VizieR data extraction disseminated through widgets

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The CDS widgets are a collection of web applications easily embeddable in web pages. The Apache Shindig framework, relying on OpenSocial specification, enables to reuse code in any web page by giving interactive output and broadcasting capabilities: for instance to use the result of a search widget to populate other widgets. Some of these widgets are already used in the VizieR web application.

The Apache Shindig framework

The Apache Shindig framework provides web applications or "gadgets". The gadget contains the HTML and Javascript code embedded in a standard XML format which can be retrieved by the Gadget server.
The gadgets developed at CDS uses jQuery and the Flot plotting library.

Light curve/spectrum (SED)

An intuitive web application using « widgets » result of a **SQL-like** query script. It includes capabilities as zoom, scaling,...
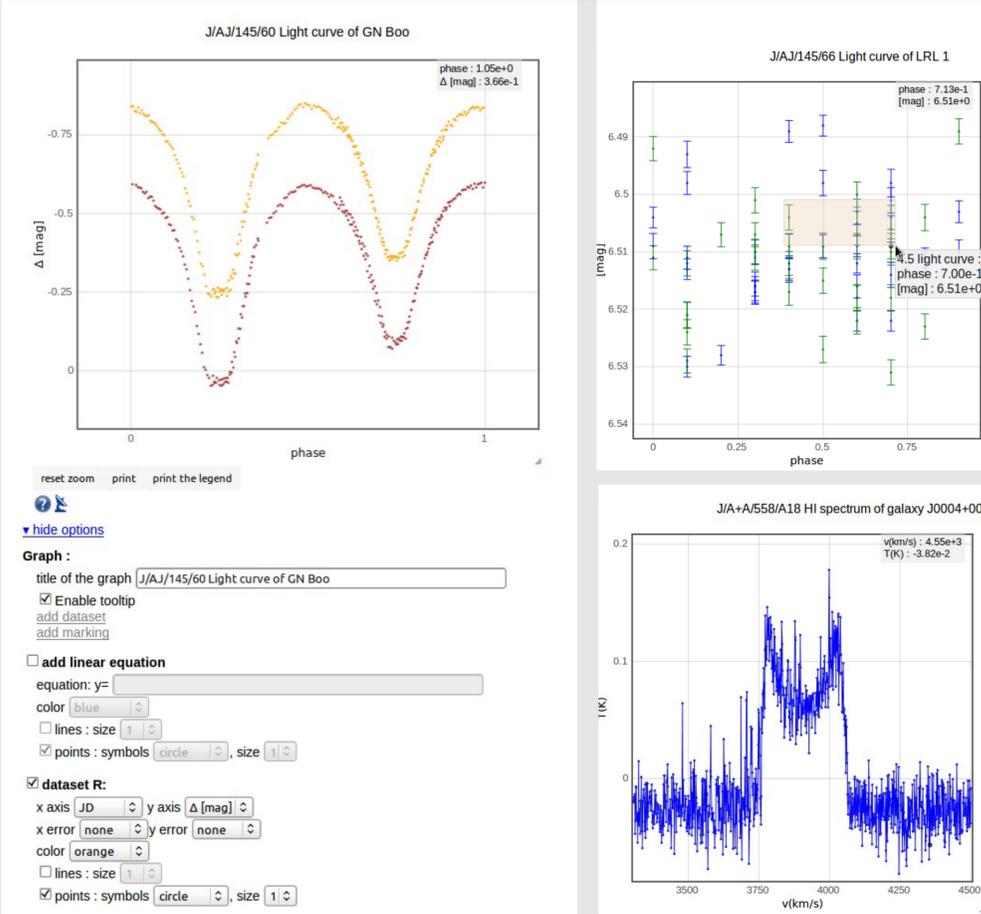
Vizualisation of spectra and time-series

VizieR provides visualization of the spectra/time-series. The new visualization process separates clearly the extraction and the plot generation.

The extraction is executed from a unified language to query different types of resources: FITS, ASCII tables, TSV tables , tabular data. This language is based on SQL, a language adapted for people which are not familiar with programming language. It improves the VizieR catalogues ingestion pipeline made by the CDS documentalists.

