

# ProvHiPS :

A ProvTAP service for providing  
IVOA provenance metadata  
for HiPS



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on behalf of the « provenance datamodel »  
author team of the IVOA



# HiPS : hierarchical multi-resolution organisation of the data





# HiPS : increasing resolution

v10.0 \*\*\* BETA VERSION (based on v10.073) \*\*\*

Aladin v10.0

File Edit Image Catalog Overlay Coverage Tool View Interop Help

Available data → 2 Command  Frame  Projection

in view out view

SDSS 2MASS WISE GALEX PLANCK AKARI XMM Fermi Gaia Simbad HED +

DSS2 color

Collections → 22793

- Image → 407
- Data base → 5
- Catalog → 21414
- Cube → 10
- Ancillary → 66
- Outreach → 43
- Others → 846
- Problematic → 2

select pan dist phot draw tag moc spect filter cross rgb addsc crop cont pixel prop del

Last news

New HiPS available:

- IPHAS DR2 r and halpha (Feb 2019-CDS)
- HIPASS cube (Feb 2019-CDS)
- PanSTARRS y band (Jan 2019-CDS)
- DECaLS-DR5 g band (Nov 2018-CDS)
- UKIRT Hemisphere Survey, UHS DR1 J-band WFCAM (6 oct 2018 - WFAU)

Ok

epoch size dens. opac. zoom

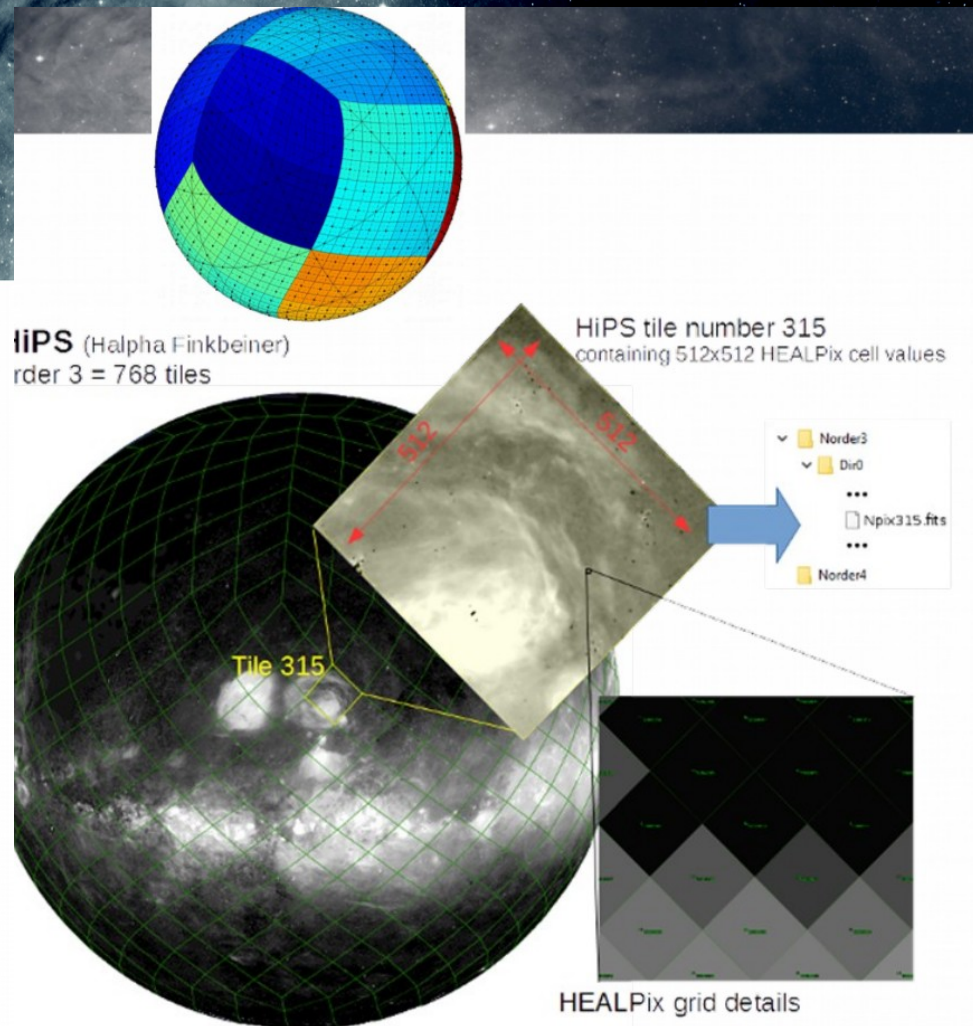
SAO7046

Adjust the zoom level of selected views

21.2° x 14.93°

exp. sort view scan grid study wink north hdr multiview match

# HiPS : special data organisation





# CDS prototype content : HiPS and progenitors

- HiPS
  - Multiresolution all sky view, hierarchical, based on healpix cells at all orders
  - needs processing of « original images » to be generated
  - It's a VO standard.
- Tools exist to generate and read it
- Progenitors are some time available
- AT CDS : Metainformation on the HiPS has been transferred in a relational database underlying the ProvTAP service



# Motivation : Trace the history of HiPS

Every step in the same way (in contrast to HiPS properties spec)

→ Schmidt plates → DSS → DSS color → HiPS

→ MEGACAM → CFHTLS stacks → HiPS





# What is ProvTAP for ?

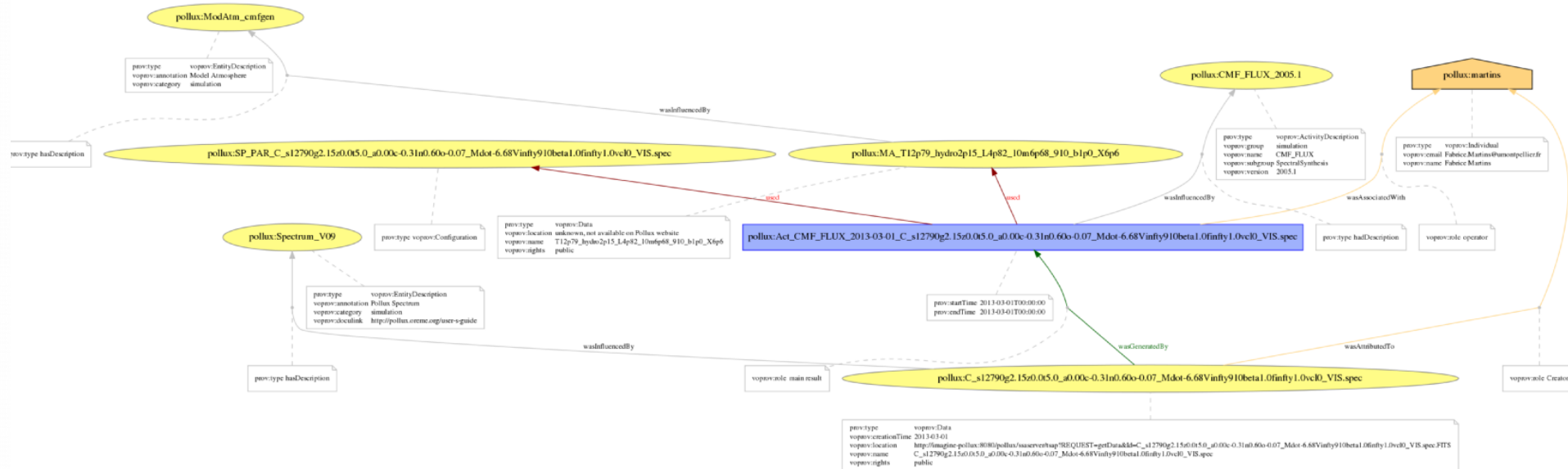
- Distributing provenance metadata for astronomical datasets
- Selecting datasets by provenance
- ProvTAP is a specification for services serializing IVOA provenance metadata model



# Serialisation and services : ProvSAP exists

- A parameter based service to get provenance information for a dataset in several formats including graphical format

