

Simple Image Access protocol: experience from installation in Aladin server

- **We have a test Aladin server which contains a few data from the GOODS survey and other data**
- **3 kinds of output have been implemented in this server:**
 - **Classical string mode for aladin 1.4 and older**
 - **IDHA protocol metadata tree (AVO proto, Next version of aladin)**
 - **SIAP1 atlas and SIAP1 cutout services (available in beta version now and fully for IAU demos)**

Example of output

```
• <?xml version="1.0"?>
• <!DOCTYPE VOTABLE SYSTEM "http://us-vo.org/xml/VOTable.dtd">
• <VOTABLE ID="v1.0">
•   <DESCRIPTION> SIAP output for Aladin server </DESCRIPTION>
•   <RESOURCE type="results">
•     <INFO name="QUERY_STATUS" value="OK"/>
•     <TABLE>
•       <FIELD ID="Observation_Name" ucd="VOX:Image_Title" datatype="char" arraysize="*" />
•       <FIELD ID="CentralPoint_RA" ucd="POS_EQ_RA_MAIN" datatype="double" />
•       <FIELD ID="CentralPoint_DEC" ucd="POS_EQ_DEC_MAIN" datatype="double" />
•       <FIELD ID="Naxes" ucd="VOX:Image_Naxes" datatype="int" />
•       <FIELD ID="Naxis" ucd="VOX:Image_Naxis" datatype="int" arraysize="*" />
•       <FIELD ID="AngularPixelSize" ucd="VOX:Image_Scale" datatype="double" arraysize="*" unit="deg" />
•       <FIELD ID="OriginalCoding" ucd="VOX:Image_Format" datatype="char" arraysize="*" />
•       <FIELD ID="Filter_Name" ucd="VOX:BandPass_ID" datatype="char" arraysize="*" />
•       <FIELD ID="Effective_wavelength" ucd="VOX:BandPass_RefValue" datatype="double" unit="um" />
•       <FIELD ID="Minimal_wavelength" ucd="VOX:BandPass_LoLimit" datatype="double" unit="um" />
•       <FIELD ID="Maxima_wavelength" ucd="VOX:BandPass_HiLimit" datatype="double" unit="um" />
•       <FIELD ID="Location" ucd="VOX:Image_AccessReference" datatype="char" arraysize="*" />
•     <DATA>
•       <TABLEDATA>
•         <TR>
•           <TD>GOODS-WFI_DEEP2C-FI</TD>
•           <TD>53.119485 </TD>
•           <TD>-27.803630 </TD>
•           <TD>2</TD>
•           <TD></TD>
•           <TD>0.000066 0.000066</TD>
•           <TD>image/fits</TD>
•           <TD>ICLWP</TD>
•           <TD></TD>
•           <TD>0.783000</TD>
•           <TD>1.001000</TD>
•           <TD><![CDATA[http://aladin.u-strasbg.fr/cgi-bin/nph-HTTP.cgi?out=image&position=053.11629+-27.80875&survey=GOODS-
WFI&color=ICLWP&mode=view]]></TD>
•         </TR>
•       </TABLEDATA>
•     </DATA>
•   </TABLE>
• </RESOURCE>
• </VOTABLE>
```

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Lessons learnt: propositions for Version 2

- **Additional information needed:**
 - Observing Program or Dataset/ Datacollection field
 - compression flag among the Image_Pixflags
 - distinguish availability from image generation, either by answering by URL templates (parametrizable) or by defining a new Image/metadata format (to refine the query)
 - at least distinguish RADIUS of the ROI and SIZE of the Image , specially at the POLE.
- **VOX – CDS/ESO UCDs: additional correspondances can be found with the assignator. Some still missing. UCD evolution: Cf working group on UCDs in this meeting**
- **Is it possible to put some hierarchy in SIAP?**

UCDs equivalence

- **Image_Title** <> **ID_IMAGE**
- **Image_Naxis** <> **INST_DET_SIZE**
- **Image_Scale** <> **INST_SCALE**
- **STC_CoordEquinox** <> **TIME_EQUINOX**
- **BandPass_ID** <> **ID_FILTER**
- **BandPass_RefValue**
- **<>INST_WAVELENGTH_EFFECTIVE**
- **BandPass_HiLimit** <> **INST_BANDPASS**
- **BandPass_LoLimit** <> **INST_BANDPASS**
- **Image_AccessReference** <> **DATA_LINK**

