

# TAPVizieR implementation & feedbacks




Available since January 2013

<http://tapvizier.u-strasbg.fr/adql/>

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# Main issues raised in Sao Paulo:



- **Providing the TAP schema** 
- decrease the XML output size (30Mb) with providing the tables descriptions without columns.
- The URL chosen to get the full table description (columns) is given by a REST URL :

<http://tapvizier.u-strasbg.fr/TAPVizieR/tap/tables/II/246/out>

```
<tableset xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:vod="http://www.ivoa.net/xml/VODDataService/v1.1" xsi:type="vod:TableSet">
  <schema>
    <name>vizls</name>
    <table type="base_table">
      <name>vizls.II/246/out</name>
      <description>The Point Source catalogue of 470,992,970 sources.</description>
      <column std="true">
        <name>RAJ2000</name>
        .....
      </column>
      <column std="true">
        <name>DEJ2000</name>
        .....
      </column>
      .....
    </table>
  </schema>
</tableset>
```

# Main issues raised in Sao Paulo:



## → Naming tables and columns



- Homogenization of the name with VizieR
- Clients must add quotes "" to the tables & columns names before submitting an ADQL query!

```
SELECT TOP 100 "II/246/out".RAJ2000, "II/246/out".DEJ2000, "II/246/out"."2MASS"  
FROM "II/246/out"  
WHERE 1=CONTAINS(POINT('ICRS',"II/246/out".RAJ2000,"II/246/out".DEJ2000),  
CIRCLE('ICRS', 83.633083, 22.0145, 2/60.))
```

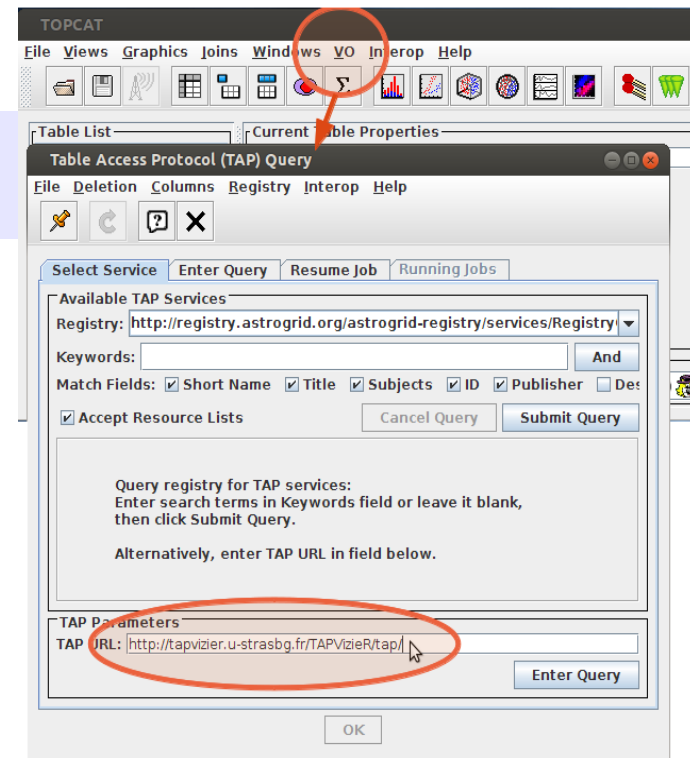
## Ambiguity of the coordinate system

- Solved by adding in VizieR the position in ICRS  
(90% of tables done)
- TAPVizieR uses the coordinate system which are stored in the database (send a Warning if the coordinate system doesn't match)

# Softwares compatibility



	TAPVizieR GUI	TAPHandle	TOPcat
Get tables from TAPschema (/tables)	✓	✓	✓
Get columns from TAPSchema (/table/....)	✓	✓	✗
Naming tables & columns	✓	✓	✗
Friendly interface to access TAPVizieR	✓	✓	✗



**Note :** (Laurent Michel)  
The upload in TAPHandle should be soon available

# Application Feedbacks

## Feedbacks from the Strasbourg Astronomical Observatory

(Seminar in the Strasbourg Astronomical Observatory : december 2012 )

**Subject:** – Database access using the VO –

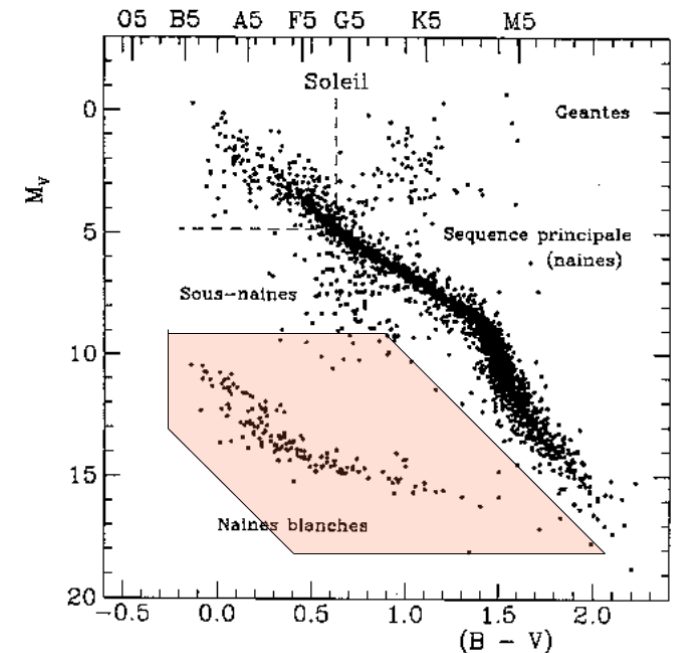
- TAPSimbad, TAPVizieR
- TAPHandle, TOPcat

### public feedbacks

- good feeling
- extension of the geometrical functions
- demand a TAP tutorial

### Others feedbacks

- FITS output, the Upload ?



