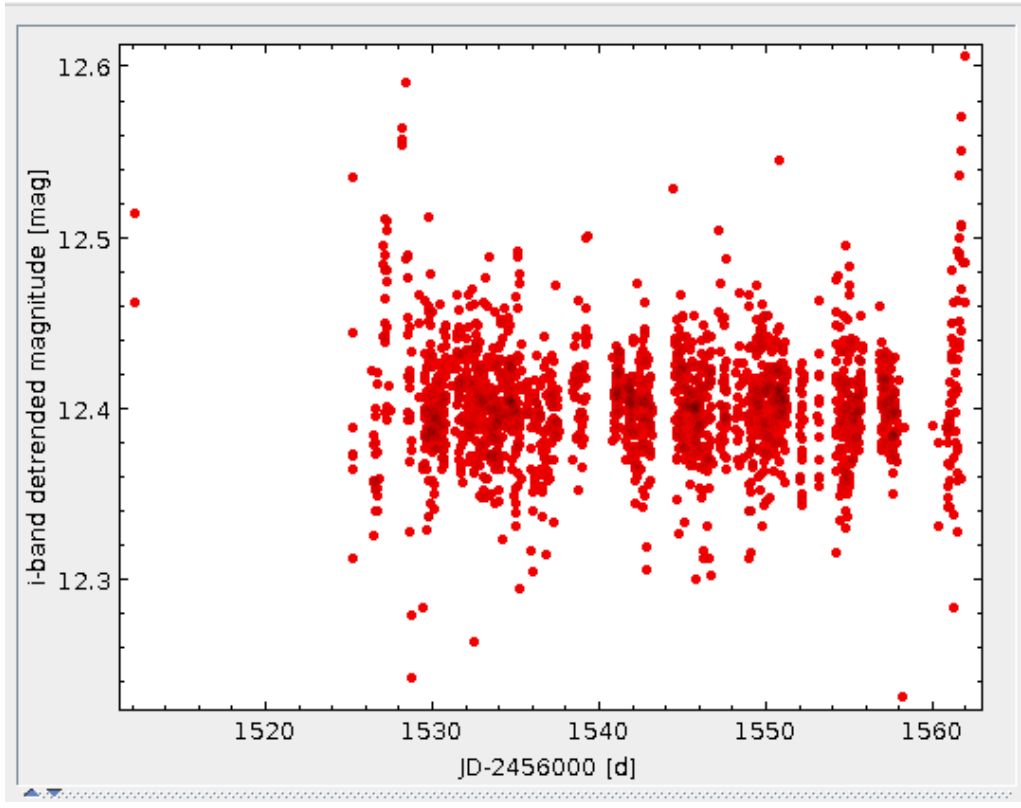
TOPCAT(19): Table Browser

Window Rows Help

Table Browser for 19: AST3II_Tess009_12.31_091.0437-70.1461_001834

	JD-2456000 [d]	i-band detrended magnitude [mag]	ERROR
1	1512,19	12,5138	0,0504
2	1512,2	12,4623	0,0483
3	1525,19	12,5349	0,0068
4	1525,2	12,3734	0,0072
5	1525,21	12,4437	0,0094
6	1525,22	12,3718	0,0066
7	1525,23	12,3119	0,0079
8	1525,24	12,3884	0,0079
9	1525,26	12,3637	0,0081
10	1526,32	12,4219	0,0114
11	1526,48	12,3579	0,0068
12	1526,5	12,3255	0,0102
13	1526,51	12,3787	0,0103
14	1526,52	12,3569	0,0099
15	1526,53	12,3839	0,0101
16	1526,55	12,3793	0,0093
17	1526,56	12,3733	0,009
18	1526,57	12,3951	0,0092
19	1526,58	12,3572	0,0094
20	1526,6	12,3403	0,0096
21	1526,61	12,3521	0,0096
22	1526,62	12,3996	0,0103
23	1526,63	12,3519	0,0104
24	1526,65	12,3581	0,0109
25	1526,66	12,3493	0,0113

