



Quelles briques pour le développement d'un portail en interférométrie optique

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17 septembre 2014 - Journée ASOV
« publication des données dans l'OV et au protocole IVOA TAP »

Plan

Motivations

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Retour d'expérience

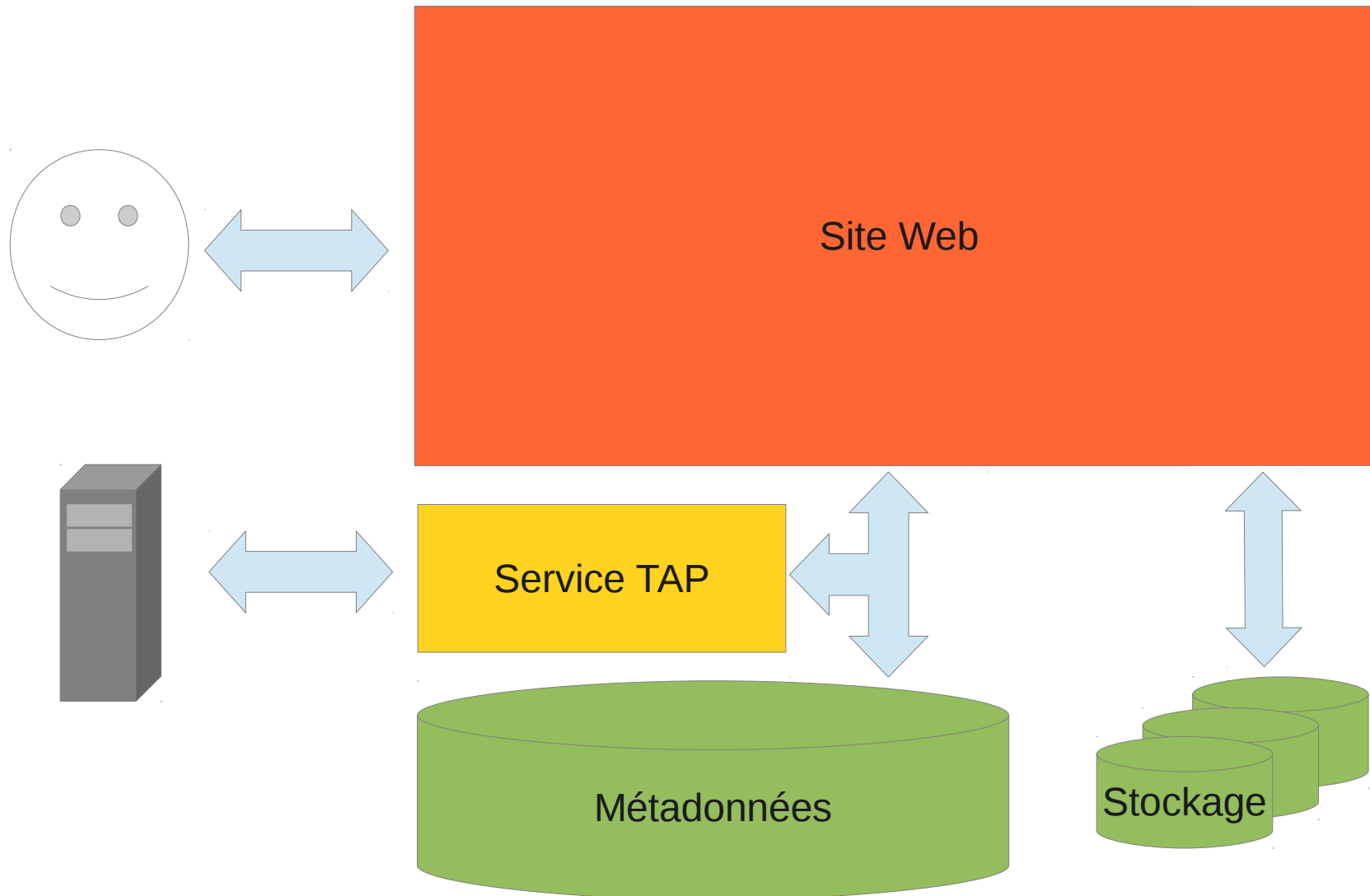
Introduction

- le JMMC développe des logiciels / catalogues pour l'observation par interférométrie optique : <http://www.jmmc.fr>
- aucune véritable archive n'est rattachée aux principaux interféromètres en dehors des données brutes d'instruments ESO. Quelques données publiées / pérennisées (VizieR & éditeurs), les autres dispersées.
- la communauté olbin/IAU-C54 supporte l'initiative de mise en place d'un portail de **promotion, préservation et diffusion de données**
→ démarrage du projet JMMC <http://oidb.jmmc.fr> mi-2013

