

# Datalink recognition outside ObsTAP/SIAV2 context



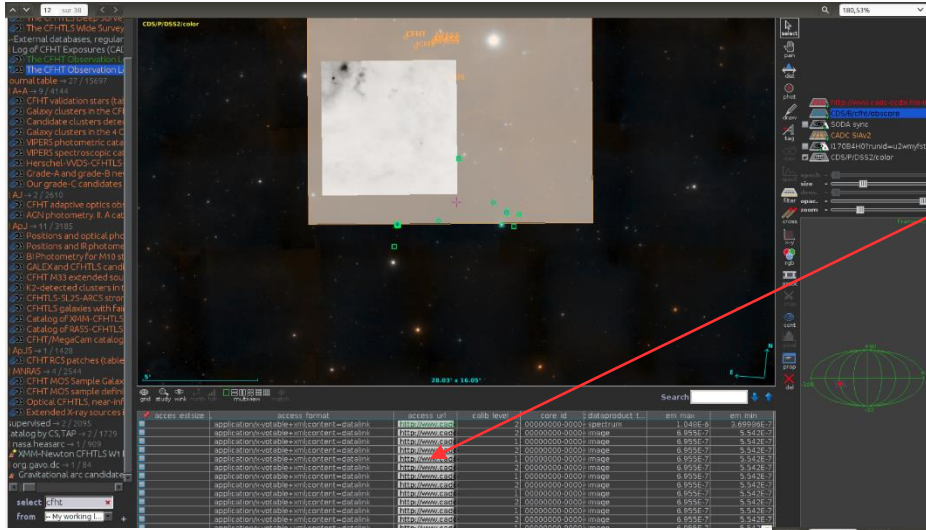
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acknowledges M.Louys, G.Landais, Pierre Fernique,  
Carlos Rodrigo, Chaitra, Alberto Micol

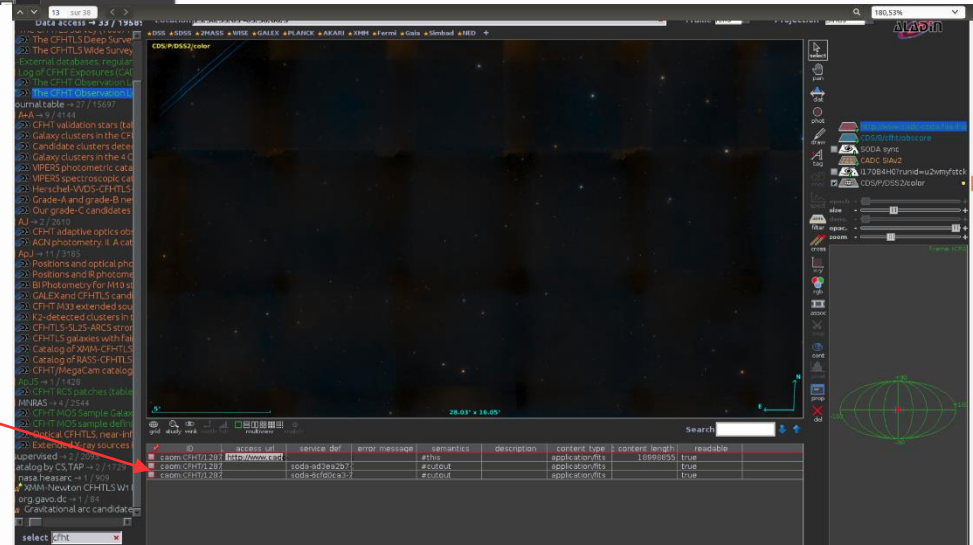


# The datalink issue



The field with the Datalink url is not recognized as such. Client cannot prepare appropriate behavior (DataLink popup window)

DataLink table is displayed in a wrong mode / not recognized as such



# Current specification

- If the table doesn't contain the {links} resource URL the specification says:
  - A DataLink Service descriptor helps us to define the {links} resource URL :

```
<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://example.com/mylinks" />
  <GROUP name="inputParams">
    <PARAM name="ID" datatype="char" arraysize="*" value="" ref="primaryID"/>
  </GROUP>
</RESOURCE>
```



