Spectra & images in VizieR

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Introduction

- An indexation service dedicated for associated data
  spectra, images, time-series
  - Dedicated for the associated data published by authors in A&A, AAS, MNRAS and also from surveys
  - Metadatas informed by the authors and the CDS documentalists
- New VO services to access Data (in FITS/VOTable) managed by Saada
  - ObsCore meta-data
  - SIA/SSA and ObsTap access

Data access URL

User interface : http://cdsarc.u-strasbg.fr/assodata/
SIA service : http://cdsarc.u-strasbg.fr/viziersaada/siaservice?collection=[vizier]

SSA service : http://cdsarc.u-strasbg.fr/saadavizier/ssaservice?collection=[vizier]
ObsTAP service : http://cdsarc.u-strasbg.fr/saadavizier.tap/tap

Saada architecture

A database generator for images/spectra and tables VO oriented

- Documents (Fits/VOTable) indexation :
  provide the mappings with the resources headers
  - In a global table containing all resources
  - In dedicated tables for each VizieR catalogues
- Load test performed successfully
- Customizable metadata
- VO services : SIA, SSA, TAP and registry facilities
- API available to extract Fits/VOTable headers (used in the upcoming upload web interface to help authors to fill metadata)
- Adapted to pipelines which enable meta data in input
  (ant script for metadata ingestion)

Integration progress

Implementation progress

- VO data access : SIA, SSA, ObsTAP
- New services are in the registry

Contents ingestion progress

- Data ingestion began, slowly ;
  the new pipeline needs an adaptation period for CDS
- Authors pipeline ingestion in test

Saada updates version 2.26

- Use ObsCore (mandatory) as metadata
- API to map Fits header and ObsCore
- WCS detection Improvment (more projections are detected)
- Ingestion improvments for collections

Metadata

Metadata choice

- ObsCore DM limited to the mandatory items
- Choice discussed with the AAS editors
- Metadata adding :
  - em_band : Gamma, Xray, EUV, UV, Optical, Millimeter, IR, ...
    (a spectral band alternative when the limits are not detected in headers)
  - has_wcs detection flag

Identifiers

- obs_collection: the catalogue name
  example: SDSS, CoRoT, J/A+A/378/861
- obs_id: the filename, example: 10144aa.fit
- obs_publisher_did: exemple: ivo://CDS/J/A+A/378/861?res=10144aa.fits

The contents

Currently available

- Images : 29 catalogues, ~18,000 images ?
- Spectra/time-series : 23 catalogues, ~84,000 documents

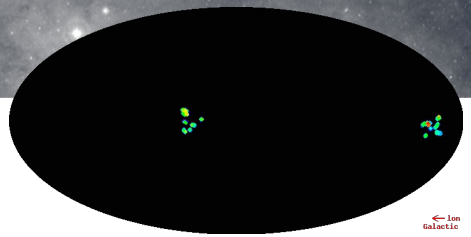
In the pipeline

- Images : ~150 catalogues
- Spectra/time-series : ~150 catalogues

And also 2 surveys

- CoRoT: ~170,000 time-series in Fits format
- Lamost : ~2,400,000 spectra in Fits format

The Contents



CoRoT time-series

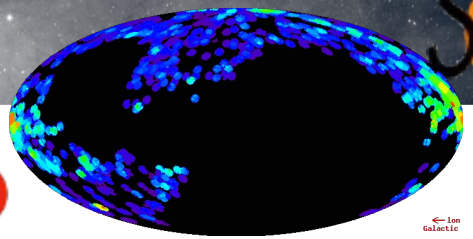
European space telescope for exoplanet detection(CNES)
https://corot.cnes.fr/en/COROT

- Spectral range : 300-950 nm (Optical)
- 2 modes of observations :
  - Bright star mode dedicated to very precise seismology
    10 stars in magnitude 6-9 (duration 20-150 days)
  - The faint star mode, observing a very large number of stars , to detect transits (~177,000 targets)
    12,000 stars observed in magnitude 12-15.5

Output : ~177,000 observations in FITS formats

VizieR catalogue : http://vizier.u-strasbg.fr/viz-bin/VizieR?-source=B/corot
VizieR associated data :
http://csdarc.u-strasbg.fr/assocdata/?obs_collection=B/corot

The Contents



Lamost spectra (DR1)