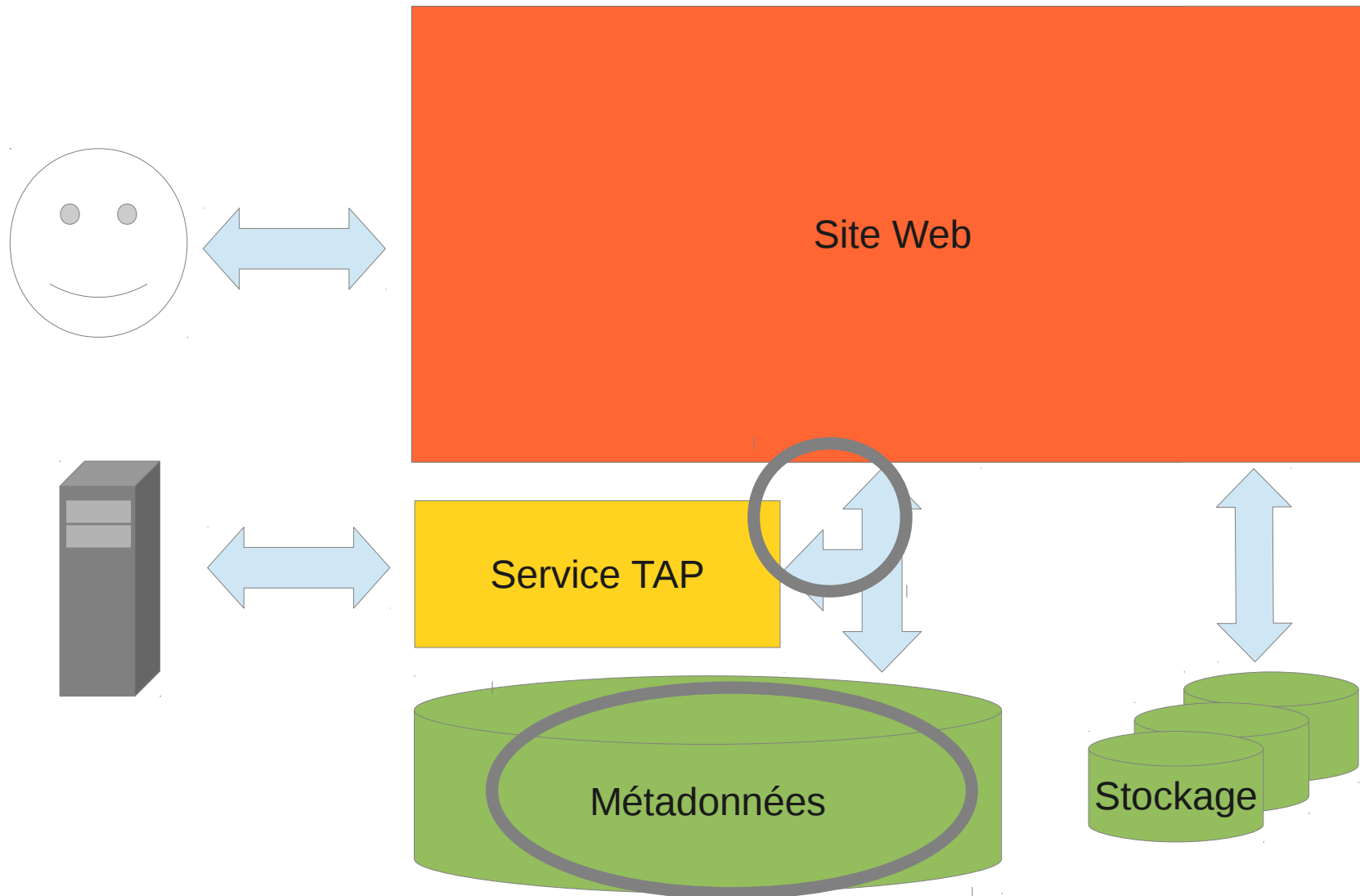
Cahier des charges

- mettre en ligne le maximum d'informations recueillies depuis des sources de données externes:
 - logs d'observations (L0)
 - archives réduction automatique (L2)
 - données publiées (L3)
- offrir une solution d'hébergement pour le stockage de données en interférométrie personnelles (L2)
 - favoriser les collaborations
 - préserver des données
- VO compatible (découverte + interoperabilité)

Notre proposition



Focus : interaction TAP / website & métadonnées



Architecture

Service TAP : *TAPLib* gmantele @ github

RDBMS : *Postgres* + *pgsphere* (tables obscure)

Appli Web : *exist-db*

- Base de données XML
- Framework pour applis web
 - Bootstrap, jquery, REST, templates HTML, webdav, ...
- Librairies métier
 - java : oitools, coordonnées
 - modules xquery : dates, simbad, vizier (lecture readme+), ads

Serveur J2EE commun : *Jetty* (exist-db)

Samp : API javascript <http://voar.jmmc.fr>

Interface de requêtes :

Iceweasel OI Data portal
oidb-beta.jmmc.fr/search.html?calibLevel=1,2,3
JMMC OI DB Help
Prototype under development, do not use in production.