Parameter	Values	Description
Mandatory	ID	qualified ID a valid qualified identifier for an entity, activity or agent (can occur multiple times)
	DEPTH	0,1,2,..., ALL number of relations to be followed or ALL for everything, independent of the relation type
	RESPONSEFORMAT	PROV-N, PROV-JSON, PROV-XML, PROV-VOTABLE serialisation format of the response
Optional	DIRECTION	BACK, FORTH BACK = track the provenance history, FORTH = explore the results of activities and where entities have been used
	MEMBERS	true (1) or false (0) if true/1, retrieve and track members of collections
	STEPS	true (1) or false (0) if true/1, retrieve and track steps of activityFlows
	AGENT	true (1) or false (0) if true/1, explore all relations for agents, i.e. find out what an agent is responsible for
	MODEL	IVOA or W3C compatibility of the serialization to IVOA or W3C standards





# ProvTAP specification for datamodel serialisation and metadata service

- 1 ) ProvTAP is ....TAP
- 2 ) mapping of the model classes/attributes to the relational view.
- 3) specification is currently an internal IVOA draft



## IVOA Provenance Table Access Protocol (ProvTAP)

Version 1.0

IVOA Working Draft 2018-03-22

Working group  
DM

This version  
<http://www.ivoa.net/documents/ProvTAP/20180322>

Latest version  
<http://www.ivoa.net/documents/ProvTAP>

Previous versions

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## Abstract

This document describes the ProvTAP protocol for accessing provenance information according to the IVOA ProvenanceDM standard. It defines how the elements of ProvDM are described in the TAP schema tables and provides guidelines for implementing with TAP 1.1.

# TAP

- A specification which defines :
  - Interoperable table services, with relational view
  - Queriable via a sql-oriented language : ADQL
  - Lot of tap services in many datacenters and big projects archives.
- DataModels can be mapped in TAP via the « TAP schema » (the database schema) using object/relational mapping guidelines





# ProvTAP

- A TAP schema has been defined
  - All classes and attributes of the model are mapped onto tables and columns of the schema
- A Prototype has been recently developped at CDS  
→ screenshots in next slides
- CTA/HESS implementation in development in collaboration with CDS



# Some ProvTAP tables :

## datasetEntity

Name	ucd	utype	datatype
d_id	meta.id	voprov:DatasetEntity.id	char
d_name	meta.title	voprov:DatasetEntity.name	char
d_type	meta.code.class	voprov:DatasetEntity.type	char
d_rights	meta.code.class	voprov:Entity.rights	char
d_comment	meta.description	voprov:DatasetEntity.comment	char
d_location	meta.ref.url	voprov:DatasetEntity.location	char
→ d_hadMember	meta.code.member	voprov:Entity.hadMember	char
→ d_description	meta.id	voprov:Entity.description_id	char
→ d_usedEntity	meta.id	voprov:Entity.wasDerivedFrom.usedEntity	char

*Table 3:* Column description for DatasetEntity table

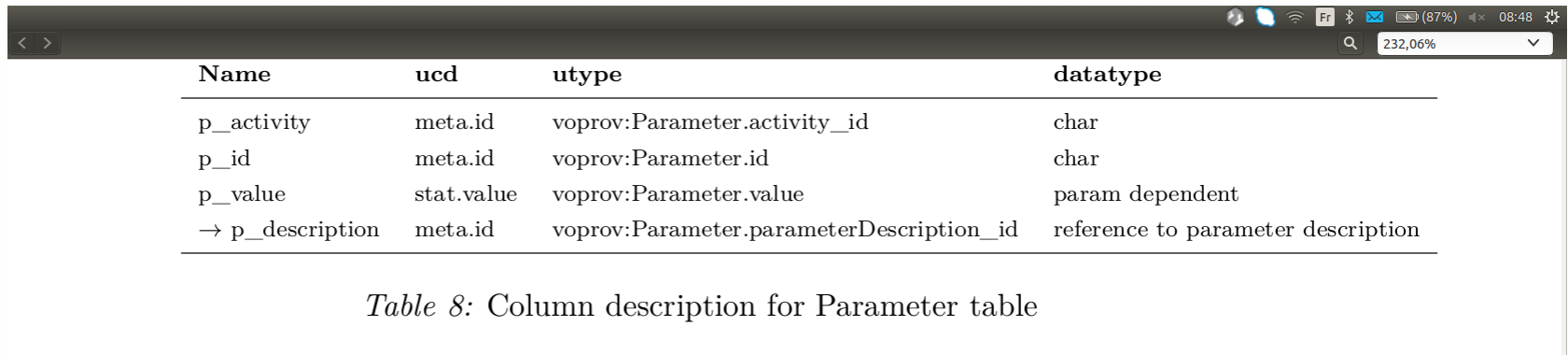




# Some ProvTAP tables : parameterDescription

Name	ucd	utype	datatype
pd_activitydescription	meta.id	voprov:ParameterDescription. activityDescription_id	char
pd_id	meta.id	voprov:ParameterDescription.id	char
pd_name	meta.title	voprov:ParameterDescription.name	param dependent
pd_description	meta.description	voprov:ParameterDescription.description	char
pd_datatype	meta	voprov:ParameterDescription.datatype	char
pd_unit	meta.unit	voprov:ParameterDescription.unit	char
pd_ucd	meta.ucd	voprov:ParameterDescription.ucd	char
pd_utype	meta	voprov:ParameterDescription.utype	char
pd_min	stat.min	voprov:ParameterDescription.min	param dependent
pd_max	stat.max	voprov:ParameterDescription.max	param dependent
pd_options	meta	voprov:ParameterDescription.options	param dependent

# Some ProvTAP tables : parameter

A screenshot of a database management tool window. The window has a dark title bar with standard OS icons on the right. Below the title bar is a table with four columns: 'Name', 'ucd', 'utype', and 'datatype'. The table contains four rows of data. The first row is 'p\_activity' with 'meta.id', 'voprov:Parameter.activity\_id', and 'char'. The second row is 'p\_id' with 'meta.id', 'voprov:Parameter.id', and 'char'. The third row is 'p\_value' with 'stat.value', 'voprov:Parameter.value', and 'param dependent'. The fourth row is '→ p\_description' with 'meta.id', 'voprov:Parameter.parameterDescription\_id', and 'reference to parameter description'.

Name	ucd	utype	datatype
p_activity	meta.id	voprov:Parameter.activity_id	char
p_id	meta.id	voprov:Parameter.id	char
p_value	stat.value	voprov:Parameter.value	param dependent
→ p_description	meta.id	voprov:Parameter.parameterDescription_id	reference to parameter description

*Table 8:* Column description for Parameter table

# ProvHiPS database excerpt as an example

```
GAPS_sample_kp7.dat x prov_example_hipsv2.txt x
voprov = "http://www.ivoa.net/documents/ProvenanceDM#"

## Description classes

ad_id hipsgen1 :: ActivityDescription
ad_name ActivityDescription.name = "Aladin/HipsGen v9.615"
ad_version ActivityDescription.version = "1"
ad_description ActivityDescription.description = "Generation of HipS using CDS hipsgen version 9.615"
ad_ActivityDescription.doculink = "http://aladin.u-strasbg.fr/hips/#doc"
ad_ActivityDescription.type = "hipsgen"
ad_ActivityDescription.subtype = "hipsgen_mean"

dd_id hipsdata :: DatasetDescription
dd_name DatasetDescription.name = "Hierarchical progressive Image Survey"
dd_description DatasetDescription.description = "Hierarchical progressive Image Survey"
dd_content DatasetDescription.contentType = "application/hips"
dd_doculink DatasetDescription.doculink = "http://aladin.u-strasbg.fr/doculink.html"
dd_type DatasetDescription.type = "Data"
dd_subtype DatasetDescription.subtype = "HipsDataSet"

dd_id origimages :: DatasetDescription
dd_name DatasetDescription.name = "Original Images "
dd_description DatasetDescription.description = "Original Images "
dd_content DatasetDescription.contentType = "image/fits"
dd_type DatasetDescription.type = "Data"
dd_subtype DatasetDescription.subtype = "ImageCollection"

ud_id hipsgen0origimages :: UsageDescription
ud_role UsageDescription.role = "HipSprogenitors"
ud_description UsageDescription.description = "HipS progenitors"
ud_type UsageDescription.type = "Main"
ud_multiplicity UsageDescription.multiplicity = "*"
ud_activity UsageDescription.activityDescription_id = "hipsgen0"
ud_entity UsageDescription.entityDescription_id = "origimages"
```