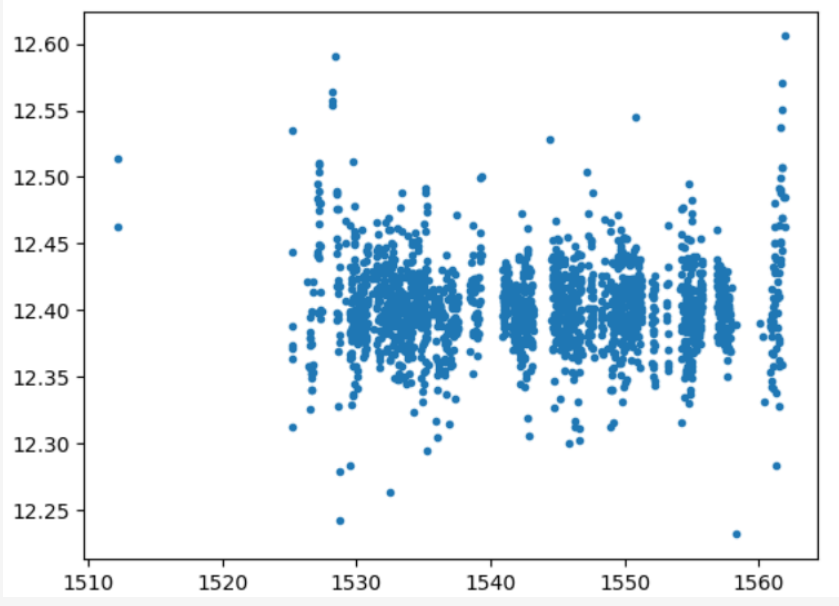
Total: 1 807 Visible: 1 807 Selected: 0



Access points

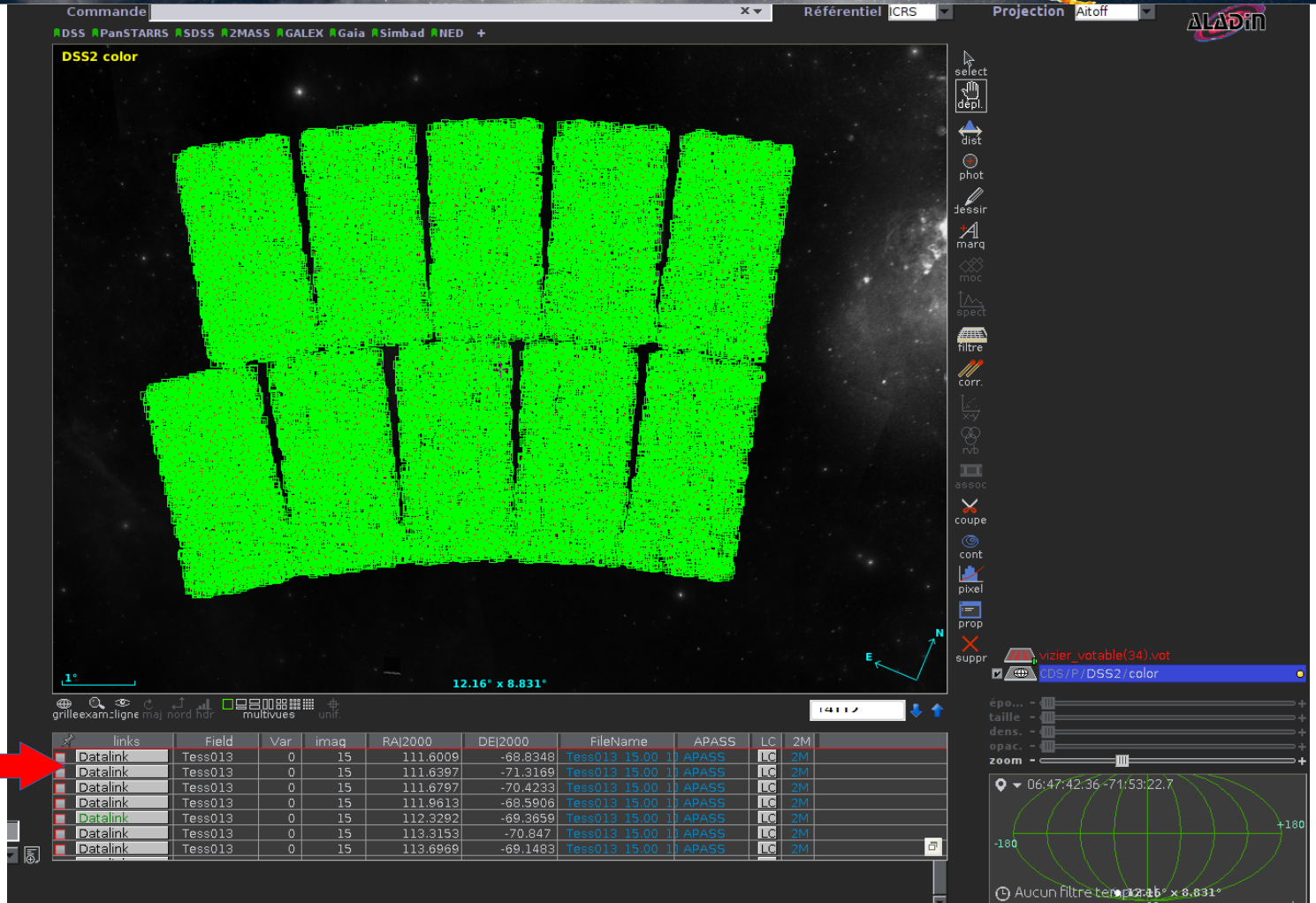
Or I can use python:

```
from pyvo.dal import SCSResults
from astropy.io.votable import parse
import pyvo as vo
import matplotlib.pyplot as plt

url="https://vizier.cds.unistra.fr/viz-bin/conesearchdl?-source=J/ApJS/240/16/dr1lcs&RA=90&DEC=-70&SR=0.4"
asu = parse(url)
resultset = SCSResults(asu)

dls = []
for rec in resultset:
    dls.append(rec.getdatalink())

dl = dls[0]
url = dl['access_url'][1]
t = parse(url)

tab = t.resources[0].tables[0].to_table()

c1 = tab.columns[0].name
c2 = tab.columns[1].name
plt.plot(tab[c1], tab[c2], linestyle='None', marker='.')
```