Filters

Position: Name or coordinates J2000 Radius: 2 arcmin

Date of observation: between YYYY-MM-DD and YYYY-MM-DD

Instrument: Any Instrument

Wavelength range: U B V R I J H K L M N Q
 Visible Near infrared Mid infrared

Collection: Any Collection

DataPI name: Any DataPI

Data reduction level: L0 L1 L2 L3

Availability: Public Restricted All

Sort by Instrument descending. Max rows per page: 25

Search
Reset

- 1/ formulation requete ADQL
- 2/ transmission au service TAP
- 3/ transformation VOTable -> resultat HTML

Panneau de résultats synthétique

Menu contextuel : détail, export, liens externes

Edition libre de la query ADQL

Iceweasel OIData portal














oidb-beta.jmmc.fr/search.html?calibLevel=1,2,3

Results

Meta-data will try to follow VO4OI proposal and Ivoa:ObsCore document (get metadata description in the associated doc)
1936 observations from 1731 oifits files (485 private)

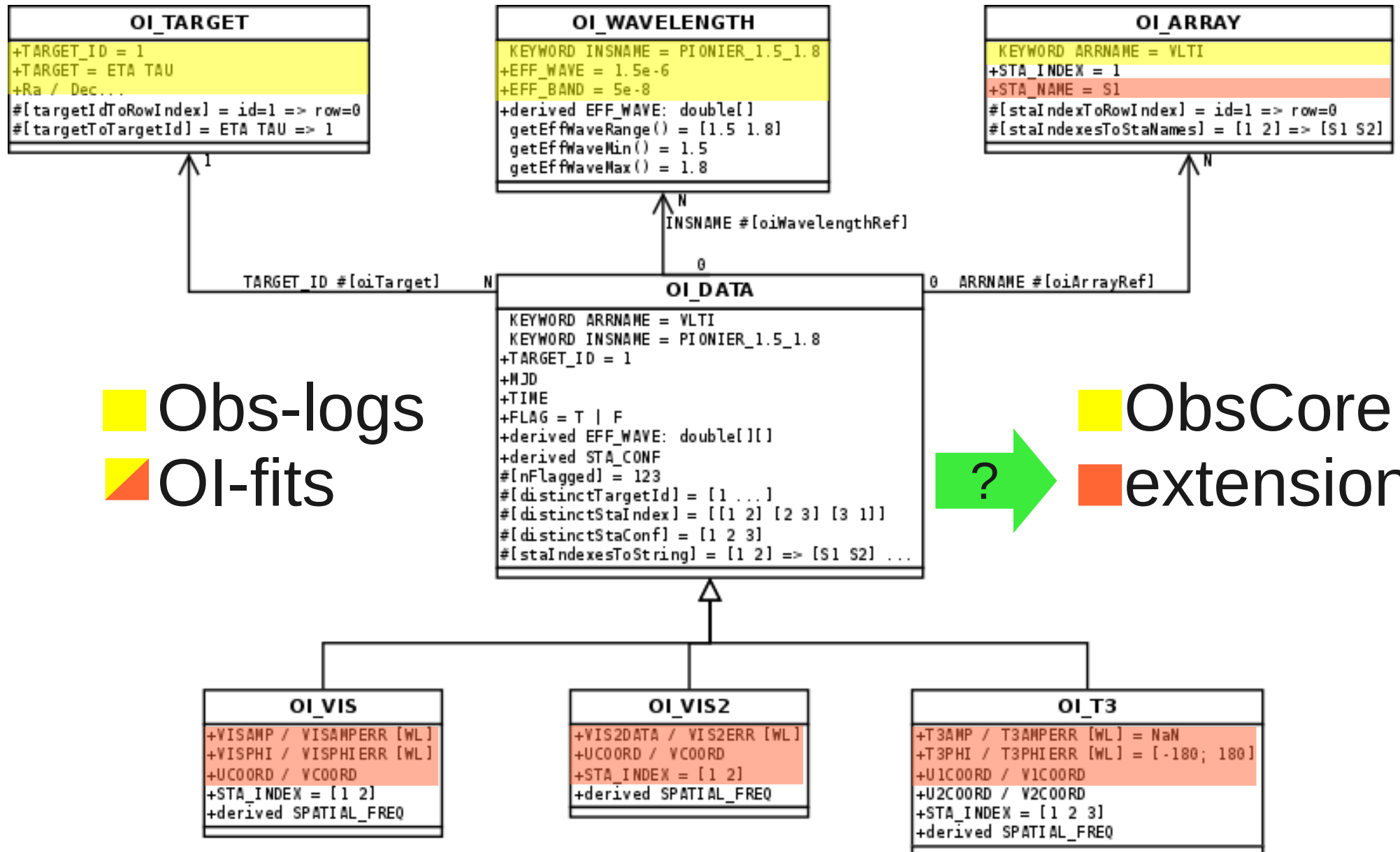
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Results for `SELECT ALL * FROM oidb AS t WHERE (t.calib_level=1 OR t.calib_level=2 OR t.calib_level=3)`
([Edit query](#))

