

VizieR, HiPS, MOC tutorials



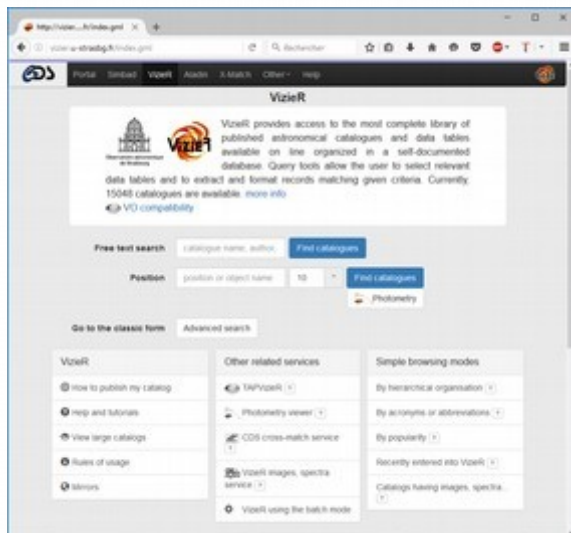
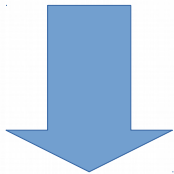
ASTERICS Workshop June 2016 - Heidelberg

Pierre Fernique
Gilles Landais

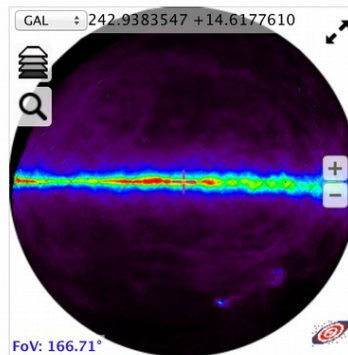
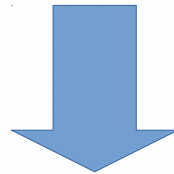


□ Three topics for the same price!

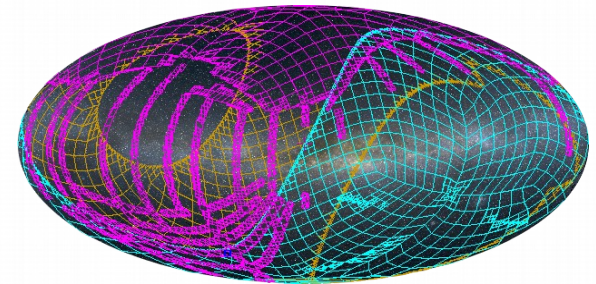
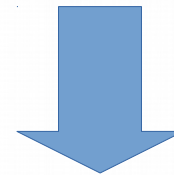
1. VizieR



2. HiPS



3. MOC



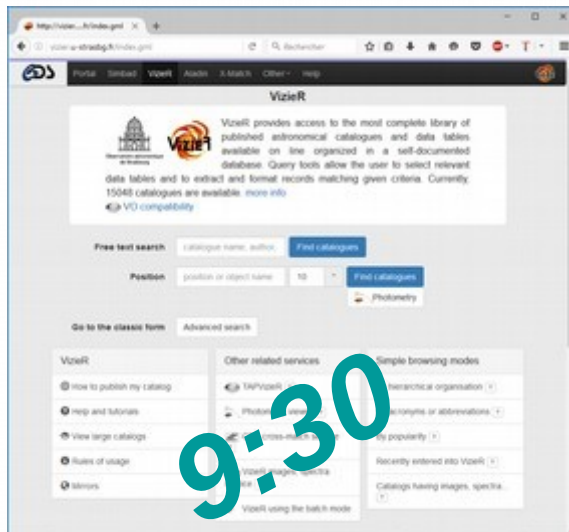
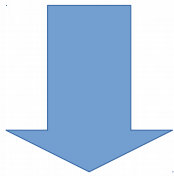
□ The answers of these questions

- *How to publish my table of astronomical objects ?*
=> [VizieR](#)
- *How to publish my image collection in my Web site ?*
=> [HiPS + Aladin Lite](#)
- *How to retrieve the sky regions for which there are SDSS and GALEX observations ?*
=> [MOC](#)
- *How to know the list of data sets covering my region of interest ?*
=> [MOC + MOC server](#)
- ...

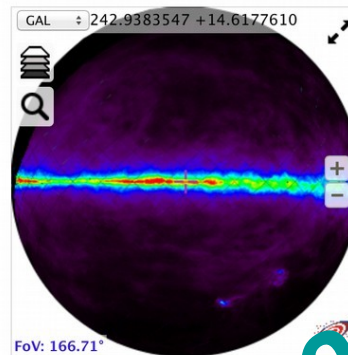
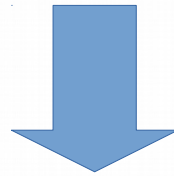


□ “Formal” introductions

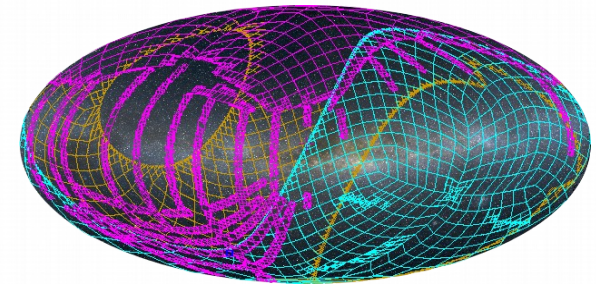
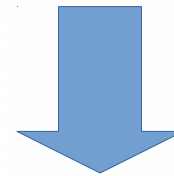
1. VizieR



2. HiPS



3. MOC



□ “Free” tutorials (DIY on your own laptop)

- “Free” tutorials after the formal introductions:
 - Vizier 9:30-10:30
 - HiPS 11:00-12:30
 - MOC 13:30-14:30
- And/or during the afternoon for any of them: 14:30 – 16:00

□ Prerequisites



- Have a internet connection
- Install: JAVA (Oracle or OpenJDK ≥ 1.6)
- Install: last “Aladin Beta” version (use google)

□ What is VizieR ?