# Feedback

- RESOURCE descriptors feedback for discovering {links} resource
  - Allow descriptions of several PARAMS
  - PARAMS are generally not settled, may have MIN/MAX or OPTIONS
  - Don't allow non PARAMetric URLs
  - Heavy to read service descriptors just for this
  - Not really adapted For One single constrained PARAM (ID= ...) which is more like a templated URL





# PROPOSAL 1

- Use classical VOTABLE LINK instead (attached to the table level) with new **content-type = « votable/xml;datalink »**

<TABLE...> <LINK content-type="xxx" href="xxx" ...>

Example for a FITS image:

```
<FIELD name="Image" ucd="meta.ref.url" datatype="char" arraysize="1">  
  <DESCRIPTION>[YN] Epic image of this observation (FITS)</DESCRIPTION>
```

```
  <LINK content-type="image/fits" title="Image" href="http://vizier.u-strasbg.fr/viz-bin/nph-  
htx/A?%5cvizContent%7b${Image}foo&bar"/>  
</FIELD>...
```

- Current list of content-types : image/fits, spectrum/fits, catalog/fits , etc..
- Behavior of application (Aladin) changes according to that
- Add content-type = "votable/xml;datalink"

```
<TABLE name=" Catalogue" >
```

```
  <LINK content-type="votable/xml;datalink" title="Image" href="http://dummy.service/datalink/ID=${source}/foo&bar"/>
```

....



# PROPOSAL 1

- Pros :
  - Extends already working functionality.
  - URL templating
- Cons :
  - Doesn't work if url format changes from line to line



# The non-ObsCore table already contains {links} URL

- If the table contains a URL with dataLink. How do we tag it ?
  - In Obscore context, the column « format » beside the « reference » column tells us if the URL is a datalink .
  - The value must be « application/votable+xml;content=datalink »



# Proposal 2

- Add a GROUP with two columns with Obscure utypes (or more)

```
<RESOURCE ID="yCat_102009" name="B/xmm">
<DESCRIPTION>XMM-Newton Observation Log (XMM-Newton Science Operation Center, 2012)</DESCRIPTION>
<COOSYS ID="J2000" system="eq_FK5" equinox="J2000"/>
<TABLE ID="B_xmm_xmmlog" name="B/xmm/xmmlog">
<DESCRIPTION>The XMM-Newton Observation log (2017-04-24)\vizContent{image/fits}</DESCRIPTION>
...
  <GROUP utype="Obs:access">
    <FIELDREF ref="B" utype="Obs:access.format" />
    <FIELDREF ref="C" utype="Obs:access.reference" />
    <FIELDREF ref="D" utype="Obs:dataID.title" />
  </GROUP>
<FIELD ID="B" name="Format">
  <DESCRIPTION>Encoding format</DESCRIPTION>
</FIELD>
<FIELD ID="C" name="Image" ucd="meta.ref.url" datatype="char" arraysize="1">
  <DESCRIPTION>[YN] Epic image of this observation (FITS)</DESCRIPTION>
</FIELD>
<FIELD ID="D" name="Label">
  <DESCRIPTION>Product label </DESCRIPTION>
</FIELD>
...
<DATA><TABLEDATA>
  <TR>
    ...
    <TD>application/votable+xml;content=datalink</TD>
    <TD>http://vizier.u-strasbg.fr/viz-bin/nph-htx?myimage3145</TD>
    <TD>image 3145 datalink
```





# Proposal 2

- Pros :

- Utype/ucd complementarity
- Allows variability from line to line
- Full description
- Reuses ObsCore.