|  target_name meta.id;src | access_url meta.ref.url | t_min time.start;obs.exposure | instrument_name meta.id;instr | em_min em.wl;stat.min | em_max em.wl;stat.max | nb_channels | obs_creator_name meta.id |
|--|---|----------------------------------|------------------------------------|--------------------------|--------------------------|-------------|-----------------------------|
|  DELTA_CAP | 2010-10-26_SCI_DELTA_CAP_oiDataCalib.fits | 2010-10-27T02:09:35 | PIONIER_Pdown(1.5994200/1.7627500) | 1.59942000 | 1.76275000 | 5 | Jean-Baptiste Le Bouquin |
|  Details  View in SIMBAD  No SAMP connection | -10-26_SCI_MWC158_oiDataCalib.fits | 2010-10-27T06:38:52 | PIONIER_Pdown(1.5994200/1.7627500) | 1.59942000 | 1.76275000 | 5 | Jean-Baptiste Le Bouquin |
| | -10-27_SCI_SS_LEP_oiDataCalib.fits | 2010-10-28T07:26:23 | PIONIER_Pup(1.5994200/1.8035799) | 1.59942000 | 1.80358000 | 6 | Jean-Baptiste Le Bouquin |
| | -10-28_SCI_ALF_HY1_oiDataCalib.fits | 2010-10-29T02:48:28 | PIONIER_Pup(1.5994200/1.8035799) | 1.59942000 | 1.80358000 | 6 | Jean-Baptiste Le Bouquin |
|  DELTA_AQR | 2010-10-28_SCI_DELTA_AQR_oiDataCalib.fits | 2010-10-29T02:21:07 | PIONIER_Pup(1.5994200/1.8035799) | 1.59942000 | 1.80358000 | 6 | Jean-Baptiste Le Bouquin |
|  KAP01_CET | 2010-10-28_SCI_KAP01_CET_oiDataCalib.fits | 2010-10-29T05:09:35 | PIONIER_Pup(1.5994200/1.8035799) | 1.59942000 | 1.80358000 | 6 | Jean-Baptiste Le Bouquin |
|  LTT-9682 | 2010-10-28_SCI_LTT-9682_oiDataCalib.fits | 2010-10-29T01:46:33 | PIONIER_Pup(1.5994200/1.8035799) | 1.59942000 | 1.80358000 | 6 | Jean-Baptiste Le Bouquin |
|  HIP11231 | 2010-10-29_SCI_HIP11231_oiDataCalib.fits | 2010-10-30T05:09:35 | PIONIER_Pnat(1.5994200/1.8035799) | 1.59942000 | 1.80358000 | 6 | Jean-Baptiste Le Bouquin |
|  HIP114421 | 2010-10-29_SCI_HIP114421_oiDataCalib.fits | 2010-10-30T04:04:47 | PIONIER_Pup(1.5994200/1.8035799) | 1.59942000 | 1.80358000 | 6 | Jean-Baptiste Le Bouquin |
|  SS_LEP | 2010-10-29_SCI_SS_LEP_oiDataCalib.fits | 2010-10-30T07:46:33 | PIONIER_Pnat(1.5994200/1.8035799) | 1.59942000 | 1.80358000 | 6 | Jean-Baptiste Le Bouquin |
|  CANOPUS | 2010-10-30_SCI_CANOPUS_oiDataCalib.fits | 2010-10-31T07:07:40 | PIONIER_Pup(1.5994200/1.8035799) | 1.59942000 | 1.80358000 | 6 | Jean-Baptiste Le Bouquin |
|  FOMALHAUT | 2010-10-30_SCI_FOMALHAUT_oiDataCalib.fits | 2010-10-31T03:07:11 | PIONIER_Pup(1.5994200/1.8035799) | 1.59942000 | 1.80358000 | 6 | Jean-Baptiste Le Bouquin |

oidb-beta.jmmc.fr/search.html?calibLevel=1,2,3#

Modèle de données



Retour d'expérience :-)

- DataModel :
 - Pas évident de reprendre des concepts pour la mise en place d'extensions.
 - Toutes les informations ne sont pas exposées en TAP : choix à faire.
- TAPlib
 - Mode basique incompatible avec taphandle (/tables insuffisant : TAP_SCHEMA nécessaire ?)
 - Externaliser la configuration de la SERVLET (accès au SGBD, metadonnées)
 - Amélioration des logs
- TAP
 - Pas adapté aux traitements par lots
 - ex.simbad : récupérer les coordonnées de N étoiles et leurs identifiants
 - Limité à l'échange de données tabulaires très bas niveau
 - ex : comment véhiculer un complexe / un tableau ?
 - la logique est à porter dans les clients TAP. Lesquels ?