The Large sky Area Multi-Object Fiber Spectroscopic Telescope (LAMOST)
http://www.lamost.org/public/?locale=en

Figure 1 LAMOST

Spectral ranges : 370-900nm (Optical)

Observations : 2204696 objects including

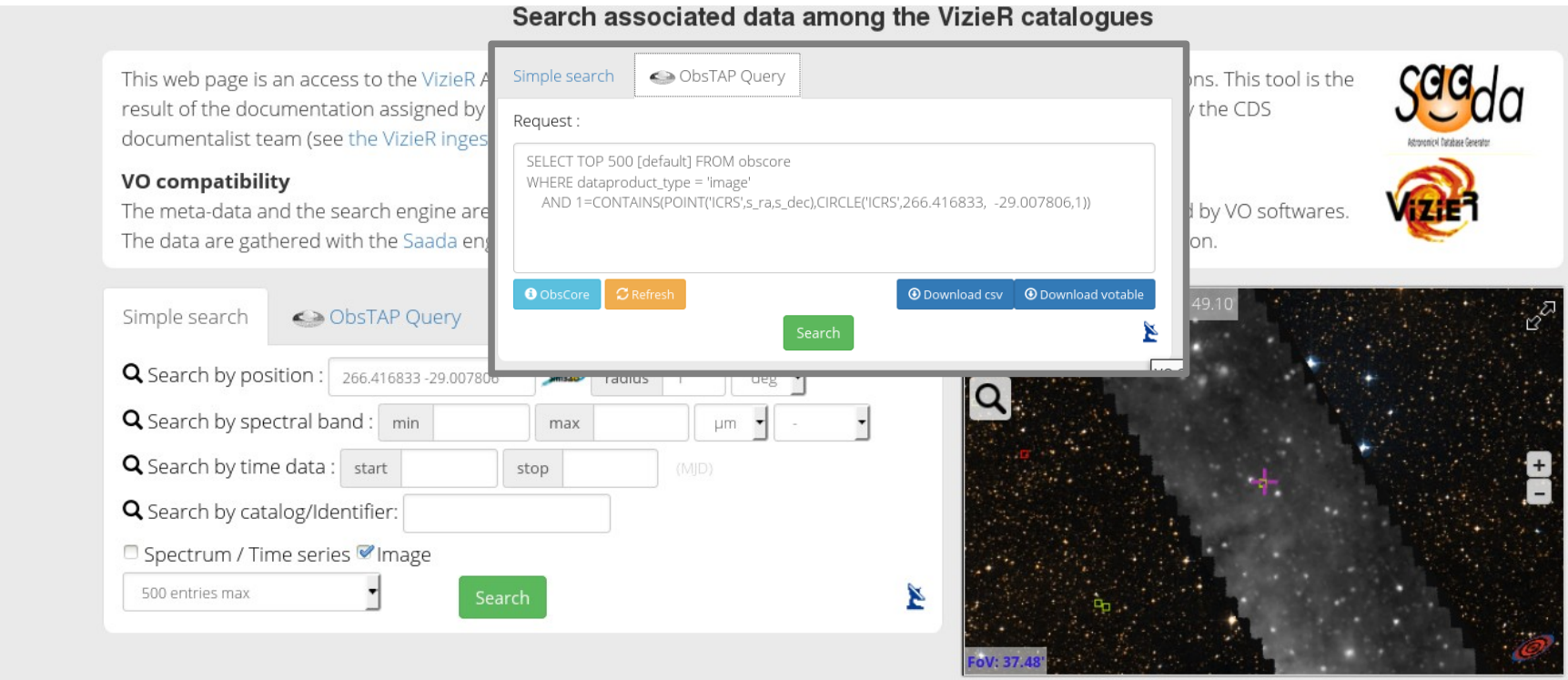
- 1,944,329 stars, 12,082 galaxies, 5017 quasars
- 243268 unknown objects.

