Releasing ESO Public Survey Data through the Phase 3 Catalogue Facility

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The ESO archive is the collection point for the survey products and the primary point of publication/ availability of these products to the ESO community. For this purpose the Phase 3 process has been devised to manage the reception, validation and publication of data products from the public survey projects and large programmes through the ESO Science Archive Facility.

The implementation of the Phase 3 concept for catalogue data includes a dedicated web-based user interface. The new Catalogue Facility complements the existing functionalities of the ESO archive by adding the capability to query the catalogue by content using positional and non-positional constraints and, finally, to download the resulting data set for further scientific analysis.

Catalogue data submission

The Principal Investigators of ESO public surveys are responsible for the delivery of reduced data to the ESO archive. The ESO Data Products standard, which is published on the Phase 3 web pages, defines the required data format. The catalogue data must be characterized by additional information, i.e. meta-data, including a full description for their scientific exploitation. Validator, Release Manager and Phase 3 FTP server.

Science catalogues

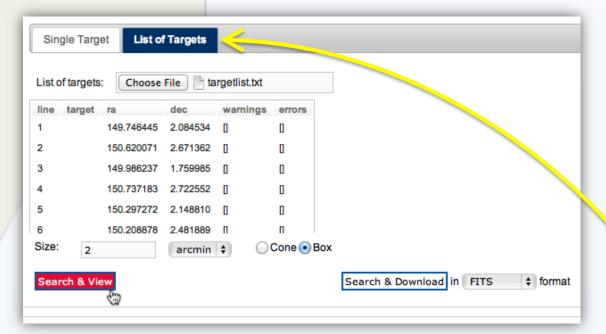
VISTA public survey catalogues generally consist of homogeneous merged multi-band data sets for each survey region including source positions, apparent magnitudes and colours which refer to the surveywide ('global') astrometric and photometric system established by cross-calibrating the available data using overlapping tiles and across different bands. The final catalogues to be produced by the large survey projects like the VISTA Hemisphere Survey will comprise more than one billion unique sources.

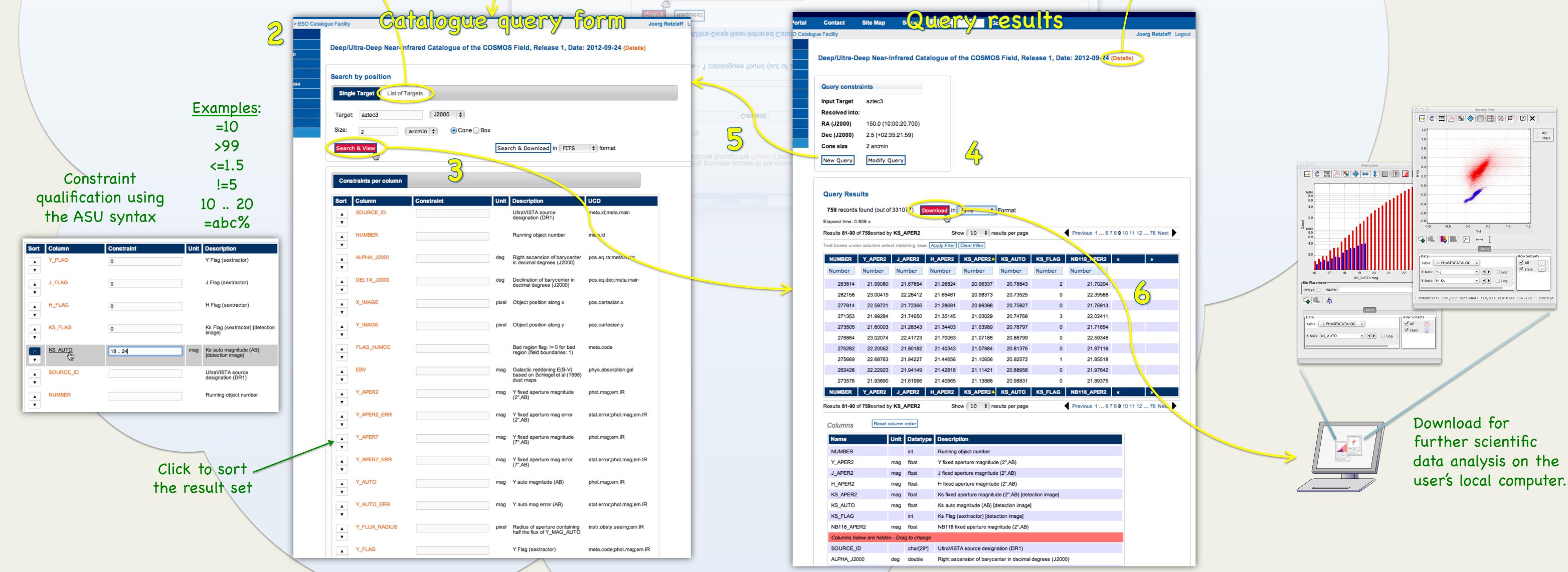
Catalogue data submission relies on the previously established infrastructure consisting of *Phase 3*

