



# An Introduction to ESO Phase 3 & data products availability from the ESO Science Archive Facility

Magda Arnaboldi,  
Head, Archive Science Group &  
Leader ESO Survey Team  
[marnabol@eso.org](mailto:marnabol@eso.org)

Archive Science Group (ASG)

MAR

Nausicaa Delmotte

Alberto Micol

Joerg Retzlaff




## ■ ESO Phase 3

- Motivation, policies and web pages
- Processes and responsibilities
- Data product types
- Data flow and infrastructure

## ■ ESO Science Archive Facility

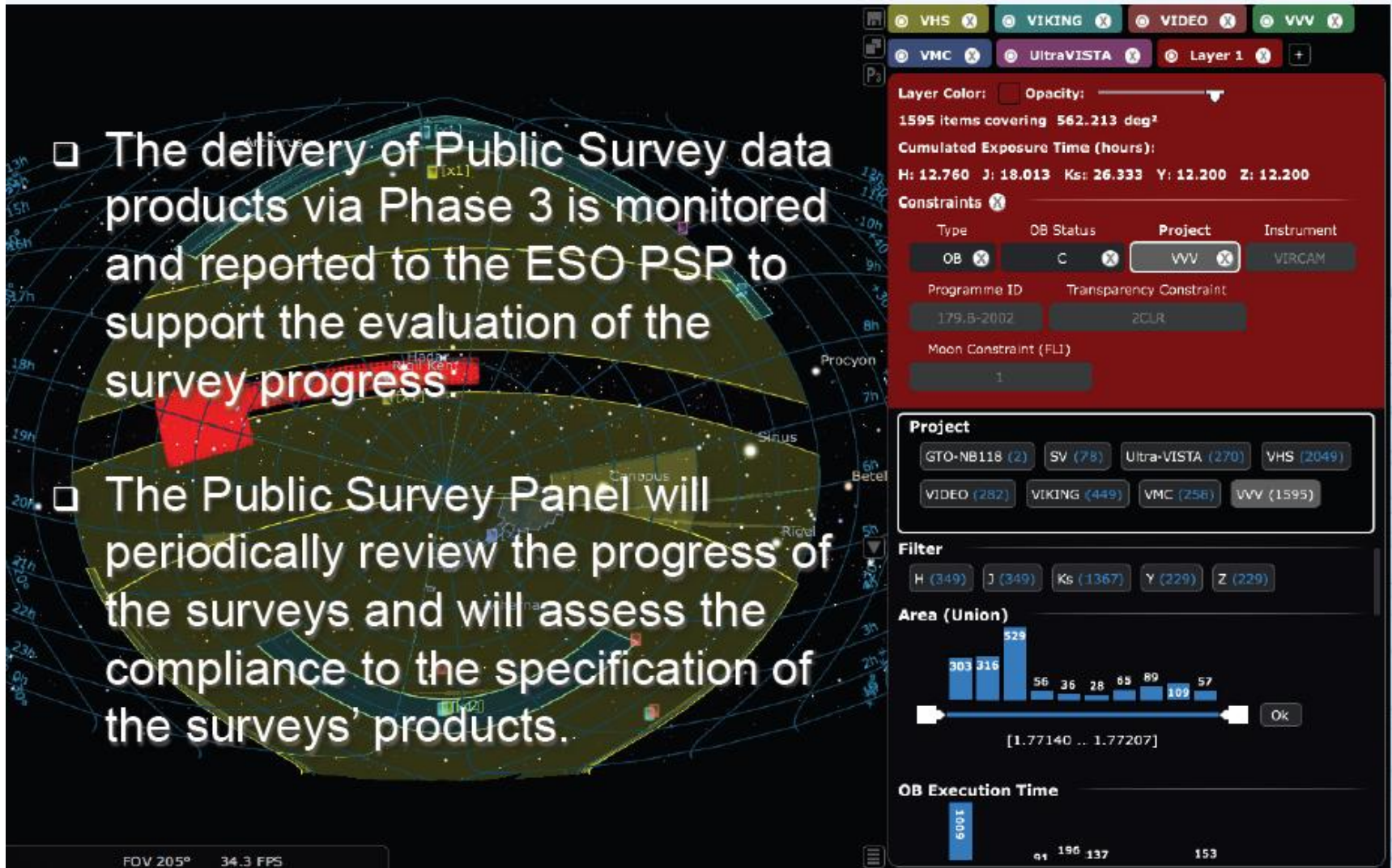
- Data releases for ESO Public Surveys
- Access to and download of data products
- Statistics on community access to data products from ESO Public Surveys