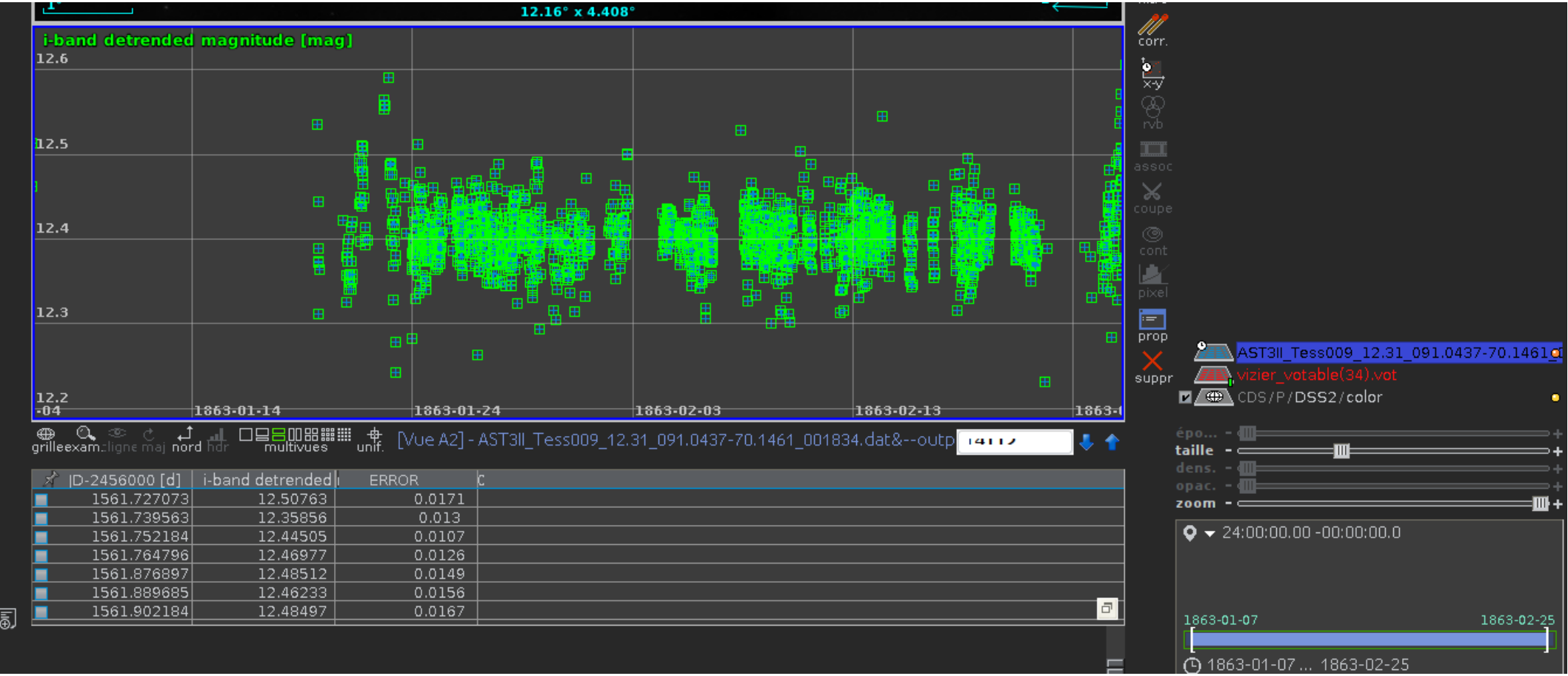
Access points

Or I can use Aladin:

