



The new ESO Science Portal and VO interfaces

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Archive Science Portal

A demo's worth 100 slides:

The screenshot displays the Archive Science Portal interface. At the top, it shows the ESO logo, the text "Archive Science Portal BETA", and coordinates "04 23 40.002 -29 25 41.20" with a field of view "FoV: 175.72°". A search bar contains "2651734" and "RESULTS". Below this, there are filters for "Data Type" (SPECTRUM: 2053816, CATALOG: 300799, IMAGE: 289404, CUBE: 6203, VISIBILITY: 1512) and "Spectral Range" (UV, opt, NIR, MIR, mm). A "Filter/Band" section shows Ks (221604), J (171331), Y (57191), H (46579), and i_SDSS (22625). The main visualization is a star field with a grid overlay. Below the visualization is a "Search results" table with columns: Actions, Data Type, Spec.Range, Spec.Res., SNR, Obs.Date, Collection, Instrum., T.Exp.T., #Obs, PI, Program Id, Object, and Pub.Date.

Actions	Data Type	Spec.Range	Spec.Res.	SNR	Obs.Date	Collection	Instrum.	T.Exp.T.	#Obs	PI	Program Id	Object	Pub.Date
<input type="checkbox"/>	SPECTRUM	378.2-691.3 nm	115000	0	2018-05-23 17:	HARPS	HARPS	1 s	single	OBSERVATORY	60.A-9700	Preset-near-Zet	2018-05-25
<input type="checkbox"/>	SPECTRUM	378.2-691.3 nm	115000	0	2018-05-20 17:	HARPS	HARPS	1 s	single	OBSERVATORY	60.A-9700	Preset-near-Zet	2018-05-22
<input type="checkbox"/>	SPECTRUM	378.2-691.3 nm	115000	97.5	2018-05-03 09:	HARPS	HARPS	500 s	single	OBSERVATORY	60.A-9700	HD216770	2018-05-17
<input type="checkbox"/>	SPECTRUM	378.2-691.3 nm	115000	101.5	2018-05-03 09:	HARPS	HARPS	500 s	single	OBSERVATORY	60.A-9700	HD216770	2018-05-17
<input type="checkbox"/>	SPECTRUM	378.2-691.3 nm	115000	103.3	2018-05-03 09:	HARPS	HARPS	500 s	single	OBSERVATORY	60.A-9700	HD216770	2018-05-17
<input type="checkbox"/>	SPECTRUM	378.2-691.3 nm	115000	126.9	2018-05-03 09:	HARPS	HARPS	500 s	single	OBSERVATORY	60.A-9700	HD208487	2018-05-17
<input type="checkbox"/>	SPECTRUM	378.2-691.3 nm	115000	123.5	2018-05-03 09:	HARPS	HARPS	500 s	single	OBSERVATORY	60.A-9700	HD208487	2018-05-17
<input type="checkbox"/>	SPECTRUM	378.2-691.3 nm	115000	124.3	2018-05-03 09:	HARPS	HARPS	500 s	single	OBSERVATORY	60.A-9700	HD208487	2018-05-17

<http://archive.eso.org/scienceportal>



Archive Science Portal Demo 1

- Page opens showing all available public processed data
 - raw data will be added in second release
- Title: Archive Science Portal Beta
 - opened but not yet widely announced (June)
- Num Results: $\sim 2.6E6$

- 18 facets/properties: statistics on each property
 - computed at query time (think: group by)
 - 17 facets on the left hand side:
 - (Collapse all to see the titles)
 - Quick excursus on facet types: string, numerical, date
 - Data Type (spectrum, image, cube, etc)
 - Spectral range
 - 18th property: spatial coverage shown within sky view
- Tabular representation of results (no aggregation)



Archive Science Portal Demo 2

- All facets adapts to/change with the user's query constraint(s)
- User's constraints can be placed within the 17 facets or at the top right for the spatial constraint
- Within the 17 facets: selection on the histograms, or using input boxes (from-to)
- Auto-completion for string-valued facets



Archive Science Portal Demo 3

Example 1:

CDFS (10')

- Images
- NIR
- Ks
- ABmag \geq 24
- Skyres \leq 0.4"
- Show Footprints
- Image multiscale preview



Archive Science Portal Demo 4

Example 2:

NGC6388 (3') – Globular cluster

- Stick VHS J image to sky
- Spec.
- 850nm
- Spectrum Preview => Ca Triplet



Archive Science Portal Demo 5

Example 3:

NGC6664 (30') - JKs color mag

- J+Ks catalogs
- Shift click to find all products containing point
- SAMP to topcat



Archive Science Portal

GUI developed in Angular, Aladin Lite for Sky View

Rich(!) experience requires a lot of attention

Users should not be overwhelmed with information

User experience must be intuitive, self-explanatory, agile, responsive, and useful.

Carefully calibrating all user's actions and responses takes time.



Archive Science Portal

- **Previews (first time at ESO)**
 - Now: spectra, images;
 - Soon: cubes;
 - Later: source tables, catalogs, visibilities
 - Selected formats for Web and Print
 - Thumbnails (PNG) for all types
 - 1D Spectra: JSON for interactive plot (zoom, pan)
 - Interactive plot with sliders for wavelength range
 - Large-format images (e.g., 9GB) => HiPS
 - Catalogs: HiPS & MOCs



VO Interfaces

ESO TAP for observations (tap_obs)

- Raw data
- Processed data
- Ambient measurements
- MS SQL Server

ESO TAP for catalog by ESO observers (tap_cat)

- Sybase IQ

ESO SSAP

- Software made available on Github

DataLink (how to register it?)

Registered (EUROVO Registry)



VO Interfaces

How to present VO interfaces to the user community?

- Usability is king!

Presented at: <http://archive.eso.org/programmatic>

That page can be used either to gain:

- Direct Database Access (new for ESO!)
- Direct Data Access (new for ESO!)

or to learn:

- ADQL queries (modifiable examples, validation)
- URLs to query or access data, previews, services
- Script it all with pyvo



ESO ARCHIVE COMMUNITY FORUM

■ User is king!

The *ESO Archive Community Forum* is a platform for sharing ideas and methods, asking questions and sending feedback and suggestions on how to improve and use the new [ESO Archive Science Portal](#) and on how to gain [Programmatic and tool access](#) to the archive.

➤ <https://esocommunity.userecho.com/>