## ■ Conclusions

- Observational astronomy is in an era of surveys  SDSS, UKIDSS, Pan-STARRS, SkyMapper and LSST. These projects all entail large investment in survey “systems” which include dedicated telescopes and instruments to data distribution. **GOAL: target new science in a variety of fields and serve broad communities.**
- ESO has a strong background in survey projects (ESO/SERC southern sky survey 1974 - 1987, EIS).
- ESO operates dedicated telescopes, VST and VISTA , and organizes public surveys projects. ESO holds peer review periodically to ensure legacy value and scientific excellence of the survey program.
- The ESO Science Archive Facility is the collection point for the survey products and the primary point of publication/availability of these products to the ESO community (as per ESO Council Meeting 104, 17–18 December 2004).

- Phase 3 denotes the process in which principal investigators of ESO observing programmes return their reduced data products to ESO for storage in the ESO archive and subsequent data publication to the scientific community. Ideally it closes the loop with the community by publishing the data obtained with the process initiated by the PI at Phase 1.
- ESO's policies governing Phase 3 are specific to the type of observing programme.
- **Phase 3 is mandatory for ESO Public Surveys and for ESO Large Programmes since period 75.** For other ESO programmes there is no obligation but PIs are invited to take advantage of the Phase 3.
- Further allocation of telescope time for ESO PS is conditional to the submission of data products via Phase 3. The Archive Science Group is monitoring of Phase 3 process and reports to Public Survey Panels/OPC.