ASOM grp

Metadata Tree

- + GOODS-WFI
- GOODS-ISAAC
 - + J
 - + H
 - + KS
- GOODS-HST-ACS
 - + F435W
 - F850LP
 - epoch1
 - CDF-SOUTH-TILE-1
 - CDF-SOUTH-TILE-1
 - CDF-SOUTH-TILE-1
 - CDF-SOUTH-TILE-1
 - CDF-SOUTH-TILE-1
 - CDF-SOUTH-TILE-1
 - CDF-SOUTH-TILE-1
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 - CDF-SOUTH-TILE-1
 - CDF-SOUTH-TILE-1
 - CDF-SOUTH-TILE-1
 - CDF-SOUTH-TILE-1
 - CDF-SOUTH-TILE-1
 - + epoch2
 - + F775W
 - + F606W
- GOODS-ACIS
 - + HR. 1-10KEV
 - + LR. 1-10KEV

Cutout/image center: []

Radius: [10 arcmin] Build tree

Observation_Name	CDF-SOUTH-TILE-NORM-3
Size_alpha	0.058739 deg
Size_delta	0.058842 deg
Angular Pixel Size	0.000014 deg
Origin	STSCI
OriginalCoding	FITS
AvailableCodings	FITS
CentralPoint_RA	03:32:44.67
CentralPoint_DEC	-27:47:08.1
DateAndTime	2002-08-01
Position Angle	70.102715 deg

Display/hide image field

Hide all fields


Load image

Submit Reset

ASOM grp

Load... Save... Tree... Print... Help on

2000 - [03:31:41.08 -27:56:29.6] [!] Field:



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IDHA metadata tree and access to images

ALADIN app
ALADIN app

Metadata Tree

<i>Object</i>	NDWFS J1428+3456 Bootes Bw-band
<i>Survey</i>	NOAO Deep Wide Field
<i>instrument</i>	NOAO.NDWFSJ1428P3456_BW_02
<i>RA</i>	14:32:05.76
<i>DEC</i>	+34:16:47.6
<i>naxes</i>	2
<i>naxis</i>	1816,2258
<i>scale</i>	-7.16667e-05,7.16667e-05
<i>format</i>	image/fits
<i>accessreference</i>	http://archive.noao.edu/nvo/sim/cutout
<i>referenceframe</i>	ICRS
<i>equinox</i>	2000
<i>cprojection</i>	TAN
<i>crefpixel</i>	-10801,-12746
<i>crefvalue</i>	-7.16667e-05,7.16667e-05
<i>cdmatrix</i>	-7.16667e-05 0 0 7.16667e-05
<i>filesize</i>	16413120
<i>pixflags</i>	C

ALADIN
Load...
Save...
Tree...
Print...
Help on
Get Doc
About...

J2000
14:27:55.59 +34:59:23.6
Field: 14:27:59.87 +34:59:5

SIAP NOAO image metadata and access to the image

Why a hierarchical output? And how to build it

- **Example of usage: AVO Science demo**
 - Allow some factorisation
 - Allow to group similar kind of data
- **Two possible strategies to build metadata trees:**
 - done by client from a flat VOTABLE structure (eg, SIAP1)
 - done by server from a hierarchical VOTABLE structure (eg, IDHA Metadata tree)
- **The first strategy requires more work on the client side. The latter is simpler for the client (just use a VOTABLE browser) but requires more work for the server**

The IDHA metadata tree

- It relies on the IDHA datamodel (for objects = tables, attributes = fields, and some of the links)
- The tree structure is made by using the recursive definition of <RESOURCE> in VOTABLE
- The tree has the basic structure:
**Request->ObservingPrograms->ObservationGroups
->Observations + additional children for details**
- Other tree structures can be derived from the model
- Documentation available on IVOA DM and DAL archive
- Thanks to: M.Allen, T.Boch, S.Derrière, P.Fernique, M.Louys, A.Schaaff (CDS or AVO funding)