# Goals of ProvHiPS prototype

- Create a first ProvTAP implementation
- Integrate information on HiPS as well as classical images in the same design
- Full integration of HiPS provenance searches in the general VO framework



# Simple queries to browse the content

- Entities
- Activities
- Agents
- Select parameters with associated ParameterDescriptions and activities to which they are related
- Caution : the queries displayed there are consistent with the october PR → to be upgraded.



first query in the html interface provided with the TAP library (G.Mantelet) : select \* from entity

## TAP HOME PAGE

- CDS -

### Available resources

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- [tables](#)
- [sync](#)
- [capabilities](#)
- [async](#)
- [availability](#)

### ADQL query

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Query:

```
SELECT *  
FROM entity;
```



Execution mode: ☐ Asynchronous/Batch ☒ Synchronous

Format:

☐ Result limit:  rows (0 to get only metadata ; a value < 0 means 'default value')

☐ Duration limit:  seconds (a value ≤ 0 means 'default value')

**Execute!**



# VOTable response

```
-<VOTABLE version="1.3" xsi:schemaLocation="http://www.ivoa.net/xml/VOTable/v1.3 http://www.ivoa.net/xml/VOTable/v1.3">
- <RESOURCE type="results">
  <INFO name="QUERY STATUS" value="OK"/>
  <INFO name="PROVIDER" value="CDS"/>
  <INFO name="QUERY" value="SELECT * FROM entity;"/>
- <TABLE name="result_S1542030444145">
  <FIELD arraysize="*" datatype="char" name="e_id" ucd="meta.id" utype="voprov:Entity.id"/>
  <FIELD arraysize="*" datatype="char" name="e_name" ucd="meta.title" utype="voprov:Entity.name"/>
  <FIELD arraysize="*" datatype="char" name="e_type" ucd="meta.code.class" utype="voprov:Entity.type"/>
  <FIELD arraysize="*" datatype="char" name="e_rights" ucd="meta.code.class" utype="voprov:Entity.rights"/>
  <FIELD arraysize="*" datatype="char" name="e_annotation" ucd="meta.description" utype="voprov:Entity.annotation"/>
  <FIELD arraysize="*" datatype="char" name="e_description" ucd="meta.id" utype="voprov:Entity.description"/>
- <DATA>
- <TABLEDATA>
  - <TR>
    <TD>ivo://CDS/P/2MASS/H</TD>
    <TD>2MASS H (1.66um) HiPS</TD>
    <TD>data</TD>
    <TD>public</TD>
    <TD/>
    <TD>hipsdata</TD>
  </TR>
  - <TR>
    <TD>origima0</TD>
    <TD>2MASS H (1.66um) original data</TD>
    <TD>data</TD>
    <TD>public</TD>
    <TD>2MASS H (1.66um) original data</TD>
    <TD>origimages</TD>
  </TR>
  - <TR>
    <TD>ivo://CDS/P/2MASS/J</TD>
    <TD>2MASS J (1.23um) HiPS</TD>
    <TD>data</TD>
    <TD>public</TD>
  </TR>
  - <TR>
    <TD>2MASS has uniformly scanned the entire sky in three near-infrared bands to detect and characterize point sources brighter than about 1 mJy in each band, with signal-to-noise ratio (SNR) greater than 10, using a pixel size of 2.0". This has achieved an 80,000-fold improvement in sensitivity relative to earlier surveys. 2MASS used two highly-automated 1.3-m telescopes, one at Mt. Hopkins, AZ, and one at CTIO, Chile. Each telescope was equipped with a three-channel camera, each channel consisting of a 256x256 array of HgCdTe detectors, capable of observing the sky simultaneously at J (1.25 microns), H (1.65 microns), and Ks (2.17 microns). The University of Massachusetts (UMass) was responsible for the overall management of the project, and for developing the infrared cameras and on-site computing systems at both facilities. The Infrared Processing and Analysis Center (IPAC) is responsible for all data processing through the Production Pipeline, and construction and distribution of the data products. Funding is provided primarily by NASA and the NSF
    <TD/>
    <TD>hipsdata</TD>
  </TR>
  - <TR>
    <TD>origima1</TD>
    <TD>2MASS J (1.23um) original data</TD>
    <TD>data</TD>
    <TD>public</TD>
    <TD>2MASS J (1.23um) original data</TD>
    <TD>origimages</TD>
```

```

datatype: "char"
arraysize: "*"
ucd: "meta.description"
utype: "voprov:Activity.annotation"
▼ 5:
  name: "a_description"
  datatype: "char"
  arraysize: "*"
  ucd: "meta.id"
  utype: "voprov:Activity.description"
▼ data:
  ▼ 0:
    0: "act:CDS/P/2MASS/H"
    1: "Generation of 2MASS H (1.66um) HiPS"
    2: null
    3: null
    4: "Generation of 2MASS H (1.66um) HiPS"
    5: "hipsgen0"
  ▼ 1:
    0: "act:CDS/P/2MASS/J"
    1: "Generation of 2MASS J (1.23um) HiPS"
    2: "2013-05-06T20:36Z"
    3: "2013-05-06T20:36Z"
    4: "Generation of 2MASS J (1.23um) HiPS"
    5: "hipsgen0"
  ▼ 2:
    0: "act:CDS/P/2MASS/K"
    1: "Generation of 2MASS K (2.16um) HiPS"
    2: "2014-02-11T11:28Z"
    3: "2014-02-11T11:28Z"
    4: "Generation of 2MASS K (2.16um) HiPS"
    5: "hipsgen0"
  ▼ 3:
    0: "act:CDS/P/2MASS/color"
    ▼ 1:
      0: "Generation of 2MASS color J (1.23um), H (1.66um), K (2.16um) HiPS"
      1: "2013-01-14T09:45Z"
      2: "2013-01-14T09:45Z"
    ▼ 4:
      0: "Generation of 2MASS color J (1.23um), H (1.66um), K (2.16um) HiPS"
      1: "hipsgen0"
  ▼ 4:
    0: "act:CDS/P/2MASS6X/H"
    1: "Generation of 2MASS6X H (1.66um) HiPS"
    2: "2012-02-24T12:43Z"
    3: "2012-02-24T12:43Z"
    4: "Generation of 2MASS6X H (1.66um) HiPS"
    5: "hipsgen1"
  ▼ 5:

```



# SELECT \* FROM ACTIVITY

## JSON Response



# Agents – text format

ag_id	ag_name	ag_type
"noagent"	"noname"	"notype"
"agent_1_277"	"1.0"	"Organisation"
"agent_1_328"	"Pierre Fernique [CDS]"	"Organisation"
"agent_1_537"	"L. Michel [Observatoire de Strasbourg]"	"Organisation"
"agent_1_222"	"P.fernique [CDS]"	"Organisation"
"agent_1_190"	"P.Fernique (CDS)"	"Organisation"
"agent_1_378"	"ESA (ESDC & Planck Science Office)"	"Organisation"
"agent_1_5"	"CDS (T.Boch)"	"Organisation"
"agent_1_318"	"Stefan Meingast (Institute for Astrophysics, University of Vienna)"	"Organisation"
"agent_1_371"	"ESA/ESDC"	"Organisation"
"agent_1_191"	"CDS (Pierre Fernique)"	"Organisation"
"agent_1_432"	"D. Paradis (IRAP/CADE)"	"Organisation"
"agent_1_330"	"Thomas Boch [CDS]"	"Organisation"
"agent_1_33"	"CDS (Thomas Boch)"	"Organisation"
"agent_1_407"	"Guilherme Soares"	"Organisation"
"agent_1_36"	"Thomas Boch"	"Organisation"
"agent_1_99"	"CDS (A.Oberto, P.Fernique)"	"Organisation"
"agent_1_97"	"CDS (P.Fernique)"	"Organisation"
"agent_1_8"	"CDS [P.Fernique]"	"Organisation"
"agent_1_44"	"T. Boch"	"Organisation"
"agent_1_7"	"CDS"	"Organisation"
"agent_1_352"	"ESA (ESDC & Herschel SOC)"	"Organisation"
"agent_1_342"	"China-V0"	"Organisation"
"agent_1_130"	"CADC (Daniel Durand)"	"Organisation"
"agent_1_409"	"NASA/HEASARC"	"Organisation"
"agent_1_9"	"P. Fernique [CDS]"	"Organisation"
"agent_1_14"	"M.Buga [CDS]"	"Organisation"
"agent_1_354"	"ESA (ESDC & Herschel Science Centre)"	"Organisation"
"agent_1_16"	"P.Fernique [CDS]"	"Organisation"
"agent_1_536"	"WFAU, Institute for Astronomy, University of Edinburgh"	"Organisation"
"agent_1_126"	"Christoph Deil, Axel Donath, Pierre Fernique"	"Organisation"
"agent_1_1"	"CDS (A.Oberto)"	"Organisation"
"agent_2_225"	"Axel Mellinger"	"Organisation"
"agent_2_227"	"JPL/Photojournal"	"Organisation"
"agent_2_535"	"SVO, CAB (INTA-CSIC)"	"Organisation"
"agent_2_221"	"Qrizona State University"	"Organisation"
"agent_2_350"	"http://archives.esac.esa.int/hsa/whsa/"	"Organisation"
"agent_2_36"	"http://portal.nersc.gov/project/cosmo/data/decaps/dr1/coadd/"	"Organisation"
"agent_2_232"	"USGS Astrogeology Science Center from Arizona State University"	"Organisation"
"agent_2_170"	"MAST archives"	"Organisation"
"agent_2_114"	"NASA s Earth Observatory"	"Organisation"
"agent_2_34"	"http://portal.nersc.gov/project/cosmo/data/legacysurvey/dr5/coadd/"	"Organisation"
"agent_2_216"	"https://photojournal.jpl.nasa.gov/catalog/PIA20284"	"Organisation"
"agent_2_377"	"http://iso.esac.esa.int/ida/"	"Organisation"
"agent_2_17"	"CFHT"	"Organisation"



```
SELECT p_isaparamof,pd_name, pd_ucd, pd_unit, p_value
FROM parameter INNER JOIN parameterdescription
ON parameter.p_parameterdescription = parameterdescription.pd_id;
```

p_isaparamof	pd_name	pd_ucd	pd_unit	p_value
"act:CDS/P/2MASS/H"	"hips_order"			"9"
"act:CDS/P/2MASS/H"	"hips_frame"			"equatorial"
"act:CDS/P/2MASS/H"	"hips_frame"	"meta.id"		"ivo://CDS/P/2MASS/H"
"act:CDS/P/2MASS/H"	"obs_title"	"meta.title"		"2MASS H (1.66um)"
"act:CDS/P/2MASS/H"	"hips_tile_width"		"px"	"512"
"act:CDS/P/2MASS/H"	"hips_tile_format"	"meta.format"		"jpeg fits"
"act:CDS/P/2MASS/J"	"hips_order"			"9"
"act:CDS/P/2MASS/J"	"hips_frame"			"equatorial"
"act:CDS/P/2MASS/J"	"hips_frame"	"meta.id"		"ivo://CDS/P/2MASS/J"
"act:CDS/P/2MASS/J"	"obs_title"	"meta.title"		"2MASS J (1.23um)"
"act:CDS/P/2MASS/J"	"hips_tile_width"		"px"	"512"
"act:CDS/P/2MASS/J"	"hips_tile_format"	"meta.format"		"jpeg fits"
"act:CDS/P/2MASS/K"	"hips_order"			"9"
"act:CDS/P/2MASS/K"	"hips_frame"			"equatorial"
"act:CDS/P/2MASS/K"	"hips_frame"	"meta.id"		"ivo://CDS/P/2MASS/K"
"act:CDS/P/2MASS/K"	"obs_title"	"meta.title"		"2MASS K (2.16um)"
"act:CDS/P/2MASS/K"	"hips_tile_width"		"px"	"512"
"act:CDS/P/2MASS/K"	"hips_tile_format"	"meta.format"		"jpeg fits"
"act:CDS/P/2MASS/color"	"hips_order"			"9"
"act:CDS/P/2MASS/color"	"hips_frame"			"equatorial"
"act:CDS/P/2MASS/color"	"hips_frame"	"meta.id"		"ivo://CDS/P/2MASS/color"
"act:CDS/P/2MASS/color"	"obs_title"	"meta.title"		"2MASS color J (1.23um), H (1.66um), K (2.16um)"
"act:CDS/P/2MASS/color"	"hips_tile_width"		"px"	"512"
"act:CDS/P/2MASS/color"	"hips_tile_format"	"meta.format"		"jpeg"
"act:CDS/P/2MASS6X/H"	"hips_order"			"9"
"act:CDS/P/2MASS6X/H"	"hips_frame"			"equatorial"
"act:CDS/P/2MASS6X/H"	"hips_frame"	"meta.id"		"ivo://CDS/P/2MASS6X/H"
"act:CDS/P/2MASS6X/H"	"obs_title"	"meta.title"		"2MASS6X H (1.66um)"
"act:CDS/P/2MASS6X/H"	"hips_tile_width"		"px"	"512"
"act:CDS/P/2MASS6X/H"	"hips_tile_format"	"meta.format"		"png jpeg fits"
"act:CDS/P/2MASS6X/J"	"hips_order"			"9"
"act:CDS/P/2MASS6X/J"	"hips_frame"			"equatorial"
"act:CDS/P/2MASS6X/J"	"hips_frame"	"meta.id"		"ivo://CDS/P/2MASS6X/J"
"act:CDS/P/2MASS6X/J"	"obs_title"	"meta.title"		"2MASS6X J (1.23um)"
"act:CDS/P/2MASS6X/J"	"hips_tile_width"		"px"	"512"
"act:CDS/P/2MASS6X/J"	"hips_tile_format"	"meta.format"		"jpeg fits"
"act:CDS/P/2MASS6X/K"	"hips_order"			"9"
"act:CDS/P/2MASS6X/K"	"hips_frame"			"equatorial"
"act:CDS/P/2MASS6X/K"	"hips_frame"	"meta.id"		"ivo://CDS/P/2MASS6X/K"
"act:CDS/P/2MASS6X/K"	"obs_title"	"meta.title"		"2MASS6X K (2.16um)"
"act:CDS/P/2MASS6X/K"	"hips_tile_width"		"px"	"512"
"act:CDS/P/2MASS6X/K"	"hips_tile_format"	"meta.format"		"jpeg fits"
"act:CDS/P/2MASS6X/color"	"hips_order"			"9"
"act:CDS/P/2MASS6X/color"	"hips_frame"			"equatorial"
"act:CDS/P/2MASS6X/color"	"hips_frame"	"meta.id"		"ivo://CDS/P/2MASS6X/color"
"act:CDS/P/2MASS6X/color"	"obs_title"	"meta.title"		"2MASS6X color J (1.23um) & K (2.16um)"

Configuration  
parameters  
with their  
description  
(name, ucd,unit  
And associated  
activity

## Real-life queries :

### To select HiPS activities or entities via criteria

- Select activities which have been attributed to a given « Agent »
- Select activities described by the same ActivityDescription ( = here, running the same software)
- Select activities from some configuration parameters values
- Select entities and display them in Aladin (HiPS or classical images)