Retour d'expérience :-)

- TAPlib
 - démarrage simple
 - intégration sur serveur d'appli Java
- TAP
 - concept SQL like (+ fonctions astro) → sortie XML
 - exploitation simple avec outils XML (VOTable)
- ObsCore
 - très bon support pour démarrer

La suite ?

- mise en ligne du portail fin 2014
 - maj avec TAPlib 2.0 ?
- enregistrement du service TAP dans le registry
- préparation d'une V.2 (datalink, DOI, quicklook)

→ pour cet après-midi ?

- quelle recette « rapide » datalink ?

ex.: renvoie vers un service de validation / affichage des données

Optical Interferometry DataBase

| | | | | | | |
|--|---|--|---|------------------------|--------------------------|---------------------------|
|  <p>10 FACILITIES</p> |  <p>12 INSTRUMENTS</p> |  <p>19 DATA-PIS</p> |  <p>7 COLLECTIONS</p> | <p>1637 OIFITS</p> | <p>2021 GRANULES</p> | <p>2635 OBS. LOGS</p> |
|--|---|--|---|------------------------|--------------------------|---------------------------|

Enter target name or [visit the advanced form](#)

Sept 2014 : A beta release is under preparation!
The JMMC OI DB working group is preparing the next version of the portal.
See you soon.

Javascript d'affichage des applications compatibles samp table.load.fits (voar.jmmc.fr)

Iceweasel | OIData portal

oidb-beta.jmmc.fr/search.html?caliblevel=1,2,3


Results

Meta-data will try to follow VO4OI proposal and Ivoa:ObsCore document (get 1936 observations from 1731 oifits files (485 private))










Results for **SEL** (calib_level=3)

| target_name | access_url | em_min | em_max | nb_channels | obs_creator_name | | |
|-------------|---|---------------------|-----------------------------------|-------------|--------------------------|---|--------------------------|
| meta.id;src | meta.ref.url | em.wl;stat.max | | | meta.id | | |
| DELTA_CAP | 2010-10-26_SCI_DELTA_CAP_oiDataCalib.fits | 1.76275000 | 1.76275000 | 5 | Jean-Baptiste Le Bouquin | | |
| MWC158 | 2010-10-26_SCI_MWC158_oiDataCalib.fits | 1.76275000 | 1.76275000 | 5 | Jean-Baptiste Le Bouquin | | |
| SS_LEP | 2010-10-27_SCI_SS_LEP_oiDataCalib.fits | 1.80358000 | 1.80358000 | 6 | Jean-Baptiste Le Bouquin | | |
| ALF_HY1 | 2010-10-28_SCI_ALF_HY1_oiDataCalib.fits | 1.80358000 | 1.80358000 | 6 | Jean-Baptiste Le Bouquin | | |
| DELTA_AQR | 2010-10-28_SCI_DELTA_AQR_oiDataCalib.fits | 1.80358000 | 1.80358000 | 6 | Jean-Baptiste Le Bouquin | | |
| KAP01_CET | 2010-10-28_SCI_KAP01_CET_oiDataCalib.fits | 1.80358000 | 1.80358000 | 6 | Jean-Baptiste Le Bouquin | | |
| LTT-9682 | 2010-10-28_SCI_LTT-9682_oiDataCalib.fits | 1.80358000 | 1.80358000 | 6 | Jean-Baptiste Le Bouquin | | |
| HIP11231 | 2010-10-29_SCI_HIP11231_oiDataCalib.fits | 1.80358000 | 1.80358000 | 6 | Jean-Baptiste Le Bouquin | | |
| HIP114421 | 2010-10-29_SCI_HIP114421_oiDataCalib.fits | 2010-10-30T04:04:47 | PIONIER_Pup(1.5994200/1.8035799) | 1.59942000 | 1.80358000 | 6 | Jean-Baptiste Le Bouquin |
| SS_LEP | 2010-10-29_SCI_SS_LEP_oiDataCalib.fits | 2010-10-30T07:46:33 | PIONIER_Pnat(1.5994200/1.8035799) | 1.59942000 | 1.80358000 | 6 | Jean-Baptiste Le Bouquin |
| CANOPUS | 2010-10-30_SCI_CANOPUS_oiDataCalib.fits | 2010-10-31T07:07:40 | PIONIER_Pup(1.5994200/1.8035799) | 1.59942000 | 1.80358000 | 6 | Jean-Baptiste Le Bouquin |
| FOMALHAUT | 2010-10-30_SCI_FOMALHAUT_oiDataCalib.fits | 2010-10-31T03:07:11 | PIONIER_Pup(1.5994200/1.8035799) | 1.59942000 | 1.80358000 | 6 | Jean-Baptiste Le Bouquin |

Sending data to an application

 AppLauncher, the JMMC VO Dock for Astronomers, is an application launcher that lets you choose and start VO tools.