Vizier gives a unified access to a very large collection of astronomical catalogues and astronomical data


- Provides a **free** access to **public** catalogues
- Long term preservation by CDS

The content origin

- Tables from papers published in the major **astronomical journals**
- **Reference catalogues & surveys** of astronomical sources at all wavelengths (e.g. SDSS, 2MASS, UCAC, WISE)
- **Logs of observations** and incremental datasets updated periodically

Provide dataset in VizieR


 VizieR provides access to the most complete library of published astronomical catalogues and data tables available on line organized in a self-documented database. Query tools allow the user to select relevant data tables and to extract and format records matching given criteria. Currently, 15024 catalogues are available. [more info](#)

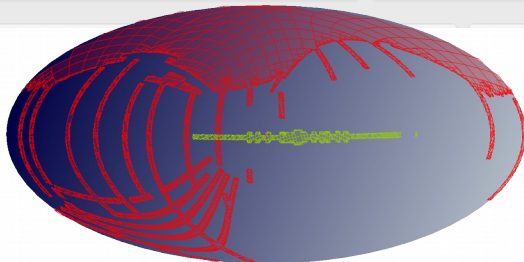


Free text search

Position

Go to the classic form

VizieR <ul style="list-style-type: none"> How to publish my catalog Help and tutorials View large catalogs Rules of usage Mirrors 	Other related services <ul style="list-style-type: none"> TAPVizieR ? Photometry viewer ? CDS cross-match service ? VizieR images, spectra service ? VizieR using the batch mode 	Simple browsing modes <ul style="list-style-type: none"> By hierarchical organisation ? By acronyms or abbreviations ? By popularity ? Recently entered into VizieR ? Catalogs having images, spectra... ?
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CDS X-Match Service [Login](#) [Preferences](#) [Register](#)

Choose tables to cross-match

SIMBAD ZMSS

VizieR Result Page

Search Criteria
 Keywords:

Note: a center Target is required, the following constraint was added:
 <- 6.000000: none

The 2 columns in color are computed by VizieR, and are not part of the original data.

11245/out	2MASS All-Sky Catalog of Point Sources (CDS+2003)	Row#	RAJ2000	DEJ2000	RAJ2000	DEJ2000	2MASS	Jmag	Hmag	Kmag		
100	41	45.404	+89 58 37.38010	439.434	+89.977051	004145424	+895837311	50010	09811	4.971	5.101	114.900
201	34	52.590	+89 58 38.51023	51.0760	+89.977964	013402564	+895838516	47910	179	15.874	16.140	16.140

VizieR Photometry viewer

Target:
 Radius (in arcsec):

3C 273 (12 28 6.69542 03 8.662), radius: 5 arcsec

Mouse position:
 Wavelength: _____
 Frequency: _____
 Energy: _____
 Flux density or F₀: _____
 FWH: _____

ΔRA (arcsec): _____
 Center (R - Dec): _____

Search associated data among the VizieR catalogues

This web page is an access to the VizieR Associated data (Images, spectra, timeseries, SED) which comes from publications. This tool is the result of the documentation assigned by the authors of the catalogues (in particular by AAA authors) and supervised by the CDS documentation team (see the VizieR registration tool).

VO compatibility
 The meta-data and the search engine are built according to the VO framework (JVA, SSA, CDS/VO) and can be queried by VO softwares. The data are gathered with the Jvaas engines, and the VO data model CDS/CDS has been chosen for the documentation.

Simple search:

Show 10 entries | filter | 500 entries

Preview	Target	Data collection	Ra	Dec	Band min (nm)	Band max (nm)	Begin time (MJD)	End time (MJD)	Facility
	W127A	110.951	0.613	<input type="button" value="Image"/>	<input type="button" value="Image"/>	51,910,000			UKST
	W127A	98.354	-18.140	<input type="button" value="Image"/>	<input type="button" value="Image"/>	51,160,000			UKST

□ Provide dataset in VizieR

1. VizieR introduction

- What is VizieR ? What is a VizieR catalogue ?
- Why provide data in VizieR ?
- How to provide dataset in VizieR ?

2. Demo of the future upload VizieR service

3. Tutorial

- To use the VizieR services
- Build HiPS table

□ What is HiPS ?

Hierarchical Progressive Survey

“The more you zoom in on a particular area, the more details show up”

A emerging IVOA standard
for managing multiscale mosaic data sets



□ What is MOC ?

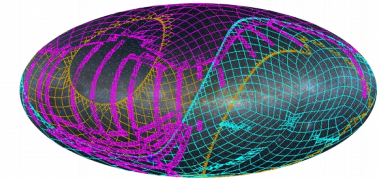
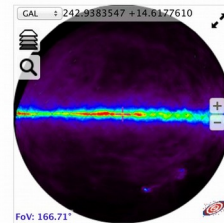
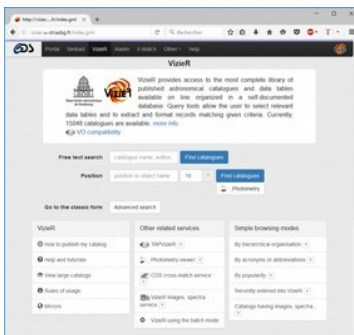
MultiOrder Coverage map

“Combine sky regions in few milliseconds”

An IVOA standard for managing sky regions



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All are welcome!