



# Scientific Council 2013

## VizieR



# Summary



- 1) Contents and usage (Pierre Ocvirk)
- 2) Work accomplished since the last scientific council (Gilles Landais)
- 3) The VizieR Photometry tool (Thomas Boch)

# VizieR



VizieR is the service which gives a unified access to a very large collection of astronomical catalogues & associated data:

- Reference catalogues & surveys of astronomical sources in all wavelengths (e.g. SDSS, 2MASS, UCAC, WISE)
- Tables from papers published in the major astronomical journals
- A large variety of astronomical data: astronomical sources , spectra, polarization data, but also models (evolutionary, populations, synthetic spectra, ...), statistical analyses, compilations, ...

... but with homogenized descriptions (metadata)

# Current data contents



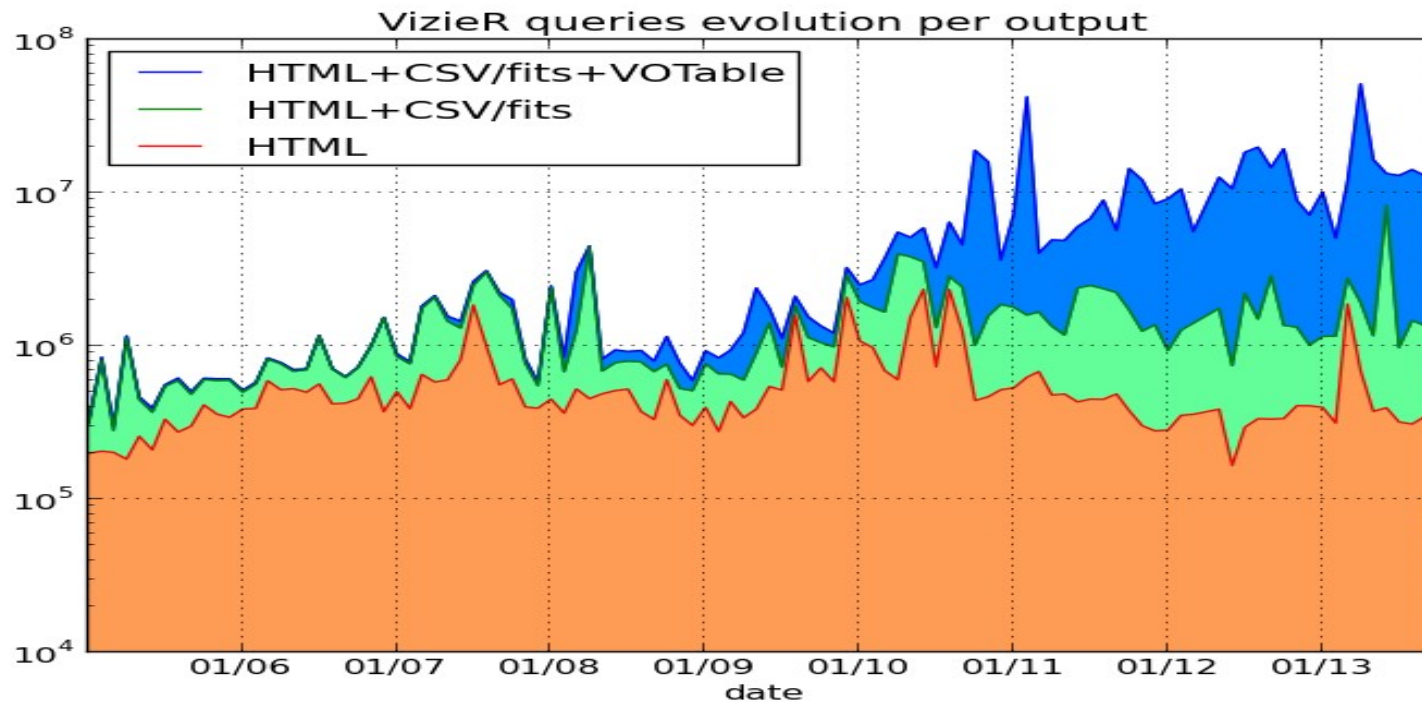
- VizieR contains 11,573 catalogues
- The biggest catalogue : GAIA Gums 2,143,475,885 records