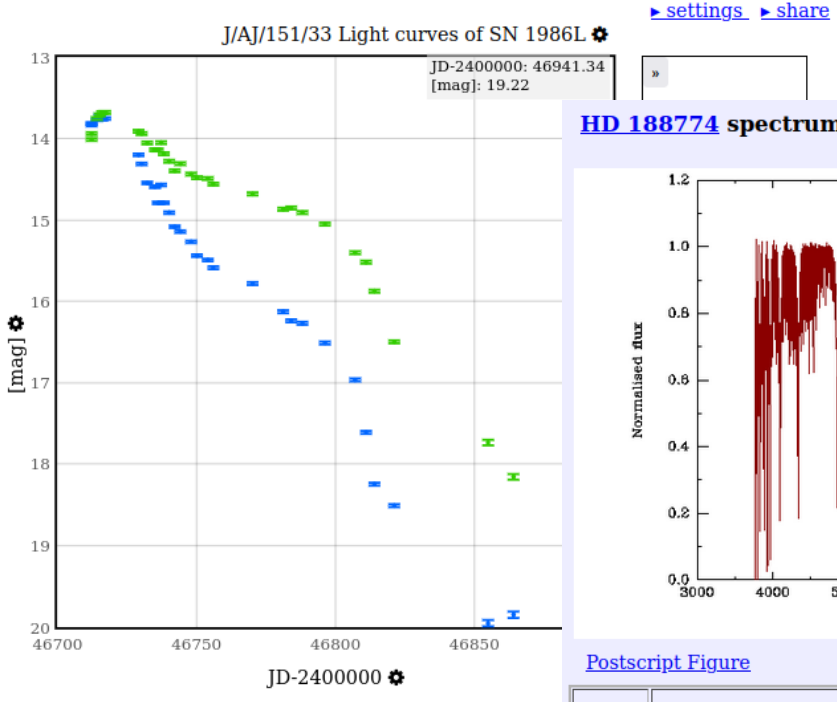


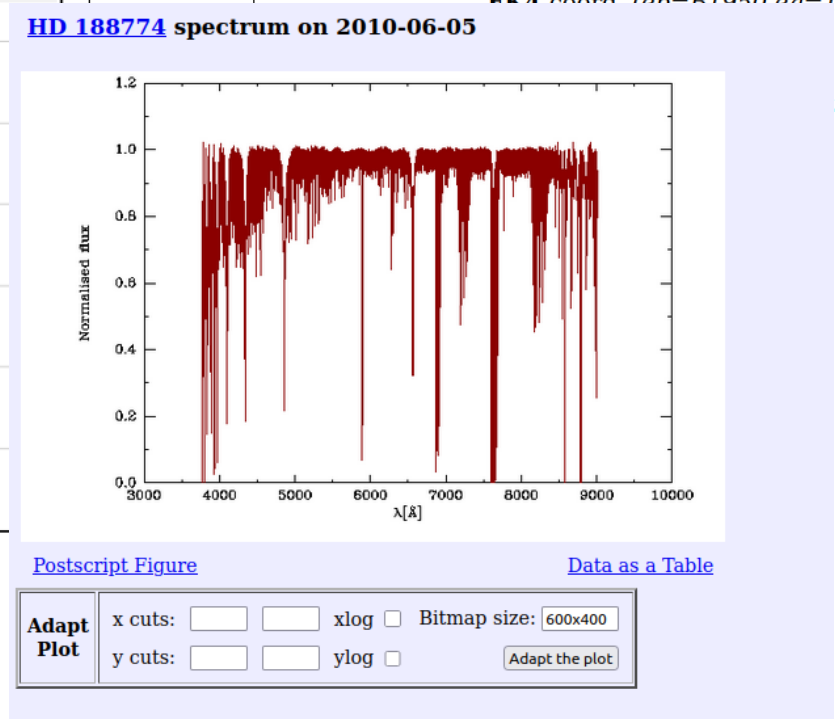
Access points

Or I can use Aladin:



What's next





Basic data :

V* RT And -- RS CVn Variable

Other object types: * (BD,AG,...), **SB*** (CABS,CCABS,...), **V*** (AN,V*), **RS*** (2009yC

ICRS coord. *(ep=J2000)* : **23 11 10.0984058784 +53 01 33.031339248 (Optical) [0.0122**

FK4 coord. *(ep=B1950 eq=1950)* : 23 08 55.4655244640 +52 45 15.816412570 [0.0122 0.0124 90

108.0575944385323 -06.9255900766492 [0.0122 0.0124 90]

-7.605 -21.777 [0.016 0.015 90] A 2020yCat.1350....0G

: **V(km/s) 0.60 [0.6] /** z(~) 0.000002 [0.000002] / cz 0.60 [0
A 2004MNRAS.349.1069K

10.1029 [0.0176] A 2020yCat.1350....0G

F8V+G0-K1-3V C 2005RoAJ...15S.163P

B 9.58 [0.02] **D** 2000A&A...355L..27H
V 9.043 [0.017] **D** 2000A&A...355L..27H
R 8.73 [0.06] **E** 2009yCat.1315....0Z
G 8.866708 [0.004517] **C** 2020yCat.1350....0G
J 8.037 [0.018] **C** 2003yCat.2246....0C
H 7.780 [0.020] **C** 2003yCat.2246....0C
K 7.687 [0.020] **C** 2003yCat.2246....0C