A Python program developed in CDS for VizieR parses SQL scripts and returns data in VOTable, TSV or PNG.

« SELECT *DATEJD, RAWFLUX*
     FROM *"timeserie.fits"*
     WHERE *RAWSTATUS=0* **»**   Example of query to extract data from a FITS file

The widget plotter takes VOTable as input and uses the meta-data to drive the different output options: name of the axes, titles, plot in a log scale, colors and type of the plots (scatter, lines), etc.
Users interact with the form to adapt the graph or zoom with straightforward mouse interactions

Photometry output (SED)

Take advantage of **meta-data** to compute photometry plots among ~2400 catalogs ~1000 filters.
This widget integrates three linked views: a **zoomable** plot with photometry points, a sky chart and the VizieR tabular data.
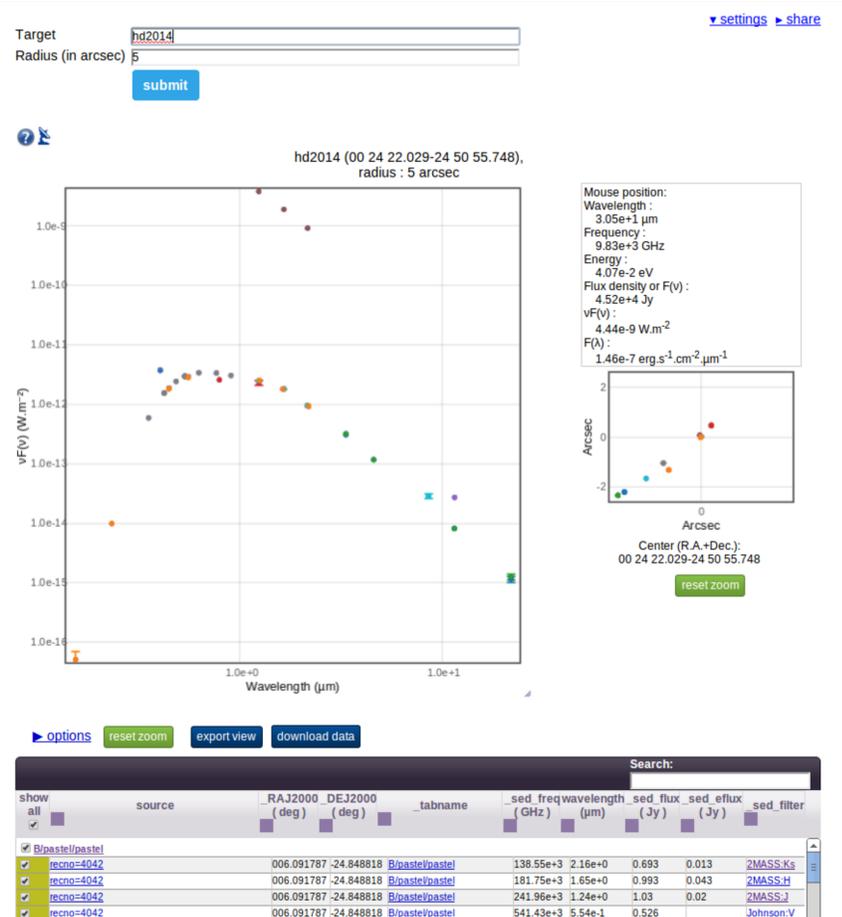
The photometry viewer

The photometry viewer description was the origin of an important effort to homogenize the photometry (ADASS XXIII: Extracting Photometry Measurements from VizieR Catalogs).

The photometry widget takes as format the VO working draft "Photometry DM v1.0" which is the output chosen by VizieR to provide the photometry.

Exploration of the broadcast in the widgets

The CDS explores different uses of widgets. The Sesame gadget resolves the position from a object name and broadcasts the input to the SEDPlotter or an AladinLite gadget.
The result of a registry gadget generates action on the image Query and catalogue Query gadgets.

On going development

Exploration in the CDSPortal context of gadgets capabilities like a sesame gadget.

The dissemination of Spectra, time-series will be improved with the ObsCore DM of the VO and the VO services SIA&SSA will be implemented thanks to the SAADA software. This new architecture will improve the visualization and the dissemination to VO-enabled sofwtare.