|   | 2012    | 2013    |
|---|---------|---------|
| Catalogs  | 10,357  | 11,573  |
| Tables  | 22,285  | 24,928  |
| Columns   | 317,202 | 361,614 |
| Rows with positions (without GAIA Gums and obsoletes) | 9.25 G  | 9.37 G  |
| [obsolete]  | +2.05G  | +2.5G   |
| GAIA Gums   | +2.1G   | +2.1G   |
| Rows with positions                                   | 13.4    | 14.1G   |

# VizieR statistics



→ Queries number average per day : ~500,000



# VizieR ingestion statistics



- Number of catalogues ingested since the last scientific council : ~1100 (~3 per day)
- 5 new large catalogues ingested since 01/01/2013:

January :

SPM4 (~987,000 queries)

OGLE BULGE (~82,000 queries)

SAGE-Archive (~46,000 queries)

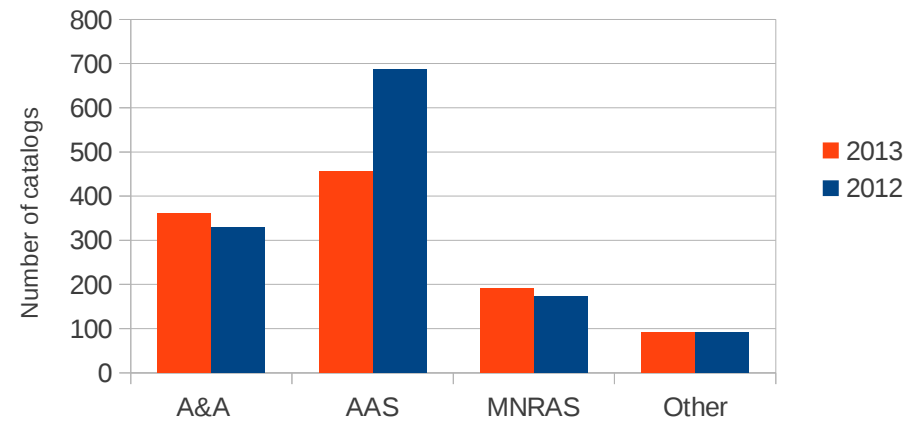
March :

SDSS DR9 (~1,208,000 queries)

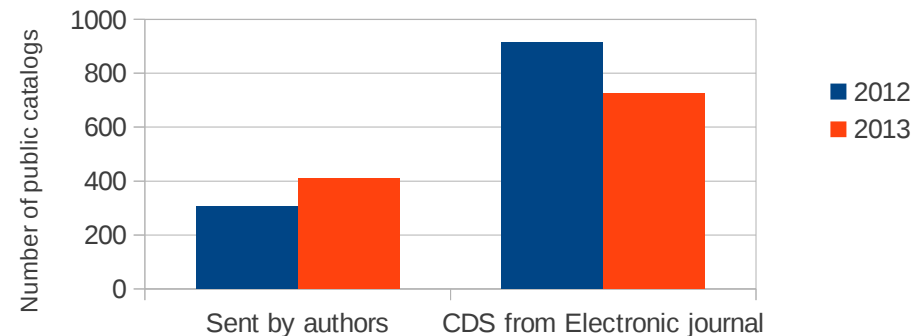
May :

UKIDSS( LAS, GCS, DXS) DR9 (~134,000 queries)

Ingestion of catalogs  
(01/11/2012 to 31/10/2013)



Pipeline origin  
(01/11/2012 to 31/10/2013)