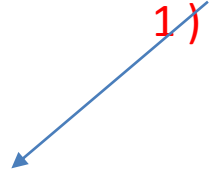
- Cons

- Requires adding fields (or params) and a group



```
<RESOURCE type="results">
  <INFO name="QUERY_STATUS" value="OK"/>
  <TABLE>
    <DESCRIPTION>SpeX Prism Library. Published spectra.</DESCRIPTION>
    <PARAM name="Creator" utype="ssa:DataID.Creator" datatype="char" arraysize="*" value="SVO"/>
    <PARAM name="DataSource" utype="ssa:DataID.DataSource" datatype="char" arraysize="*" value="survey"/>
    <PARAM name="CreationType" utype="ssa:DataID.CreationType" datatype="char" arraysize="*" value="archival"/>
    <PARAM name="Publisher" utype="ssa:Curation.Publisher" datatype="char" arraysize="*" value="SVO/CAB"/>
    <PARAM name="PublisherID" utype="ssa:Curation.PublisherID" datatype="char" arraysize="*" value="ivo://svo.cab"/>
    <PARAM name="PublisherDID" utype="ssa:Curation.PublisherDID" datatype="char" arraysize="*" value="ivo://svo.cab/cat/spex"/>
    <PARAM name="Reference" utype="ssa:Curation.Reference" datatype="char" arraysize="*" value="http://svo2.cab.inta-csic.es/vocats/v2/spex/documentation.php"/>
    <PARAM name="Contact.Name" utype="ssa:Curation.Contact.Name" datatype="char" arraysize="*" value="Enrique Solano"/>
    <PARAM name="Contact.Email" utype="ssa:Curation.Contact.Email" datatype="char" arraysize="*" value="esm@cab.inta-csic.es"/>
    <PARAM name="input:RA" datatype="double" value="180.000000"/>
    <PARAM name="input:DEC" datatype="double" value="0.000000"/>
    <PARAM name="input:SR" datatype="double" value="20.000000"/>
    <PARAM name="input:VERB" datatype="int" value="2">...</PARAM>
    <FIELD name="RA" ucd="POS_EQ_RA_MAIN" unit="deg" datatype="double">...</FIELD>
    <FIELD name="DEC" ucd="POS_EQ_DEC_MAIN" unit="deg" datatype="double">...</FIELD>
    <FIELD name="dis" ucd="POS_ANG_DIST_GENERAL" unit="arcsec" datatype="float">...</FIELD>
    <FIELD ID="name" name="name" ucd="ID_MAIN" unit="" datatype="char" arraysize="*">...</FIELD>
    <FIELD name="name_link" ucd="meta.ref.url" datatype="char" arraysize="*">...</FIELD>
    <FIELD ID="name2m" name="name2m" ucd="" unit="" datatype="char" arraysize="*">...</FIELD>
    <FIELD ID="jmag" name="jmag" ucd="" unit="mag" datatype="char" arraysize="*">...</FIELD>
    <FIELD ID="hmag" name="hmag" ucd="" unit="mag" datatype="char" arraysize="*">...</FIELD>
    <FIELD ID="ksmag" name="ksmag" ucd="" unit="mag" datatype="char" arraysize="*">...</FIELD>
    <FIELD ID="optspty" name="optspty" ucd="" unit="" datatype="char" arraysize="*">...</FIELD>
    <FIELD ID="nirspty" name="nirspty" ucd="" unit="" datatype="char" arraysize="*">...</FIELD>
    <FIELD ID="ref" name="ref" ucd="" unit="" datatype="char" arraysize="*">...</FIELD>
    <FIELD ID="dateobs" name="dateobs" ucd="" unit="" datatype="char" arraysize="*">...</FIELD>
    <FIELD name="access_format" ucd="meta.note" utype="obscure:Access.Format" type="hidden" datatype="char" arraysize="*">...</FIELD>
    <FIELD name="access_url" ucd="meta.ref.url" utype="obscure:Access.Reference" datatype="char" arraysize="*">...</FIELD>
  <DATA>
    <TABLEDATA>
      <TR>
        <TD>181.9465583</TD>
        <TD>2.7402583</TD>
        <TD>12099.007703582</TD>
        <TD>SDSS J120747.17+024424.8</TD>
      <TD>
        http://simbad.u-strasbg.fr/simbad/sim-basic?Ident=SDSS+J120747.17%2B024424.8
      </TD>
      <TD>J12074717+0244249</TD>
      <TD>15.58</TD>
      <TD>14.561</TD>
      <TD>13.986</TD>
      <TD>L8</TD>
      <TD>T0</TD>
      <TD>
        Looper, Kirkpatrick, and Burgasser (2007) AJ, 134, 1162
      </TD>
      <TD>2006 Dec 21</TD>
      <TD>application/x-votable+xml;content=datalink</TD>
      <TD>
        http://svo2.cab.inta-csic.es/vocats/v2/spex/dl.php?ID=SDSS+J120747.17%2B024424.8
      </TD>
    </TR>
  </TABLEDATA>
</TABLE>
</RESOURCE>
```