# Select activities which have been attributed to a given « Agent » (here « CADC (Daniel Durand) »)

TOPCAT(5): Table Browser

Window Subsets Help

Table Browser for 5: TAP\_8 (SELECT, WasAssociatedWith, agent, Activity)

	a_id	a_name	a_annotation
1	act:CDS/P/HLA/C0	Generation of HLA-C0 : F222M HIPS	Generation of HLA-C0 : F222M HIPS
2	act:CDS/P/HLA/H	Generation of HLA-H : F160W HIPS	Generation of HLA-H : F160W HIPS
3	act:CDS/P/HLA/H20	Generation of HLA-H20 : F139M HIPS	Generation of HLA-H20 : F139M HIPS
4	act:CDS/P/HLA/Halpha	Generation of HLA-Halpha : F656N and F657N ...	Generation of HLA-Halpha : F656N and F657N ...
5	act:CDS/P/HLA/Hbeta	Generation of HLA-Hbeta : F487N and F486N ...	Generation of HLA-Hbeta : F487N and F486N ...
6	act:CDS/P/HLA/I	Generation of HLA-I : F814W, F791W, F785LP a...	Generation of HLA-I : F814W, F791W, F785LP a...
7	act:CDS/P/HLA/J	Generation of HLA-J : F140W, F125W, F125LP a...	Generation of HLA-J : F140W, F125W, F125LP a...
8	act:CDS/P/HLA/NII	Generation of HLA-NII : F658N HIPS	Generation of HLA-NII : F658N HIPS
9	act:CDS/P/HLA/OII	Generation of HLA-OII : F375N and F373N HIPS	Generation of HLA-OII : F375N and F373N HIPS
10	act:CDS/P/HLA/OIII	Generation of HLA-OIII : F502N HIPS	Generation of HLA-OIII : F502N HIPS
11	act:CDS/P/HLA/Palpha	Generation of HLA-Palpha : F187N HIPS	Generation of HLA-Palpha : F187N HIPS
12	act:CDS/P/HLA/Palpha_c	Generation of HLA-Palpha_c : F190W HIPS	Generation of HLA-Palpha_c : F190W HIPS
13	act:CDS/P/HLA/R	Generation of HLA-R : F702W and F675W HIPS	Generation of HLA-R : F702W and F675W HIPS
14	act:CDS/P/HLA/SDSSg	Generation of HLA-SDSSg : F475W HIPS	Generation of HLA-SDSSg : F475W HIPS
15	act:CDS/P/HLA/SDSSr	Generation of HLA-SDSSr : F625W and F622W ...	Generation of HLA-SDSSr : F625W and F622W ...
16	act:CDS/P/HLA/SDSSz	Generation of HLA-SDSSz : F850LP HIPS	Generation of HLA-SDSSz : F850LP HIPS
17	act:CDS/P/HLA/SIII	Generation of HLA-SIII : F873N, FQ672N and F...	Generation of HLA-SIII : F873N, FQ672N and F...
18	act:CDS/P/HLA/U	Generation of HLA-U : F336W, F330W, F300W, ...	Generation of HLA-U : F336W, F330W, F300W, ...
19	act:CDS/P/HLA/UV	Generation of HLA-UV : F170W HIPS	Generation of HLA-UV : F170W HIPS
20	act:CDS/P/HLA/V	Generation of HLA-V : F555W, F547W, F569W ...	Generation of HLA-V : F555W, F547W, F569W ...
21	act:CDS/P/HLA/Y	Generation of HLA-Y : F110W and F105W HIPS	Generation of HLA-Y : F110W and F105W HIPS
22	act:CDS/P/HLA/wideUV	Generation of HLA-wideUV : F255W, F250W, F2...	Generation of HLA-wideUV : F255W, F250W, F2...
23	act:CDS/P/HLA/wideV	Generation of HLA-wideV : F606W and F600LP ...	Generation of HLA-wideV : F606W and F600LP ...
24	act:CDS/P/HST/B	Generation of HST-B includes the following filt...	Generation of HST-B includes the following filt...
25	act:CDS/P/HST/C0	Generation of HST-C0 includes the following fil...	Generation of HST-C0 includes the following fil...
26	act:CDS/P/HST/GOODS/b	Generation of GOODS b HIPS	Generation of GOODS b HIPS
27	act:CDS/P/HST/H20	Generation of HST-H20 includes the following ...	Generation of HST-H20 includes the following ...
28	act:CDS/P/HST/Halpha	Generation of HST-Halpha includes the followi...	Generation of HST-Halpha includes the followi...
29	act:CDS/P/HST/Hbeta	Generation of HST-Hbeta includes the followin...	Generation of HST-Hbeta includes the followin...
30	act:CDS/P/HST/J	Generation of HST-J includes the following filte...	Generation of HST-J includes the following filte...
31	act:CDS/P/HST/J	Generation of HST-J includes the following filte...	Generation of HST-J includes the following filte...
32	act:CDS/P/HST/NII	Generation of HST-NII includes the following fil...	Generation of HST-NII includes the following fil...
33	act:CDS/P/HST/OII	Generation of HST-OII includes the following fil...	Generation of HST-OII includes the following fil...
34	act:CDS/P/HST/OIII	Generation of HST-OIII includes the following fil...	Generation of HST-OIII includes the following fil...
35	act:CDS/P/HST/PHAT/F110W	Generation of HST PHAT - F110W - WFC3/IR HIPS	Generation of HST PHAT - F110W - WFC3/IR HIPS
36	act:CDS/P/HST/Palpha_c	Generation of HST-Palpha_c includes the follo...	Generation of HST-Palpha_c includes the follo...
37	act:CDS/P/HST/R	Generation of HST-R includes the following fil...	Generation of HST-R includes the following fil...
38	act:CDS/P/HST/SDSSg	Generation of HST-SDSSg includes the followin...	Generation of HST-SDSSg includes the followin...
39	act:CDS/P/HST/SDSSr	Generation of HST-SDSSr includes the followin...	Generation of HST-SDSSr includes the followin...
40	act:CDS/P/HST/SDSSz	Generation of HST-SDSSz includes the followin...	Generation of HST-SDSSz includes the followin...
41	act:CDS/P/HST/SIII	Generation of HST-SIII includes the following fil...	Generation of HST-SIII includes the following fil...
42	act:CDS/P/HST/U	Generation of HST-U includes the following fil...	Generation of HST-U includes the following fil...
43	act:CDS/P/HST/UV	Generation of HST-UV includes the following fil...	Generation of HST-UV includes the following fil...
44	act:CDS/P/HST/V	Generation of HST-V includes the following fil...	Generation of HST-V includes the following fil...
45	act:CDS/P/HST/Y	Generation of HST-Y includes the following fil...	Generation of HST-Y includes the following fil...
46	act:CDS/P/HST/other	Generation of HST-Others HIPS	Generation of HST-Others HIPS
47	act:CDS/P/HST/wideUV	Generation of HST-wideUV includes the followi...	Generation of HST-wideUV includes the followi...
48	act:CDS/P/HST/wideV	Generation of HST-wideV includes the followin...	Generation of HST-wideV includes the followin...
49	act:CDS/P/Haslam408	Generation of Haslam 408MHz HIPS	Generation of Haslam 408MHz HIPS

Table Access Protocol (TAP) Query

Window TAP Registry Edit Interop Help

Select Service Use Service Resume Job Running Jobs

Metadata

Find:

☒ Name ☐ Descrip ☐ Or

TAP Service (19)

- TAP\_SCHEMA (5)
  - TAP\_SCHEMA.col
  - TAP\_SCHEMA.key
  - TAP\_SCHEMA.key
  - TAP\_SCHEMA.sch
  - TAP\_SCHEMA.tab
- provenance (14)
  - activity
  - activitydescriptio
  - agent
  - entity
  - entitydescriptio
  - miniscore
  - parameter
  - parameterdescri
  - used
  - useddescription