# Query repartition (Jan 2013 – Oct 2013)

(coming from the VizieR web pages)

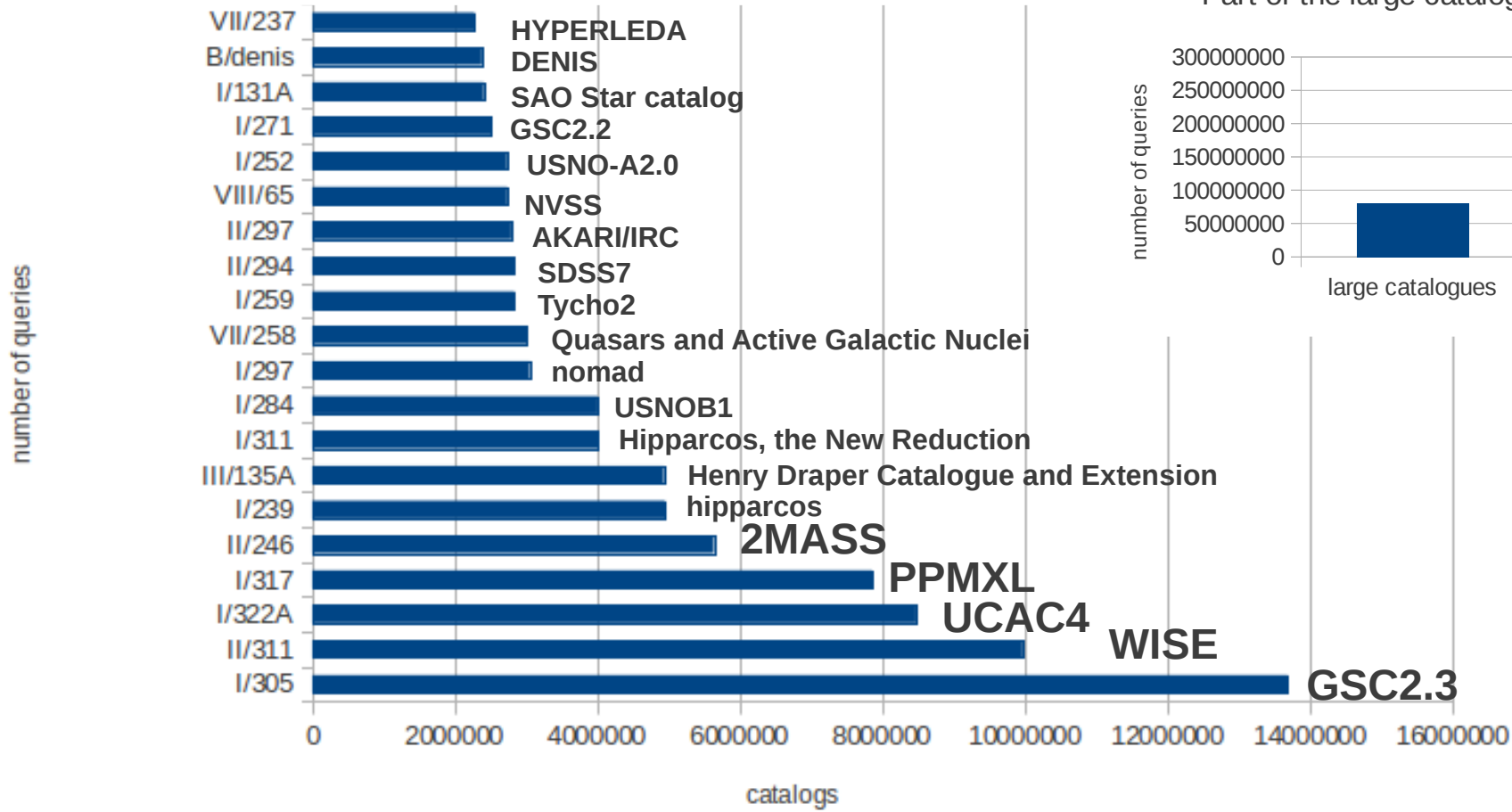
238.4k visits



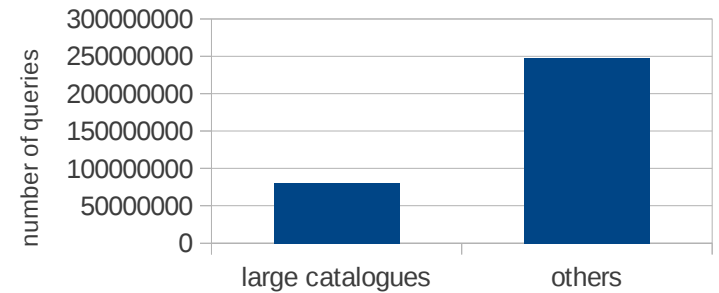
# The VizieR catalogues popularity



The VizieR TOP 20 of catalogs (in 2013)



Part of the large catalogs (in 2013)





# Work accomplished in 2013



- **TAPVizieR** is available @ <http://tapvizier.u-strasbg.fr/adql/>  
(poster @ADASS 2012 and talk in the Interop meeting)
  - Allows SQL-like queries
  - A dedicated database synchronized from the VizieR database
  - A simple user interface
- **Photometry** : Photometry computed among 2241 catalogues
  - Adjustments in the pipeline to detect the filters used according to the columns name, UCD, etc.
  - Photometry plotter (Thomas & Anne-Camille)
- A new mirror in South Africa (**SAAO**) is being implemented (collab. S. Barway SAAO)
- And other minor updates and maintenance actions ..

# Work accomplished in 2013



## Technicals improvements :

- Working with 64-bits integer to store identifiers or flags from large catalogues
- The VizieR main site in CDS uses a PostgreSQL database instead of Sybase
- Improve the service quality
  - with logging (log the database updates)
  - Improve the supervision (nagios)