What's next

J/ApJ/756/L33/table1 — Radial velocities of 2 hot Jupiters in Praesepe (Quinn+, 2012)
Post annotation
Target list and observation summary *(53 rows)*

start AladinLite | plot the output | query using TAP/SQL

Full	Name	RAJ2000 "h:m:s"	DEJ2000 "d:m:s"	Vmag mag	Nv	rms m/s	Per d	e_ d	VP
37	Pr0201	08 41 43.8	+20 13 36.6	10.52	33	47.7	4.4264	0.0070	VP
42	Pr0211	08 42 11.5	+19 16 37.2	12.06	18	227.8	2.1451	0.0012	VP
50	Pr0266	08 46 47.3	+19 38 40.8	10.94	5	40.0			VP
49	Pr0259	08 45 27.9	+21 39 12.8	10.60	6	44.3			VP

Handle empty data

Infrared spectroscopy of symbiotic stars. XI. : J/AJ/153/35

Access to VizieR | FTP | ReadMe | TAP | Xmatch | Download notebook

Authors : Fekel F.C. , Hinkle K.H., Joyce R.R. et..al

VizieR DOI : https://doi.org/10.26093/cds/vizier.51530035 Cite
Bibcode : 2017AJ....153...35F (ADS) (Simbad) (Objects)

Article Origin | Description | Se

Infrared spectroscopy of symbiotic stars. XI. C ... us, Hen
Go to the original article (https://doi.org/10.3847/1538-3881/153/1/35)

Add Datalink usage example