Service Capabilities

Query Language: ADQL-2.0 Max Rows: 1000000 (default) Uploads: unavailable

ADQL Text

Mode: Synchronous

```
1
SELECT Activity.a_id, Activity.a_name, Activity.a_annotation FROM
(SELECT WasAssociatedWith.waw_activity_id FROM WasAssociatedWith
INNER JOIN agent
ON agent.ag_id = WasAssociatedWith.waw_agent_id
WHERE agent.ag_name = 'CADC (Daniel Durand)') AS templ
INNER JOIN Activity
ON templ.waw_activity_id = Activity.a_id
```

Examples

Run Query



select activities described by the same  
ActivityDescription  
( = here, running the same hipsgen software)

TOPCAT

Views Graphics Joins Windows VO Interop Help

Table List

- TAP\_2\_WasAssociatedV
- TAP\_4\_WasAssociatedV
- TAP\_6\_WasAssociatedV
- TAP\_7\_WasAssociatedV
- TAP\_8(SELECT, WasAss
- TAP\_9\_activitydescript
- TAP\_10\_activitydescript
- TAP\_12\_activitydescript

Current Table Properties

Label: TAP\_12\_activitydescription,activity  
Location: TAP\_12\_activitydescription,activity  
Name: result\_S1542034451101  
Rows: 2  
Columns: 4  
Sort Order:   
Row Subset: All  
Activation Action: (no action) ☐ Broadcast Row

SAMP

Messages: Clients:

278 / 3540 M

TOPCAT(8): Table Browser

Window Subsets Help

Table Browser for 8: TAP\_12\_activitydescription,activity

	a_name	a_starttime	ad_name	ad_doculink
1	Generation of DECaPS DR1 g HIPS	2018-01-02T16:02Z	Aladin/HipsGen v10.060	http://aladin.u-strasbg.fr/hips/#doc
2	Generation of ROSAT X-Ray All-Sky Survey HIPS	2018-02-03T16:36Z	Aladin/HipsGen v10.060	http://aladin.u-strasbg.fr/hips/#doc

Window TAP Registry Edit Interop Help

Select Service Use Service Resume Job Running Jobs

Metadata

Find:

☒ Name ☐ Descrip Or

TAP Service (19)

- TAP\_SCHEMA (5)
  - TAP\_SCHEMA.col
  - TAP\_SCHEMA.key
  - TAP\_SCHEMA.key

Name:

Tables:

Description:

Service Capabilities

Query Language: ADQL-2.0 Max Rows: 1000000 (default) Uploads: unavailable

ADQL Text

Mode: Synchronous

1

```
SELECT a_name,a_starttime,ad_name,ad_doculink  
FROM activitydescription INNER JOIN activity ON a_description = ad_id  
WHERE ad_name = 'Aladin/HipsGen v10.060'
```

Examples

Run Query

on temp1.a\_td=parameter.p\_tsaparamor ;

Mozilla Firefox

aladin.u-strasbg.fr/hips/#doc

Display Software documentation

HiPS  
Hierarchical Progressive Surveys

Introduction

# Select activities from some configuration parameters values (here « created only in jpeg »)

TOPCAT(12): Table Browser

Window Subsets Help

Table Browser for 12: TAP\_17 (select,parameter,parameterdescription,ac...

	a_name	a_starttime	pd_name	p_value
1	Generation of 2MASS color J (1.23um), H (1.66...	2013-01-14T09:45Z	hips_tile_format	jpeg
2	Generation of Ariel Voyager HIPS	2017-02-20T16:03Z	hips_tile_format	jpeg
3	Generation of CFHTLS-D-color-ugl HIPS		hips_tile_format	jpeg
4	Generation of CFHTLS-W-colored-ugl HIPS	2012-06-07T22:09Z	hips_tile_format	jpeg
5	Generation of Callisto Voyager-Galileo-simp-1k...	2014-03-11T15:59Z	hips_tile_format	jpeg
6	Generation of Charon NewHorizon PIA19866 H...	2018-01-17T16:49Z	hips_tile_format	jpeg
7	Generation of DECaLS DR3 color HIPS		hips_tile_format	jpeg
8	Generation of DECaLS DR5 color HIPS		hips_tile_format	jpeg
9	Generation of Color flux map for I/345/gaia2 (...)	2018-04-17T08:17Z	hips_tile_format	jpeg
10	Generation of DSS colored HIPS	2015-02-07T11:42Z	hips_tile_format	jpeg
11	Generation of Dione Cassini PIA12577 HIPS	2012-07-13T14:03Z	hips_tile_format	jpeg
12	Generation of Blue Marble Next Generation w/...	2014-06-05T17:00Z	hips_tile_format	jpeg
13	Generation of Enceladus Cassini 110m (PIA 1...		hips_tile_format	jpeg
14	Generation of Europa Voyager-GalileoSSI-500...		hips_tile_format	jpeg
15	Generation of Fermi Color HEALPix survey HIPS	2013-06-28T09:09Z	hips_tile_format	jpeg
16	Generation of Ganymede VoyagerGalileo SSI 1...	2014-06-13T14:41Z	hips_tile_format	jpeg
17	Generation of IRAS-IRIS HEALPix survey, color ...		hips_tile_format	jpeg
18	Generation of Iapetus Cassini PIA18436 HIPS		hips_tile_format	jpeg
19	Generation of JPS-PR1 850um HIPS		hips_tile_format	jpeg
20	Generation of MAMA srcj HIPS	2016-07-09T19:09Z	hips_tile_format	jpeg
21	Generation of Mars MGS MOLA Elevation Mode...		hips_tile_format	jpeg
22	Generation of Mars MGS TES Dust HIPS		hips_tile_format	jpeg
23	Generation of Mars MOLA Shaded Relief / Colo...	2018-01-27T17:35Z	hips_tile_format	jpeg
24	Generation of Mars Stinson panorama HIPS		hips_tile_format	jpeg
25	Generation of Mars TES Albedo HIPS		hips_tile_format	jpeg
26	Generation of Mars TES Thermal Inertia HIPS		hips_tile_format	jpeg
27	Generation of Mars THEMIS-Day-100m HIPS		hips_tile_format	jpeg
28	Generation of Mars THEMIS-Night-100m HIPS	2018-01-24T15:41Z	hips_tile_format	jpeg
29	Generation of Mars THEMIS Day IR Global Mos...	2018-01-28T10:29Z	hips_tile_format	jpeg
30	Generation of Mars mola-roughness HIPS	2017-06-01T16:14Z	hips_tile_format	jpeg
31	Generation of Mellinger color optical survey Hl...	2017-09-07T13:10Z	hips_tile_format	jpeg
32	Generation of Mercury MESSENGER-MDIS-LOI-1...	2018-01-27T17:16Z	hips_tile_format	jpeg
33	Generation of Mimas Cassini PIA17214 HIPS	2010-07-12T00:00Z	hips_tile_format	jpeg
34	Generation of Miranda Voyager HIPS	2018-01-21T16:06Z	hips_tile_format	jpeg
35	Generation of Moon Kaguya-Evening-V04-474...		hips_tile_format	jpeg
36	Generation of Moon Lunar Reconnaissance Or...	2018-01-17T15:01Z	hips_tile_format	jpeg
37	Generation of NVSS - The NRAO VLA Sky Surve...	2018-01-29T12:31Z	hips_tile_format	jpeg
38	Generation of Neptune Voyager2 HIPS	2018-02-08T13:07Z	hips_tile_format	jpeg
39	Generation of PLANCK Maps of the CMB fluctu...		hips_tile_format	jpeg
40	Generation of PLANCK R2 nominal frequency H...		hips_tile_format	jpeg
41	Generation of PLANCK R2 nominal frequency L...		hips_tile_format	jpeg
42	Generation of PanSTARRS DR1 z HIPS	2017-05-04T13:27Z	hips_tile_format	jpeg
43	Generation of ROSAT Wide Field Camera Color ...	2016-02-09T15:40Z	hips_tile_format	jpeg
44	Generation of SCUBA2 850um HIPS		hips_tile_format	jpeg
45	Generation of MIPS3 survey in Healpix HIPS	2011-07-04T15:11Z	hips_tile_format	jpeg
46	Generation of SUMSS (843 MHz) HIPS	2012-05-31T14:50Z	hips_tile_format	jpeg
47	Generation of Sun ewi-aia304-2012 HIPS		hips_tile_format	jpeg
48	Generation of Tethys Cassini-PIA18439 HIPS		hips_tile_format	jpeg
49	Generation of Titan ISS-P19658-4km HIPS	2018-01-23T14:15Z	hips_tile_format	jpeg
50	Generation of Titan SAR-HISAR-128ppd HIPS		hips_tile_format	jpeg
51	Generation of Titan Voyager HIPS	2018-01-17T17:30Z	hips_tile_format	jpeg