# Associated data in VizieR (inventory)



## Search for associated data in VizieR :

- Different kinds of non-tabular data available in the catalogue, frequently illustrated with plots
- Also: photometric data which can be included in VizieR Photometric viewer

Find catalogs among 11733 available

Clear  Find...

Expand search

**?** *Catalog*, author's name, word(s) from title, description, etc. e.g.: AGN, Veron, I/239, or bibcodes...

▶ Search for catalogs by column descriptions (UCD) **?**

▼ Hide catalogs containing additional data


time serie  spectrum  images  cube  SED (Spectral Energy Distribution)  none

Search by Position across 12238 tables

Target Name (resolved by [Sesame](#)) or Position: Target dimension:

Clear  J2000  2  arcmin  Go!

Radius  Box size



[More about VizieR](#) ~ 1067 matching catalogs Find Catalogs

| Additional data type |      |
|----------------------|------|
| time series          | 1067 |
| spectra              | 365  |
| images               | 115  |
| cube                 | 42   |
| SED                  | 2215 |

# Associated data in VizieR (inventory)



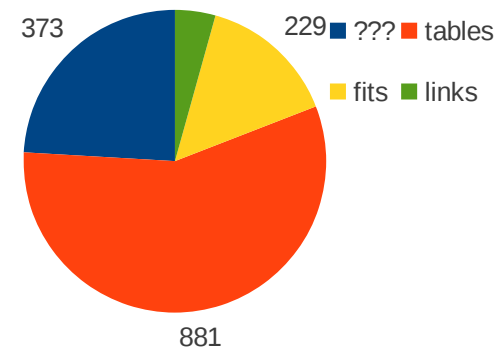
## Origin/nature of the associated data:

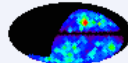
- The « **added files** » are data files which come from the articles . In FITS or ASCII format, these can be downloaded via FTP or by clicking on links in the VizieR web pages.