# Consequences



## → Consequences in VizieR

- Homogenization of coordinates system in ICRS
- VizieR update to work with bigint

## → Tables Indexation with HEALPix (H3C)

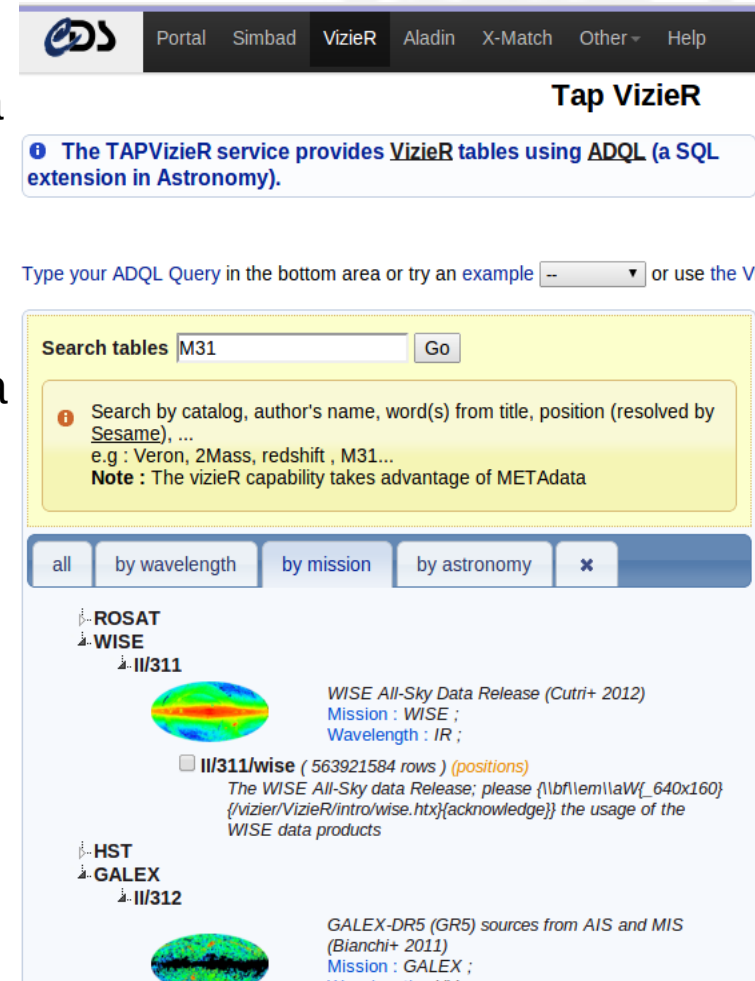
- Added function : `healpix(ra,de, nside)`  
(H3C : `h3c_ang2ipx(ra,de)`, `h3c_ipix2ang(ipix)`)

```
SELECT TOP 10 healpix( raj2000,dej2000, 32768)
FROM "II/246/out"
```

- MOC service : (not used by Aladin which query the CDSxmatch service)  
<http://tapvizier.u-strasbg.fr/TAPVizieR/moc.html> (web GUI)  
<http://tapvizier.u-strasbg.fr/TAPVizieR/tap/moc?query=table&healpix=...>  
(output in tsv only)

# Some VizieR addition

- TAP added URL :
  - A VizieR Search tables as an alternative of TAPSchema search which enables position search :  
(used by the TAPVizieR GUI)  
<http://tapvizier.u-strasbg.fr/TAPVizieR/tap/search>
  - note : TAPHandle search by keyword in the TAPschema
  - A debug url which verify the ADQL syntax  
<http://tapvizier.u-strasbg.fr/TAPVizieR/tap/validation>
  - A query plan service (M.Demleitner)  
<http://tapvizier.u-strasbg.fr/TAPVizieR/tap/queryplan>  
or GUI : <http://tapvizier.u-strasbg.fr/TAPVizieR/>
- JSON output is available to provide the TAPschema of a single table or for the result output.



The screenshot shows the VizieR web interface. At the top, there is a navigation bar with links for Portal, Simbad, VizieR, Aladin, X-Match, Other, and Help. Below the navigation bar, the page title is "Tap VizieR". A blue information box states: "The TAPVizieR service provides VizieR tables using ADQL (a SQL extension in Astronomy)." Below this, there is a search input field with the text "M31" and a "Go" button. A yellow warning box contains the text: "Search by catalog, author's name, word(s) from title, position (resolved by Sesame), ... e.g : Veron, 2Mass, redshift , M31... Note : The vizieR capability takes advantage of METAdata". Below the search box, there are tabs for "all", "by wavelength", "by mission", and "by astronomy". The "all" tab is selected. The search results are displayed in a list format. The first result is for "WISE" with a sub-entry "II/311" and a small image of the galaxy. The text next to it reads: "WISE All-Sky Data Release (Cutri+ 2012) Mission : WISE ; Wavelength : IR ;". The second result is for "HST" with a sub-entry "II/312" and a small image of the galaxy. The text next to it reads: "GALEX-DR5 (GR5) sources from AIS and MIS (Bianchi+ 2011) Mission : GALEX ; Wavelength : UV ;".