Alternatively you may directly download and install any of the following relevant applications:

-  Aladin
-  Cassini
-  IRIS
-  LITpro
-  OIFitsExplorer
-  SAOImage DS9
-  VOspec
-  splat
-  topcat

Close

Exploitation par topcat / vo /tap

Window Deletion Columns Registry Interop Help



Select Service Enter Query Resume Job Running Jobs

Table Metadata
 Service: http://localhost:9090/exist/tap (1 table)
 Table: public.oidb

| Name | Data Type | Indexed | Unit | Description | UCD | Utype | Flags |
|-------------------|-----------|--------------------------|--------|--|----------------------------|---|-------|
| id | VARCHAR | <input type="checkbox"/> | | Object ID | | | |
| dataproduuct_type | VARCHAR | <input type="checkbox"/> | | High level scientific classification of the data product ta... | meta.id | obscure:obs.dataproducttype | |
| calib_level | VARCHAR | <input type="checkbox"/> | | Amount of data processing that has been applied to th... | meta.code;obs.calib | obscure:obs.caliblevel | |
| target_name | VARCHAR | <input type="checkbox"/> | | Object a targeted observation targeted | meta.id;src | obscure:target.name | |
| obs_id | VARCHAR | <input type="checkbox"/> | | Unique identifier for an observation | meta.id | obscure:DataID.observationID | |
| obs_collection | VARCHAR | <input type="checkbox"/> | | Name of a data collection (e.g., project name) this data... | meta.id | obscure:dataid.collection | |
| obs_creator_name | VARCHAR | <input type="checkbox"/> | | Name of the creator of the data | meta.id | obscure:dataid.creator | |
| obs_release_date | VARCHAR | <input type="checkbox"/> | | Observation release date | time.release | obscure:curation.releasedate | |
| obs_publisher_did | VARCHAR | <input type="checkbox"/> | | Dataset identifier given by the publisher | meta.ref.url;meta.curation | obscure:curation.publisherid | |
| bib_reference | VARCHAR | <input type="checkbox"/> | | Service bibliographic reference | meta.bib.bibcode | obscure:curation.reference | |
| data_rights | VARCHAR | <input type="checkbox"/> | | Public/Secure/Proprietary | meta.code | obscure:curation.rights | |
| access_url | VARCHAR | <input type="checkbox"/> | | The URL at which to obtain the data set. | meta.ref.url | obscure:access.reference | |
| access_format | VARCHAR | <input type="checkbox"/> | | MIME type of the resource at access_url | meta.code.mime | obscure:access.format | |
| access_estsize | VARCHAR | <input type="checkbox"/> | kbyte | Estimated size of data product | phys.size;meta.file | obscure:access.size | |
| s_ra | VARCHAR | <input type="checkbox"/> | deg | Right ascension of (center of) observation, ICRS | pos.eq.ra;meta.main | obscure:char.spatialaxis.coverage.location.coord.positi... | |
| s_dec | VARCHAR | <input type="checkbox"/> | deg | Declination of (center of) observation, ICRS | pos.eq.dec;meta.main | obscure:char.spatialaxis.coverage.location.coord.positi... | |
| s_fov | VARCHAR | <input type="checkbox"/> | deg | Approximate spatial extent for the region covered by th... | phys.angSize;instr.fov | obscure:char.spatialaxis.coverage.bounds.extent.diame... | |
| s_region | VARCHAR | <input type="checkbox"/> | | Region covered by the observation, as a polygon | phys.angArea;obs | obscure:char.spatialaxis.coverage.support.area | |
| s_resolution | VARCHAR | <input type="checkbox"/> | arcsec | Best spatial resolution within the data set | pos.angResolution | obscure:Char.SpatialAxis.Resolution.refval | |
| t_min | VARCHAR | <input type="checkbox"/> | d | Lower bound of times represented in the data set, as MJD | time.start;obs.exposure | obscure:char.timeaxis.coverage.bounds.limits.interval.st... | |
| t_max | VARCHAR | <input type="checkbox"/> | d | Upper bound of times represented in the data set, as MJD | time.end;obs.exposure | obscure:char.timeaxis.coverage.bounds.limits.interval.st... | |
| t_exptime | VARCHAR | <input type="checkbox"/> | s | Total exposure time | time.duration;obs.exposure | obscure:char.timeaxis.coverage.support.extent | |

Foreign Keys:

| Target Table | Links | Description | Utype |
|--------------|-------|-------------|-------|
| | | | |

Service Capabilities
 Query Language: ADQL-2.0 Max Rows: Uploads: unavailable

ADQL Text
 Synchronous

OK

Développement existdb sous l'IDE en ligne eXide

The screenshot displays the eXide web IDE interface. The main editor shows XQuery code for a module named 'app'. The code includes imports for templates and config, a function declaration for 'app:get-data()', and logic to process log data from 'http://jmmc.fr/statistics/updated_access_log.xml'. The code uses XQuery constructs like 'group by', 'distinct-values', and 'string-join' to generate XML output.