**Volumetry** : ~750,000 FITS files splitted in ~400 catalogues

- CoRoT ~ 300,000 time series
- Grids of ATLAS9 Model Atmospheres and MOOG spectra ~ 300,000 spectra
- Galaxy And Mass Assembly (GAMA) ~60,000 spectra
- The Resources computed from the **tabular data** themself
- **Links** to external resources

Origin of the associated data types



[VII/259/spectra](#) [6dF galaxy survey final redshift release \(Jones+, 2009\)](#) [ReadMe+ftp](#)  
[Post annotation](#) [Table of spectral observations \(136304 rows\)](#) [2009MNRAS.399..683J](#) 

| Full | RAJ2000<br>"h:m:s" | DEJ2000<br>"d:m:s" | SpecID | 6dFGS           | dr<br>arcsec | z       | Rcor | MJD.V<br>d | MJD.R<br>d | Sp | FITS | RAJ2000<br>"h:m:s" |
|------|--------------------|--------------------|--------|-----------------|--------------|---------|------|------------|------------|----|------|--------------------|
| 1    | 00 00 53.07        | -30 07 14.0        | 1      | g0000531-300714 | 0.001        | 0.03981 | 3.92 | 52846.78   | 52846.82   | Sp | FITS | 00 00 53.07        |
| 2    | 00 01 03.23        | -29 18 29.1        | 2      | g0001032-291829 | 0.001        | 2.28448 | 8.89 | 52846.78   | 52846.82   | Sp | FITS | 00 01 03.23        |
| 3    | 23 59 14.98        | -30 06 36.2        | 3      | g2359150-300636 | 0.001        | 2.28377 | 5.30 | 52846.78   | 528        |    |      |                    |
| 4    | 23 58 17.26        | -30 06 41.2        | 4      | g2358173-300641 | 0.001        | 0.02967 | 9.21 | 52846.78   | 528        |    |      |                    |

[www-wfau.roe.ac.uk/data/6dFGS/dr3\\_fits/fits/00/g0000531-300714.fits](http://www-wfau.roe.ac.uk/data/6dFGS/dr3_fits/fits/00/g0000531-300714.fits)

# Ongoing actions

1) Improve the ingestion pipeline for the plots

2) Index the Additional files coming from publications or surveys :

spectra, time-series, images (..)

- Choose the technology (test SAADA in the VizieR context)
- Update the ingestion pipeline
- VO output : SIA (image protocole), SSA (spectra protocol), (time-serie protocol)..
- Brainstorming including astronomers & developpers
- Planned meeting at the AAS with the ADS journals and other actors

Portal Simbad VizieR Aladin X-Match Other Help

### Verifying your Data

The data distributed by the CDS, via [FTP](#) or [VizieR](#), are described and documented by a [README](#) file (see [some tips](#) for the preparation of the [README](#) file) This form allows to verify the conformity of the description, and of the data versus the description.

Let know whether your [README](#) file is  standard ([example](#)), or just  minimal ([example](#))

**• either your [README](#) and data files were already deposited in the CDS FTP service: just complete with the name of the directory you created at node [cdsarc.u-strasbg.fr](#)**

Your Directory:   (where you uploaded your data via [ftp](#))

**• or you have the files on your local computer: enter their filenames below**  
(it is also possible to combine your local files with files previously deposited in the CDS FTP service)  
**binary files** like **PDF FITS ZIP**, can **only** be uploaded via **FTP**

Your [README](#):  No file selected.

Your data file#1:  No file selected.

Your data file#2:  No file selected.

Your data file#3:  No file selected.

Your Email:

If the number of data files doesn't fit your needs, enter your value  and



# Future developments to consider



- Add Aladin Lite in the VizieR result page
- Improve the position search speed by using a new VizieR index
- Add the "Upload your own table" in TAPVizieR (to allow users to perform SQL queries on their tables as well as on VizieR ones)