00 **ESO Catalogue Facility** C Reade ESO Catalogue Facility Southern Observatory ESO - Reaching New Heights in Astronomy ESO Home User Portal Site Map Search: Contact Go! Click to Joerg Retzlaff Logou ESO Archive > ESO Data > ESO Catalogue Facility ESO Data inspect the The catalogue facility provides access to the collection of catalogue data that were produced by PIs of ESO programmes and then integrated into Raw Data Query Form Details - Deep/Ultra-Deep Near-Infrared Catalogue of the COSMOS Field the ESO science archive through the Phase 3 process. kind of Reduced Data Query Form PI Packages Find catalogues by content Observation Schedule Data Data Type Size include obsolete versions Title cosmos Conten Ambient Conditions Database SOURCE ID Click on the User Publications Running object number Find ALPHA J2000 Right ascension of barycenter in decimal degrees Data Direct Retrieval catalogue Data Products Details - Deep/Ultra-Deep Near-Infrared Catalogue of the COSMOS Field ESO Catalogue Facility title like cosmos - 1 catalogues found (out of 2) title to User Help Catalogu Columns SELECT TITLI PUBLICATION RELEASE display Title CDeep/Ultra-Deep Near-Infrared Catalogue of the COSMOS Field 2012-09-24 Data Collection ULTRAVISTA CAT detailed Release Numbe Query Request Data Provider/P. Phase 3 Programm information Submission Date 2012-09-05 Publication Date 2012-09-24 Search the contents of the selected Description VISTA is an ultra-deep near-infrared survey which targets a sub-area of the COSMOS field. To 5-sigm: ~23.7 AB), the Ks-selected first UltraVISTA DR1 catalogue release contains 216,268 sources observe catalogue based on your own criteria J, Hand Ks bands over the full UltraVISTA deep area (~1.8 square degree), with NB118 observering the "Ultra-deep strings" area and download the resulting data set. nag;em.IR.J Telescop ESO-VISTA error;phot.mag;em.IR.J mag Instrument VIRCAM t.mag;em.IR.J Technique of Observ IMAGE.JITTER tat.error;phot.mag;em.IR.J mag Start of Observation 55,170.283 (2009-12-05T19:47: ESO Catalogue Facility 1.1.6 © F Entry page End of Observations 55.305.174 (2010-04-19T18:10: Filter Set/bands Sky Solid Angle Number of Record Number of Columns Reference 2012A&A...544A.156M rrease include the following acknowledgment in any published material that makes use of this data products Based on observations made with ESO Telescopes at the La Silla or Paranal Observatories under programi ID(s) 179.A-2005(A), 179.A-2005(B) Acknowledgment Pol and download the resulting data set. catalogue based on your own criteria

Go to the URL http://www.eso.org/qi

Load an input file containing the list of target names or tab-separated target coordinate pairs (J2000).





Query workflow

The typical sequence of steps when using the Catalogue Facility consists of: 1) Choosing the catalogue of interest; 2) Defining the query constraints; 3) Executing the query (search); 4) Reviewing the query result; 5) Refining the query constraints and repeating the search if needed; 6) Downloading the catalogue data set resulting from the query.

Searching catalogue data

The Catalogue Facility allows searching around one single or multiple target positions using either a circular region ('Cone') or a square (Box) of configurable size. The Target field accepts as input a pair of coordinates or a target name. J2000 and galactic coordinates are supported. Target names are automatically resolved employing the Sesame service at the Centre de Données astronomiques de Strasbourg (CDS). It is possible to upload a list of targets to conduct a multiposition search in one single step.

A flexible and powerful way for defining subsets of catalogue data according to your science case is provided by constraint qualification per catalogue column. Objects can be selected, for instance, according to their quality parameters, within a certain flux range or colour interval, provided, of course, the given catalogue contains the relevant information.

Current Status

The deployment of the catalogue facility took place in two stages, first the components for the reception, validation and archival of catalogue data in May 2012, then the user interface that provides the data search and access capabilities in October 2012. The Deep/ultra-deep near-infrared catalogue of the COSMOS field resulting from the Ultra-VISTA programme represents the first data being ingested. Further Phase 3 catalogue data, which have been submitted by VISTA public survey teams until August 2012, will be ingested and published once the data have been successfully validated.

For enquiries about the Phase 3 process, please contact usd-help@eso.org, quoting Subject: Phase 3.

http://www.eso.org/sci/observing/phase3.html



See the demo on Thursday, 18 October 2012, 15:00 h