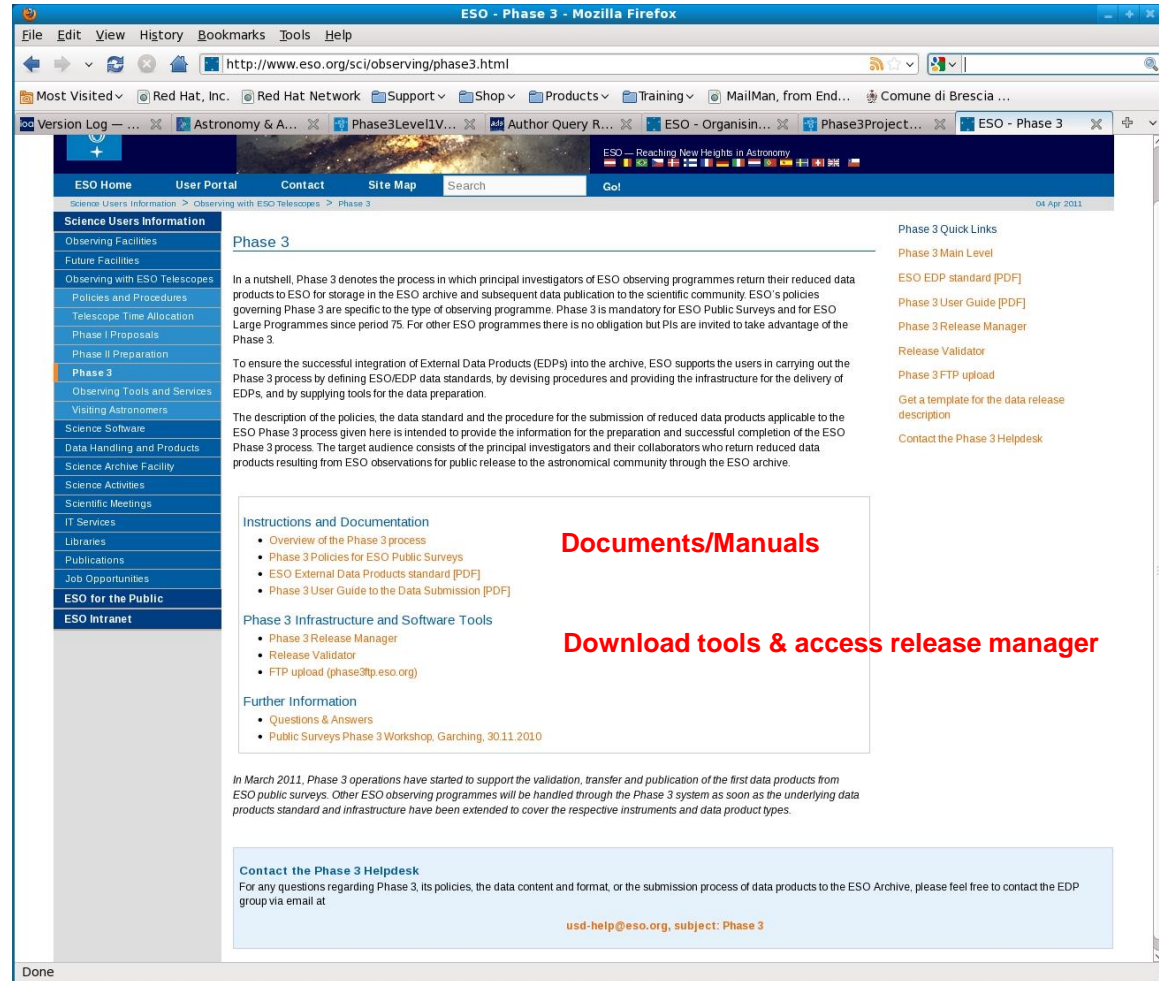
- The delivery of Public Survey data products via Phase 3 is monitored and reported to the ESO PSP to support the evaluation of the survey progress.
- The Public Survey Panel will periodically review the progress of the surveys and will assess the compliance to the specification of the surveys' products.



**Phase 3 start of operations:  
10 March 2011**

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

- **Instructions and Documentation**
- **Components**
  - ✓ [Release Manager](#)
  - ✓ [Validation Tool](#)
  - ✓ [Upload](#)
- **Further information**
- **User support via [usd-help@eso.org](mailto:usd-help@eso.org), Subj: Phase3**



**Documents/Manuals**

- [Overview of the Phase 3 process](#)
- [Phase 3 Policies for ESO Public Surveys](#)
- [ESO External Data Products standard \[PDF\]](#)
- [Phase 3 User Guide to the Data Submission \[PDF\]](#)