SVO Example .  
Cortesy of Carlos Ro  
1) Main Table



```

</FIELD>
▼<FIELD ID="semantics" arraysize="*" datatype="char" name="semantics" ucd="meta.code">
  ▼<DESCRIPTION>
    What kind of data is linked here? Standard identifiers here include science, calibration, preview, info, auxiliary
  </DESCRIPTION>
</FIELD>
▼<FIELD ID="content_type" arraysize="*" datatype="char" name="content_type" ucd="meta.code.mime">
  <DESCRIPTION>MIME type for the data returned.</DESCRIPTION>
</FIELD>
▼<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>
  ▼<TABLEDATA>
    ▼<TR>
      <TD>2MASS J11463232+0203414</TD>
      ▼<TD>
        http://svo2.cab.inta-csic.es/vocats/v2/spex/ssap.php?ID=2MASS+J11463232%2B0203414&label=spec_vot
      </TD>
      <TD>Spectrum (votable)</TD>
      <TD>#this</TD>
      <TD>application/x-votable+xml</TD>
      <TD>-1</TD>
    </TR>
    ▼<TR>
      <TD>2MASS J11463232+0203414</TD>
      ▼<TD>
        http://svo2.cab.inta-csic.es/vocats/v2/spex/ssap.php?ID=2MASS+J11463232%2B0203414&label=spec_txt
      </TD>
      <TD>Spectrum (ASCII)</TD>
      <TD>#auxiliary</TD>
      <TD>text/plain</TD>
      <TD>-1</TD>
    </TR>
    ▼<TR>
      <TD>2MASS J11463232+0203414</TD>
      <TD>http://adsabs.harvard.edu/abs/2004AJ...127.2856B</TD>
      <TD>Reference: Burgasser et al. (2004) AJ, 127, 2856</TD>
      ▼<TD>
        http://www.ivoa.net/rdf/Vocabularies/UCD#Metarefurl
      </TD>
      <TD>text/html</TD>
      <TD>-1</TD>
    </TR>
    ▼<TR>
      <TD>2MASS J11463232+0203414</TD>
      <TD>http://pono.ucsd.edu/~adam/browndwarfs/spexprism/</TD>
      <TD>Reference: SpeX Prism Library web page.</TD>
      ▼<TD>
        http://www.ivoa.net/rdf/Vocabularies/UCD#Metarefurl
      </TD>
      <TD>text/html</TD>
      <TD>-1</TD>
    </TR>
  </TABLEDATA>
</DATA>
</FIELD>

```

SVO Example .  
 Courtesy of Carlos Ro  
 2 ) Datalink Table

# Semantics Field/ Proposal 3

- Semantics tells what's the status of the resource we
- link to the dataset with respect to i
  - This ---> an avatar of the record itself
  - Preview ---> a preview of the dataset
  - Cutout, proc ---> service applied to the dataset
  - Auxiliary ---> associated file
  - ----> usefull to say that the associated file is a TimeSeries, a spectrum, or a text/html description
- Proposal : add spectrum, image, TimeSeries etc ... to the auxiliary branch



# Possible other solution (not retained)

## Asterics Hackathon one

- Add a complement to the url ucd of the field

```
<FIELD name="url" ucd="meta.ref.url;meta.type.datalink" datatype="char" arraysize="128*">
```

- Pros :

- Self consistent

- Cons :

- Ucd approach difficult to generalize:  
Fuzzy+fuzzy not always gives accurate meaning
- Doesn't work if url format changes from line to line





# Possible other solutions (not retained)

## □ additional obscure access utype

- Add a « access.datalink » utype to ObsCore
  - Pros :
    - self consistent
    - Let ucd usage free
  - Cons :
    - Requires Modification of ObsCore
    - Doesn't work if url format changes from line to line