Table Access Protocol (TAP) Query

Window TAP Registry Edit Interop Help

Select Service Use Service Resume Job Running Jobs

Metadata

Find:

☒ Name ☐ Descr ☐ Or

Name	Schema	Table	Columns	FKeys	Hints
TAP Service (19)					
pd_isaparamof	CHARACTER				
pd_id	CHARACTER				
pd_name	CHARACTER				
pd_unit	CHARACTER				
pd_ucd	CHARACTER				

Service Capabilities

Query Language: ADQL-2.0 Max Rows: 1000000 (default) Uploads: unavailable

ADQL Text

Mode: Synchronous

```
1
SELECT a_name, a_starttime, templ.pd_name, templ.p_value FROM
(SELECT p_isaparamof, pd_name, p_value
FROM parameter INNER JOIN parameterdescription
ON p_parameterdescription = pd_id
WHERE pd_name = 'hips_tile_format' and p_value = 'jpeg') AS templ
INNER JOIN
activity
ON templ.p_isaparamof = a_id
```

Run Query

# select activities from some configuration parameters values

(here selected by ucd and « created in galactic frame)

TOPCAT(15): Table Browser

Window Subsets Help

Table Browser for 15: TAP\_23 (SELECT,parameter,parameterdescription,ac...

	a_id	a_name	a_starttime	pd_name	pd_ucd	p_value
1	act:CDS/P/CO	Generation of CO composite survey HiPS	2012-05-29T21:35Z	hips_frame	pos.frame	galactic
2	act:CDS/P/Finkbeiner	Generation of Finkbeiner Halpalpha composite s...	2013-06-28T11:09Z	hips_frame	pos.frame	galactic
3	act:CDS/P/HI	Generation of HI composite survey HiPS		hips_frame	pos.frame	galactic
4	act:CDS/P/HI4PI/NHI	Generation of HI4PI NHI survey (full-sky HI colu...	2011-02-14T12:00Z	hips_frame	pos.frame	galactic
5	act:CDS/P/Haslam408	Generation of Haslam 408MHz HiPS	2017-06-08T23:47Z	hips_frame	pos.frame	galactic
6	act:CDS/P/Haslam408/V2	Generation of Haslam 408MHz reprocessed Hi...	2015-04-10T13:58Z	hips_frame	pos.frame	galactic
7	act:CDS/P/IRIS/color	Generation of IRAS-IRIS HEALPix survey, color ...		hips_frame	pos.frame	galactic
8	act:CDS/P/Mellinger/color	Generation of Mercury MESSENGER-MDIS-L01-1...	2018-01-27T17:16Z	hips_frame	pos.frame	galactic
9	act:CDS/P/PLANCK/R2/CMB	Generation of PLANCK R2 HFI color compositio...		hips_frame	pos.frame	galactic
10	act:CDS/P/PLANCK/R2/HFI/color	Generation of PLANCK R2 nominal frequency H...		hips_frame	pos.frame	galactic
11	act:CDS/P/PLANCK/R2/HFI100	Generation of PLANCK R2 nominal frequency H...		hips_frame	pos.frame	galactic
12	act:CDS/P/PLANCK/R2/HFI143	Generation of PLANCK R2 nominal frequency H...		hips_frame	pos.frame	galactic
13	act:CDS/P/PLANCK/R2/HFI217	Generation of PLANCK R2 nominal frequency H...		hips_frame	pos.frame	galactic
14	act:CDS/P/PLANCK/R2/HFI353	Generation of PLANCK R2 nominal frequency H...		hips_frame	pos.frame	galactic
15	act:CDS/P/PLANCK/R2/HFI545	Generation of PLANCK R2 nominal frequency H...		hips_frame	pos.frame	galactic
16	act:CDS/P/PLANCK/R2/HFI857	Generation of PLANCK R2 LFI color compositio...		hips_frame	pos.frame	galactic
17	act:CDS/P/PLANCK/R2/LFI/color	Generation of PLANCK R2 nominal frequency L...		hips_frame	pos.frame	galactic
18	act:CDS/P/PLANCK/R2/LFI030	Generation of PLANCK R2 nominal frequency L...		hips_frame	pos.frame	galactic
19	act:CDS/P/PLANCK/R2/LFI044	Generation of PLANCK R2 nominal frequency L...		hips_frame	pos.frame	galactic

TAP\_SCHEMA.col a\_starttime VARCHAR time.start voprov:Activity.start time  
TAP\_SCHEMA.key a\_endtime VARCHAR time.end voprov:Activity.endTime  
TAP\_SCHEMA.key a\_annotation VARCHAR meta.description voprov:Activity.annotation  
TAP\_SCHEMA.sch a\_description VARCHAR meta.id voprov:Activity.description  
TAP\_SCHEMA.tab

Service Capabilities

Query Language: ADQL-2.0 Max Rows: 1000000 (default) Uploads: unavailable

ADQL Text

Mode: Synchronous

```
SELECT a_id, a_name, a_starttime, pd_name, pd_ucd, p_value
FROM
  (SELECT p_isaparamof, pd_name, pd_ucd, p_value
   FROM parameter INNER JOIN parameterdescription
   ON p_parameterdescription = pd_id
   WHERE pd_ucd = 'pos.frame' and p_value = 'galactic')
  AS templ
INNER JOIN
  activity
ON activity.a_id = templ.p_isaparamof
```

Examples Info



# Select entities and display them in Aladin

## (HiPS or classical images)

(here « public » entities)

Aladin v10.0 \*\*\* BETA VERSION (based on v10.098) \*\*\*

File Edit Image Catalog Overlay Coverage Tool View Interop Help

Available data → 2  
in view out view

Command  Frame [CRS] Projection [Aitoff]

ALADIN

Welcome to Aladin,  
your professional sky  
atlas.

- Discover all astronomical data available over the net!
- Compare them with your own data.
- Prepare your observation missions.

To start, type any object name, such as M1, and press ENTER...