**Download tools & access release manager**

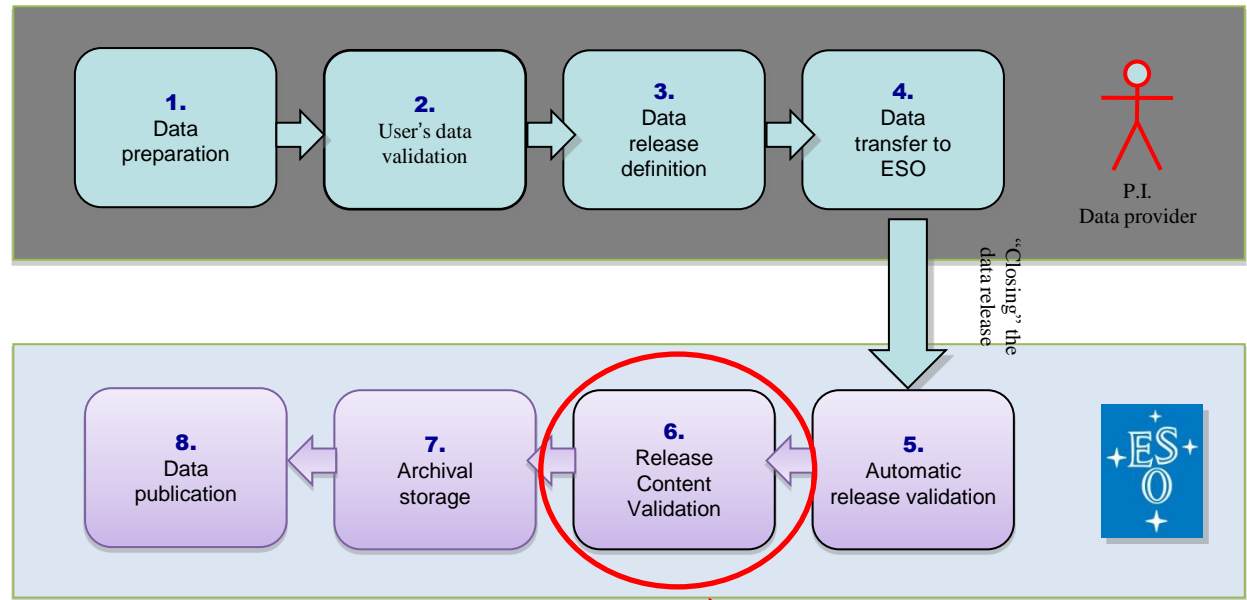
- [Phase 3 Release Manager](#)
- [Release Validator](#)
- [FTP upload \(phase3tp.eso.org\)](#)

**Contact the Phase 3 Helpdesk**  
For any questions regarding Phase 3, its policies, the data content and format, or the submission process of data products to the ESO Archive, please feel free to contact the EDP group via email at  
[usd-help@eso.org](mailto:usd-help@eso.org), subject: Phase 3

# ESO Phase 3 – Process and Responsibilities

Phase 3 denotes the process in which principal investigators of ESO observing programmes return their reduced data products to ESO for storage in the ESO archive and subsequent data publication to the scientific community.

The new Phase 3 infrastructure supports the reception, validation and publication of data products from the public survey projects and large programmes to the ESO Science Archive Facility.



Phase 3 Process and Responsibilities

Release description

# ESO Phase 3 – Release content validation

## Release description

- Provide short broad overview of the program, with an overview/layout of the observations