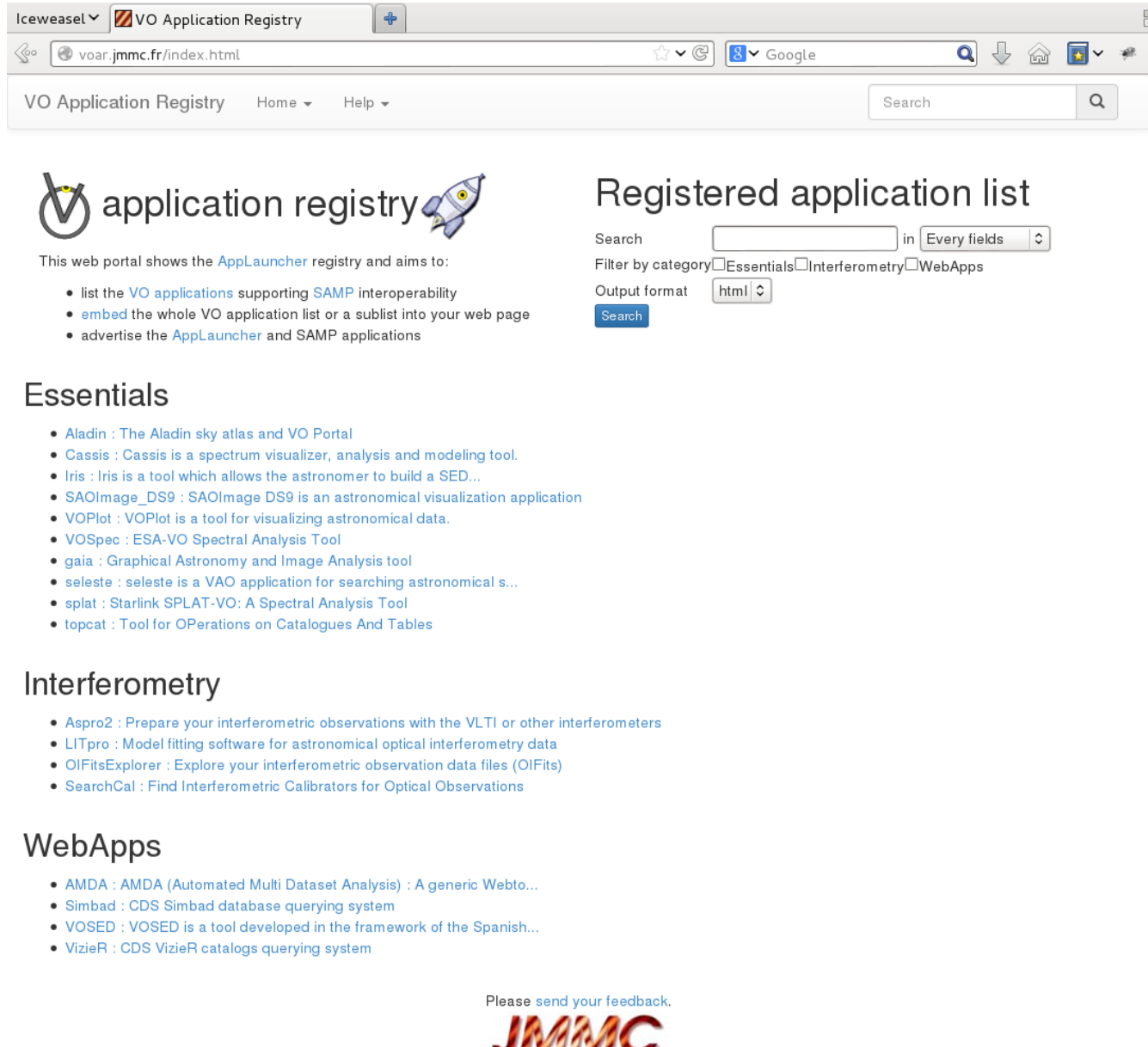
```
1 xquery version "3.0";
2
3 module namespace app="http://jmmc.fr/apps/umap/templates";
4
5 import module namespace templates="http://exist-db.org/xquery/templates" ;
6 import module namespace config="http://jmmc.fr/apps/umap/config" at "config.xqm";
7
8 declare function app:get-data()
9 {
10     let $min-requests := 9
11
12     (: Load stats from log computation :)
13     let $doc := doc("http://jmmc.fr/statistics/updated_access_log.xml")
14
15     (: ::)
16     let $latlon := for $e in $doc//e
17                   group by $l := $e//latlon
18                   return
19                       let $c :=count($e)
20                       return
21                           if($c > $min-requests) then
22                               let $softs := string-join( for $a in distinct-values($e//app) return
23                                   $a||":"||count($e//app[.=$a]) , "; ")
24                               return $l||",total requests:"||$c ||" ("|| $softs ||")"
25                           else ()
26     return string-join(("lat,lon,info",$latlon,""), "&#10;")
27 }
```