Or easier, clic in the main frame and enjoy the sky...

select  
pan  
dist  
phot  
draw  
tag  
moc  
spec  
filter  
cross

grid study wink north hdr multiview

15.83° 4.609°

access url	e_id	e name	e type	e rights
http://alasky.u-strasbg.fr/2MASS/H/origima0	ivo://CDS/P/2MASS/H/origima0	2MASS H (1.66um) HIPS	data	public
http://alasky.u-strasbg.fr/2MASS/J/origima1	ivo://CDS/P/2MASS/J/origima1	2MASS J (1.23um) HIPS	data	public
http://alasky.u-strasbg.fr/2MASS/K/origima2	ivo://CDS/P/2MASS/K/origima2	2MASS K (2.16um) HIPS	data	public
http://alasky.u-strasbg.fr/2MASS/color/origima3	ivo://CDS/P/2MASS/color/origima3	2MASS color J (1.23um), H (1.66um), K (2.16um) HIPS	data	public
http://alasky.u-strasbg.fr/2MASS6X/H/origima4	ivo://CDS/P/2MASS6X/H/origima4	2MASS6X H (1.66um) HIPS	data	public
http://alasky.u-strasbg.fr/2MASS6X/J/origima5	ivo://CDS/P/2MASS6X/J/origima5	2MASS6X J (1.23um) HIPS	data	public
http://alasky.u-strasbg.fr/2MASS6X/K/origima6	ivo://CDS/P/2MASS6X/K/origima6	2MASS6X K (2.16um) HIPS	data	public
http://alasky.u-strasbg.fr/2MASS6X/color/origima7	ivo://CDS/P/2MASS6X/color/origima7	2MASS6X color J (1.23um) & K (2.16um) HIPS	data	public
http://alasky.u-strasbg.fr/2MASS6X/color/origima8	ivo://CDS/P/2MASS6X/color/origima8	2MASS6X color J (1.23um) & K (2.16um) HIPS	data	public
http://alasky.u-strasbg.fr/2MASS6X/color/origima9	ivo://CDS/P/2MASS6X/color/origima9	2MASS6X color J (1.23um) & K (2.16um) HIPS	data	public
http://alasky.u-strasbg.fr/2MASS6X/color/origima10	ivo://CDS/P/2MASS6X/color/origima10	2MASS6X color J (1.23um) & K (2.16um) HIPS	data	public
http://alasky.u-strasbg.fr/2MASS6X/color/origima11	ivo://CDS/P/2MASS6X/color/origima11	2MASS6X color J (1.23um) & K (2.16um) HIPS	data	public
http://alasky.u-strasbg.fr/2MASS6X/color/origima12	ivo://CDS/P/2MASS6X/color/origima12	2MASS6X color J (1.23um) & K (2.16um) HIPS	data	public
http://alasky.u-strasbg.fr/2MASS6X/color/origima13	ivo://CDS/P/2MASS6X/color/origima13	2MASS6X color J (1.23um) & K (2.16um) HIPS	data	public

Server selector

Others File Fov... Tools...

Image servers

- Aladin images
- SkyView
- Sloan
- DSS...
- VIA...
- Archives...
- Others...

Construct your query, verify and execute.

Table: entity Set ra, dec

Select: ☒ All Constraints: Add new Max rows: 9999

e\_id  
e\_name  
e\_type  
e\_rights

Refresh query Check.. SYNC Async jobs>>

SELECT \* FROM entity, miniobscore where e\_id = obs\_publisher\_did and e\_rights = 'public'

Reset Clear SUBMIT Close ?



# elect entities and display them in Aladin

## (HiPS or classical images)

(here progenitors centers overlay – ready to be loaded)

Aladin v10.0 \*\*\* BETA VERSION (based on v10.098) \*\*\*

File Edit Image Catalog Overlay Coverage Tool View Interop Help

Available data to 2 Command 00:00:00.000000 +00:00:00.000000 Frame ICRS Projection Aitoff

DSS SDSS 2MASS WISE GALEX PLANCK AKARI XMM Fermi Gaia Simbad NED +

<http://alasky.u-strasbg.fr/AKARI-FIS/WideL>

218.7° x 62.06°

Search

e access url	e id	e name	e type	e rights	e annotation	e description	obs publisher	data rights	dataproducer t...	calib
<a href="http://cds.u-strasbg.fr/2MASS/H/origima0">http://cds.u-strasbg.fr/2MASS/H/origima0</a>	origima0	2MASS H (1.66um) HIPS	data	public		hipsdata	ivo://CDS/P/2MASS/origima0	public	hips	
<a href="http://cds.u-strasbg.fr/2MASS/J/origima1">http://cds.u-strasbg.fr/2MASS/J/origima1</a>	origima1	2MASS J (1.23um) HIPS	data	public	2MASS has unified hipsdata		ivo://CDS/P/2MASS/origima1	public	hips	
<a href="http://cds.u-strasbg.fr/2MASS/K/origima2">http://cds.u-strasbg.fr/2MASS/K/origima2</a>	origima2	2MASS K (2.16um) HIPS	data	public	2MASS has unified hipsdata		ivo://CDS/P/2MASS/origima2	public	hips	
<a href="http://cds.u-strasbg.fr/2MASS/color/origima3">http://cds.u-strasbg.fr/2MASS/color/origima3</a>	origima3	2MASS color J (1.23um), H (1.66um), K (2.16um) original data	data	public	2MASS has unified hipsdata		ivo://CDS/P/2MASS/origima3	public	hips	
<a href="http://cds.u-strasbg.fr/2MASS/6X/origima4">http://cds.u-strasbg.fr/2MASS/6X/origima4</a>	origima4	2MASS6X H (1.66um) HIPS	data	public	2MASS has unified hipsdata		ivo://CDS/P/2MASS/origima4	public	hips	
<a href="http://cds.u-strasbg.fr/2MASS/6X/origima5">http://cds.u-strasbg.fr/2MASS/6X/origima5</a>	origima5	2MASS6X J (1.23um) HIPS	data	public	During the final hipsdata		ivo://CDS/P/2MASS/origima5	public	hips	
<a href="http://cds.u-strasbg.fr/2MASS/6X/origima6">http://cds.u-strasbg.fr/2MASS/6X/origima6</a>	origima6	2MASS6X K (2.16um) HIPS	data	public	During the final hipsdata		ivo://CDS/P/2MASS/origima6	public	hips	
<a href="http://cds.u-strasbg.fr/2MASS/6X/color/origima7">http://cds.u-strasbg.fr/2MASS/6X/color/origima7</a>	origima7	2MASS6X color J (1.23um) & K (2.16um) original data	data	public	During the final hipsdata		ivo://CDS/P/2MASS/origima7	public	hips	
<a href="http://cds.u-strasbg.fr/AKARI/FIS/color/origima8">http://cds.u-strasbg.fr/AKARI/FIS/color/origima8</a>	origima8	AKARI FIS Color WideL (140um), WideS (90um), N60	data	public	AKARI (Previous hipsdata)		ivo://CDS/P/AKARI/origima8	public	hips	
<a href="http://cds.u-strasbg.fr/AKARI/FIS/N160/origima9">http://cds.u-strasbg.fr/AKARI/FIS/N160/origima9</a>	origima9	AKARI FIS N160 (160um) HIPS	data	public	AKARI FIS N160 (160um) original data		ivo://CDS/P/AKARI/origima9	public	hips	
<a href="http://cds.u-strasbg.fr/AKARI/FIS/N60/origima10">http://cds.u-strasbg.fr/AKARI/FIS/N60/origima10</a>	origima10	AKARI FIS N60 (65um) HIPS	data	public	AKARI (Previous hipsdata)		ivo://CDS/P/AKARI/origima10	public	hips	
<a href="http://cds.u-strasbg.fr/AKARI/FIS/WideL/origima11">http://cds.u-strasbg.fr/AKARI/FIS/WideL/origima11</a>	origima11	AKARI FIS WideL (140um) HIPS	data	public	AKARI FIS WideL (140um) original data		ivo://CDS/P/AKARI/origima11	public	hips	
<a href="http://cds.u-strasbg.fr/AKARI/FIS/WideS/origima12">http://cds.u-strasbg.fr/AKARI/FIS/WideS/origima12</a>	origima12	AKARI FIS WideS (90um) HIPS	data	public	AKARI (Previous hipsdata)		ivo://CDS/P/AKARI/origima12	public	hips	
<a href="http://cds.u-strasbg.fr/ATLASGAL/origima13">http://cds.u-strasbg.fr/ATLASGAL/origima13</a>	origima13	ATLASGAL 850 um HIPS	data	public	ATLASGAL 850 um original data		ivo://CDS/P/ATLASGAL/origima13	public	hips	

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# Functions for complex queries

- See M.Nullmeier talk





# Conclusion/future work

- Add provenance information for HiPS progenitors
  - Schmidt plate digitization
  - Mosaics
  - Raw data if available
- Enrich/update HiPS description in the service
- Cross combine information with HESS/CTA database