## Release content -

- Extended listing for each sky position, filters, exposure times, seeing

## Release notes –

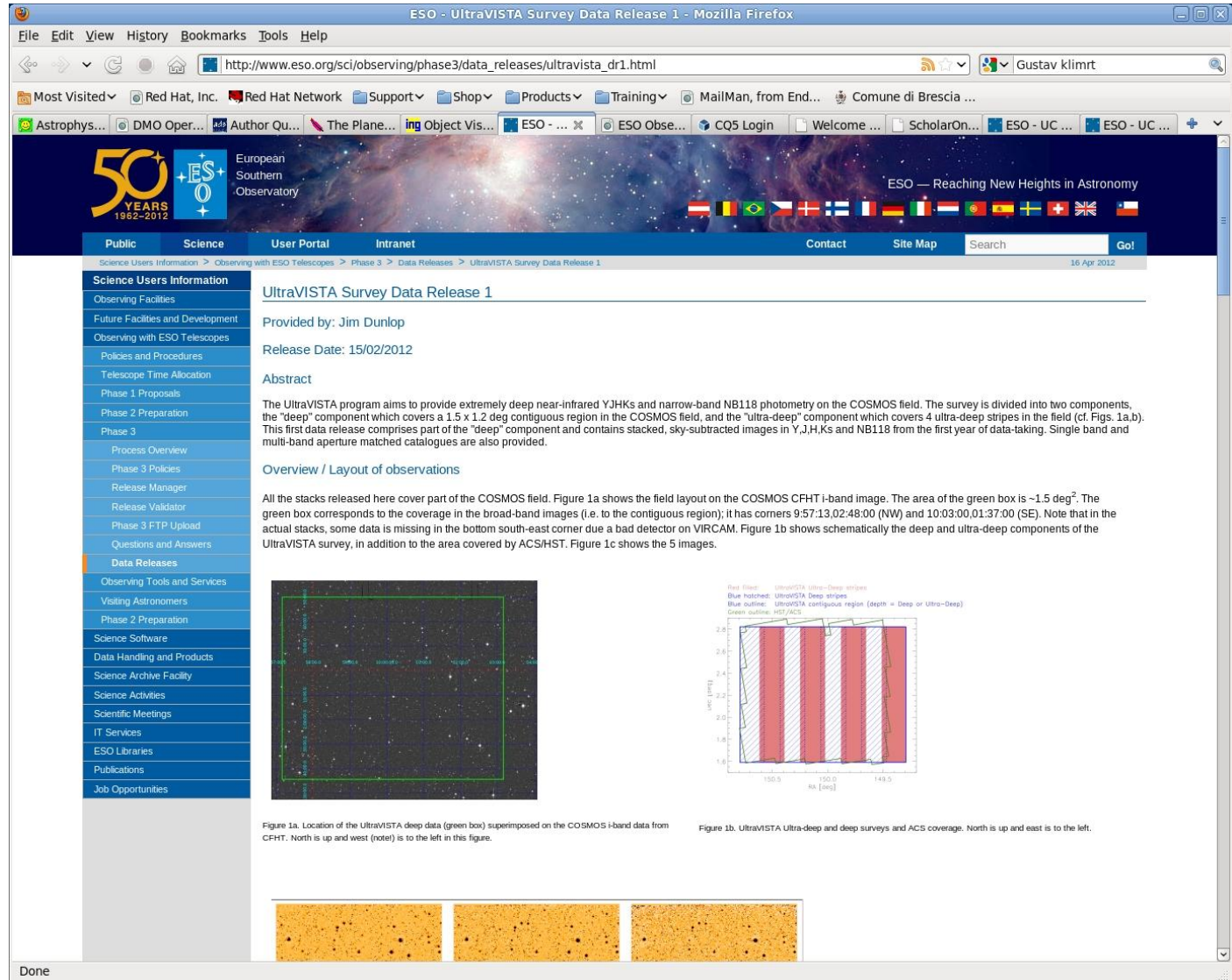
- Reduction method used, calibration procedures, data quality

## Data format –

- Description of files in this data release, associated files, and naming conventions

## Acknowledgements –

- to be included when using these data



ESO - UltraVISTA Survey Data Release 1 - Mozilla Firefox

http://www.eso.org/sci/observing/phase3/data\_releases/ultravista\_dr1.html

European Southern Observatory

ESO — Reaching New Heights in Astronomy

Public Science User Portal Intranet Contact Site Map Search Go!

Science Users Information > Observing with ESO Telescopes > Phase 3 > Data Releases > UltraVISTA Survey Data Release 1

16 Apr 2012

**UltraVISTA Survey Data Release 1**

Provided by: Jim Dunlop

Release Date: 15/02/2012

**Abstract**

The UltraVISTA program aims to provide extremely deep near-infrared YJHKs and narrow-band NB118 photometry on the COSMOS field. The survey is divided into two components, the "deep" component which covers a  $1.5 \times 1.2$  deg contiguous region in the COSMOS field, and the "ultra-deep" component which covers 4 ultra-deep stripes in the field (cf. Figs. 1a,b). This first data release comprises part of the "deep" component and contains stacked, sky-subtracted images in Y,J,H,Ks and NB118 from the first year of data-taking. Single band and multi-band aperture matched catalogues are also provided.

