


# TAPVizieR implementation & feedbacks



Available since January 2013

# 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.))
```

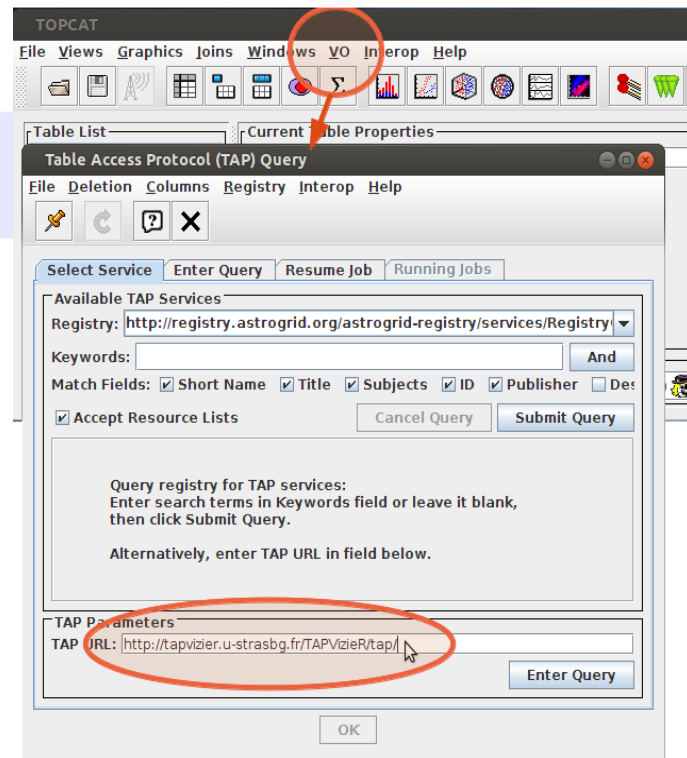
## Ambiguity of the coordinate system

- 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 query 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 –

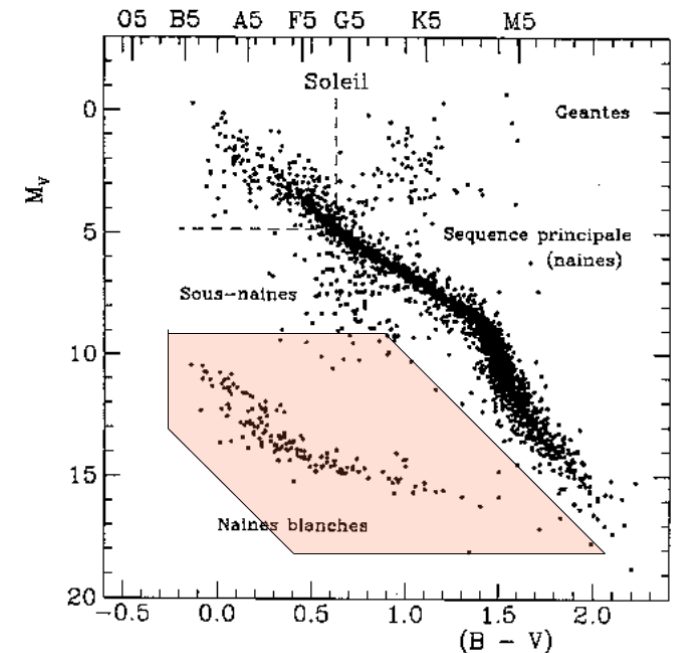
- TAPSimbad, TAPVizieR
- TAPHandle, TOPcat

### 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 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 information box provides search instructions: "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 search results are displayed in a list format. The first result is for "WISE" with a sub-entry "II/311". It includes a small image of the galaxy M31 and text: "WISE All-Sky Data Release (Cutri+ 2012) Mission : WISE ; Wavelength : IR ;". Below this is a checkbox for "II/311/wise ( 563921584 rows ) (positions)" with a link to the data release information. The second result is for "GALEX" with a sub-entry "II/312". It includes a small image of the galaxy M31 and text: "GALEX-DR5 (GR5) sources from AIS and MIS (Bianchi+ 2011) Mission : GALEX ; Wavelength : UV ;".