The right-hand pane shows the XML output of the query, which is an XHTML document containing various metadata and statistics, such as IP address, hostname, and location information.

```
1 <e>
  <app>oival</app>
  <time>1219670323</time>
  <y>2008</y>
  <mm>08</mm>
  <m>Aug</m>
  <d>25</d>
  <ip>152.77.248.174</ip>
  <v>-</v>
  <v>301</v>
  <v>152.77.248.174</v>
  <v>Mozilla/5.0 (X11; U; Linux x86_64; en-US;
  rv:1.8.1.16) Gecko/20080703
  Mandriva/2.0.0.16-1.1mdv2008.1 (2008.1)
  Firefox/2.0.0.16</v>
  <v>356</v>
  <v>-</v>
  <v>-</v>
  <v>[25/Aug/2008:15:18:43 +0200]</v>
  <v>GET /oival HTTP/1.1</v>
  <host>
    <ip>152.77.248.174</ip>
    <hostname>gag8174.obs.ujf-
    grenoble.fr</hostname>
    <latlon>45.166698455811,5.7167000770569</
    <country_code>FR</country_code>
    <region>B9</region>
    <city>Grenoble</city>
    <postal_code/>
    <latitude>45.166698455811</latitude>
    <longitude>5.7167000770569</longitude>
    <dma_code>0</dma_code>
    <area_code>0</area_code>
  </host>
</e>
```

Registry Web de l'AppLauncher

http://voar.jmmc.fr



The screenshot shows a web browser window with the address bar displaying "voar.jmmc.fr/index.html". The page title is "VO Application Registry". The browser's search engine is set to Google. The website header includes a navigation menu with "Home" and "Help" links, and a search box. The main content area features the "application registry" logo with a rocket icon. Below the logo, a paragraph states: "This web portal shows the AppLauncher registry and aims to:" followed by a bulleted list of goals: "list the VO applications supporting SAMP interoperability", "embed the whole VO application list or a sublist into your web page", and "advertise the AppLauncher and SAMP applications". To the right, there is a section titled "Registered application list" with a search input field, a dropdown menu for "Every fields", and checkboxes for "Essentials", "Interferometry", and "WebApps". Below these are "Output format" dropdowns set to "html" and a "Search" button. The page is organized into three main sections: "Essentials", "Interferometry", and "WebApps", each containing a bulleted list of application links. At the bottom, there is a footer with the text "Please send your feedback." and the "JMMC" logo.

VO Application Registry Home Help Search

application registry

This web portal shows the [AppLauncher](#) registry and aims to:

- list the [VO applications](#) supporting [SAMP](#) interoperability
- [embed](#) the whole VO application list or a sublist into your web page
- advertise the [AppLauncher](#) and [SAMP](#) applications

Registered application list

Search in [Every fields](#)

Filter by category Essentials Interferometry WebApps

Output format [html](#)

[Search](#)

Essentials

- [Aladin](#) : The Aladin sky atlas and VO Portal
- [Cassio](#) : Cassio is a spectrum visualizer, analysis and modeling tool.
- [Iris](#) : Iris is a tool which allows the astronomer to build a SED...
- [SAOImage_DS9](#) : SAOImage DS9 is an astronomical visualization application
- [VOPlot](#) : VOPlot is a tool for visualizing astronomical data.
- [VOSpec](#) : ESA-VO Spectral Analysis Tool
- [gaia](#) : Graphical Astronomy and Image Analysis tool
- [seleste](#) : seleste is a VAO application for searching astronomical s...
- [splat](#) : Starlink SPLAT-VO: A Spectral Analysis Tool
- [topcat](#) : Tool for OPERations on Catalogues And Tables

Interferometry

- [Aspro2](#) : Prepare your interferometric observations with the VLTI or other interferometers
- [LITpro](#) : Model fitting software for astronomical optical interferometry data
- [OIFitsExplorer](#) : Explore your interferometric observation data files (OIFits)
- [SearchCal](#) : Find Interferometric Calibrators for Optical Observations

WebApps

- [AMDA](#) : AMDA (Automated Multi Dataset Analysis) : A generic Webto...
- [Simbad](#) : CDS Simbad database querying system
- [VOSED](#) : VOSED is a tool developed in the framework of the Spanish...
- [VizieR](#) : CDS VizieR catalogs querying system

Please send your feedback.

JMMC