**Overview / Layout of observations**

All the stacks released here cover part of the COSMOS field. Figure 1a shows the field layout on the COSMOS CFHT i-band image. The area of the green box is  $\sim 1.5 \text{ deg}^2$ . The green box corresponds to the coverage in the broad-band images (i.e. to the contiguous region); it has corners 9:57:13.02:48:00 (NW) and 10:03:00.01:37:00 (SE). Note that in the actual stacks, some data is missing in the bottom south-east corner due a bad detector on VIRCAM. Figure 1b shows schematically the deep and ultra-deep components of the UltraVISTA survey, in addition to the area covered by ACS/HST. Figure 1c shows the 5 images.

**Figure 1a.** Location of the UltraVISTA deep data (green box) superimposed on the COSMOS i-band data from CFHT. North is up and west (note!) is to the left in this figure.

**Figure 1b.** UltraVISTA Ultra-deep and deep surveys and ACS coverage. North is up and east is to the left.



## ■ Core deliveries for imaging surveys

- Astrometrically and photometrically calibrated, co-added, re-gridded tiles with their respective confidence maps, in all project relevant filters.
- Source lists for each tile, based on individual co-added bands, and/or associated source catalogs linking the parameters of individual objects

**PI certifies the scientific quality and accuracy of data products**

## ■ Core deliveries for spectroscopic surveys

- 1D extracted spectra with their respective confidence map  
(see <http://www.eso.org/sci/observing/phase3.html>)
- Catalogs with unique source identifiers and measurements from spectra

## ■ **DPs to be delivered in a format specified in the ESO Science Data Products Standard document (data standard and meta-data information)**

**Table 1: Overview of Phase 3 catalogue data deliveries from the ESO/VISTA public survey programmes**

Name	Title	Content	2012 Data Release
UVISTA_DEEP_CAT	Deep Near-Infrared Catalogue of the COSMOS Field	Aperture-matched source catalogue in YJHKs and NB118 based on the deep stacked images.	✓
UVISTA_UDEEP_CAT	Ultra-deep Near-Infrared Catalogue of the COSMOS Field	Aperture-matched source catalogue in the YJHKs and NB118 based on the stacked images of the ultra-deep part of the survey.	
VIKING_CAT	VIKING J-Band Selected ZYJHKs Source Catalogue	Merged multi-band source catalogue with aperture-matched photometry in ZYJHKs for all objects selected and defined in J-band.	✓
VMC_CAT	VISTA Magellanic Survey YJKs Source Catalogue	Homogeneous epoch-merged and band-merged master source catalogue in YJKs	✓
VMC_VAR	VISTA Magellanic Survey Catalogue of Variables	Mean magnitude, amplitude/likelihood of variation (when possible), variable type (i.e. RR Lyrae stars, Cepheids, late-type giants, eclipsing binaries)	✓
VMC_MPHOT	VISTA Magellanic Survey Multi-Epoch Photometry	Homogeneous catalogue of multi-epoch photometric data points listing the measured magnitude as a function of source ID and time of observation (also known as light curve).	✓
VVV_CAT	ZYJHKs Catalogue in the Via Lactea	Homogeneous source catalogue with aperture-matched photometry on the whole survey area (bulge and plane region) based on the first-epoch data.	✓
VVV_VAR	Catalogue of Variables in the Via Lactea	Mean magnitude, amplitude/likelihood of variation (when possible), variable type (i.e. RR Lyrae stars, Cepheids, late-type giants, eclipsing binaries).	
VVV_MPHOT	Multi-Epoch Ks-Band Photometry in the Via Lactea	One homogeneous catalogue of multi-epoch Ks photometry in the VVV bulge and plane region.	
VHS_DES_CAT	VHS-DES Source Catalogue	Merged multi-band source catalogue with aperture-matched photometry in JHKs.	✓
VHS_ATLAS_CAT	VHS-ATLAS Source Catalogue	Merged multi-band source catalogue with aperture-matched photometry in YJHKs.	✓
VHS_GPS_CAT	VHS-GPS Source Catalogue	Merged multi-band source catalogue with aperture-matched photometry in J and Ks.	✓
VIDEO_ELIAS_CAT	Deep ZYJHKs Catalogue of the ELIAS-S1 field	Combined multi-band source catalogue with aperture-matched photometry in ZYJHKs based on the deep (i.e. stacked) images.	
VIDEO_XMM_CAT	Deep ZYJHKs Catalogue of the XMM-LSS field	Combined multi-band source catalogue with aperture-matched photometry in ZYJHKs based on the deep (i.e. stacked) images.	✓
VIDEO_CDFS_CAT	Deep ZYJHKs Catalogue of the Chandra Deep Field South	Combined multi-band source catalogue with aperture-matched photometry in ZYJHKs based on the deep (i.e. stacked) images.	