Output : 2,204,860 spectra

VizieR catalogue : http://vizier.u-strasbg.fr/viz-bin/VizieR?-source=V/146
VizieR associated data : http://cdsarc.u-strasbg.fr/assocdata/?obs_collection=V/146

Lamost SSA service : (China-VO) http://dr1.lamost.org/voservice/ssap

Associated data web interface



Show 10 entries

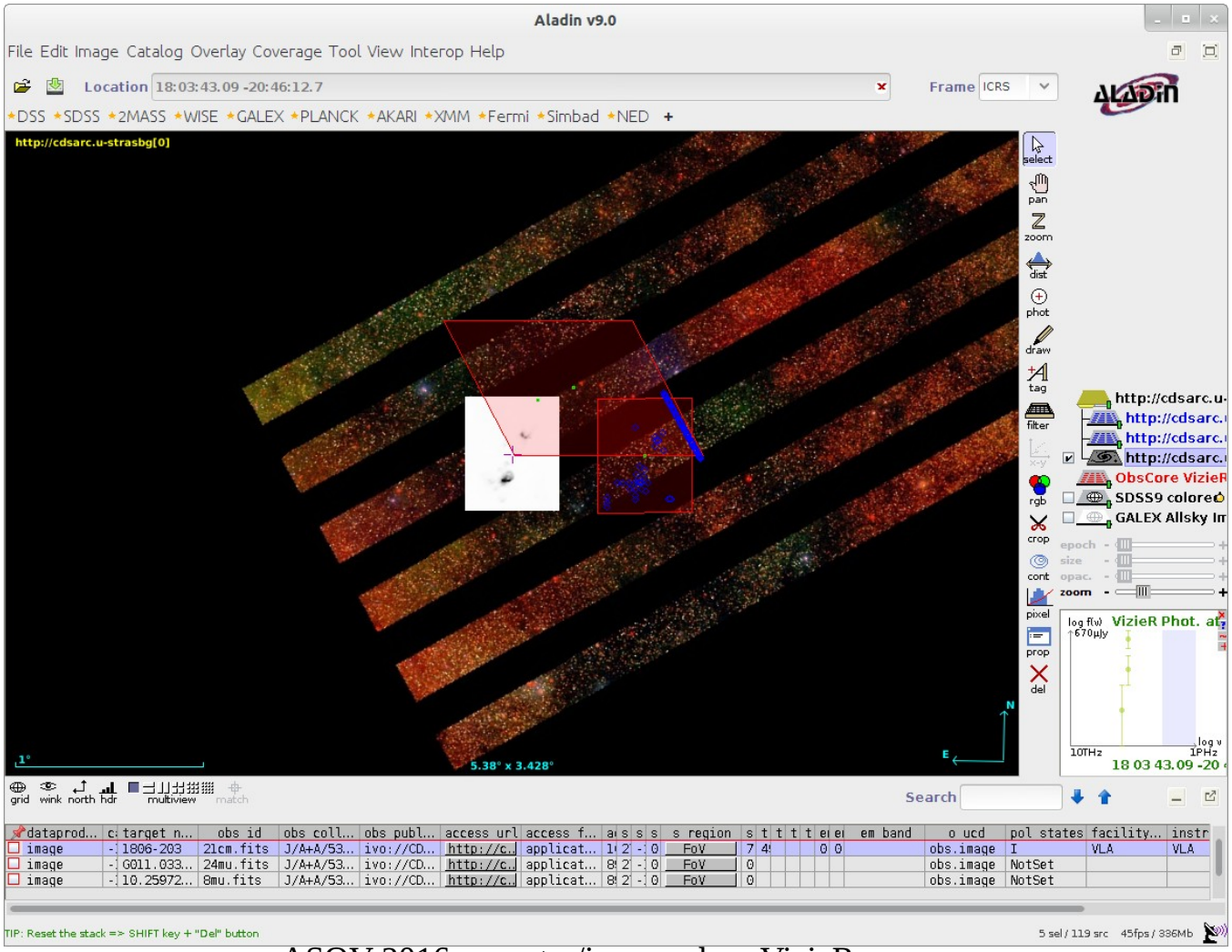
Filter

43 entries

Preview	Target	Data collection	Ra	Dec	Band min (nm)	Band max (nm)	Begin time (MJD)	End time (MJD)	Facility	
	CENTERM27M03	II/243	266.278	-29.186	7,000.000	15,000.000	50,350.645		ISO	Header
	CENTERM57M03	II/243	266.098	-29.441	7,000.000	15,000.000	50,350.738		ISO	Header
	CENTER15	II/243	266.051	-28.699	7,000.000	15,000.000	50,174.178		ISO	Header

Saada and VizieR

Use VizieR images in Aladin using SIA



The Saada web interface