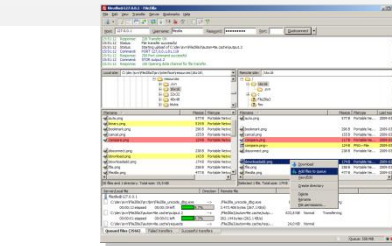
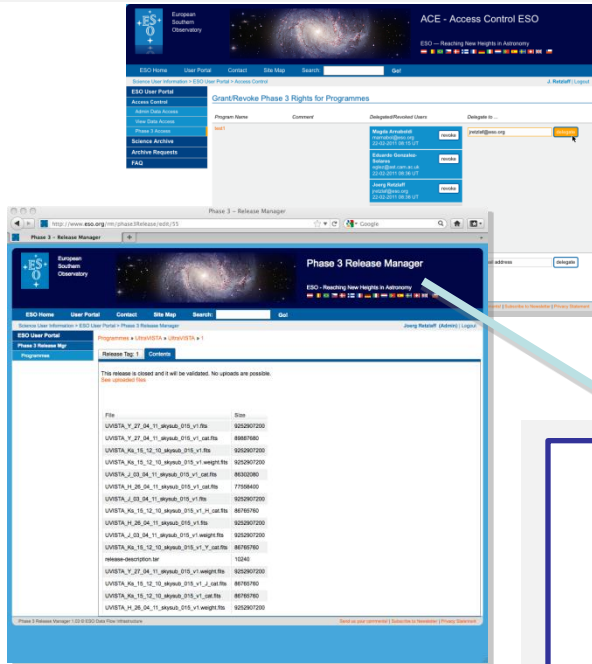
**Catalogue data delivery from the VISTA PS. High level DPs including light curves (VMC, VVV).**

**ESO SAF will deploy new query interface for the exploration of the catalogues' content and data download**

# ESO Phase 3 – VST and Spectroscopic surveys releases

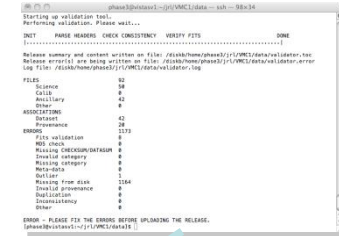
- VST/Omegacam started operations on Oct 15, 2012
  - VST public surveys DR1 (KIDS, VPHAS+, VHS) to take place after 1.5 years – March 15, 2013.
  - DPs entail tiles images and weight maps, source lists.
  - Science Data Products standards to be posted on Phase 3 web pages on Dec 2012.
- Spectroscopic surveys - time allocation from January 01, 2012
  - Spec. Survey DR1 on June 01, 2013.
  - DPs entail spectra and source lists.
  - Science Data Products standards available on Phase 3 web pages (<http://www.eso.org/sci/observing/phase3.html>)

# ESO Phase 3 - Data flow & infrastructure



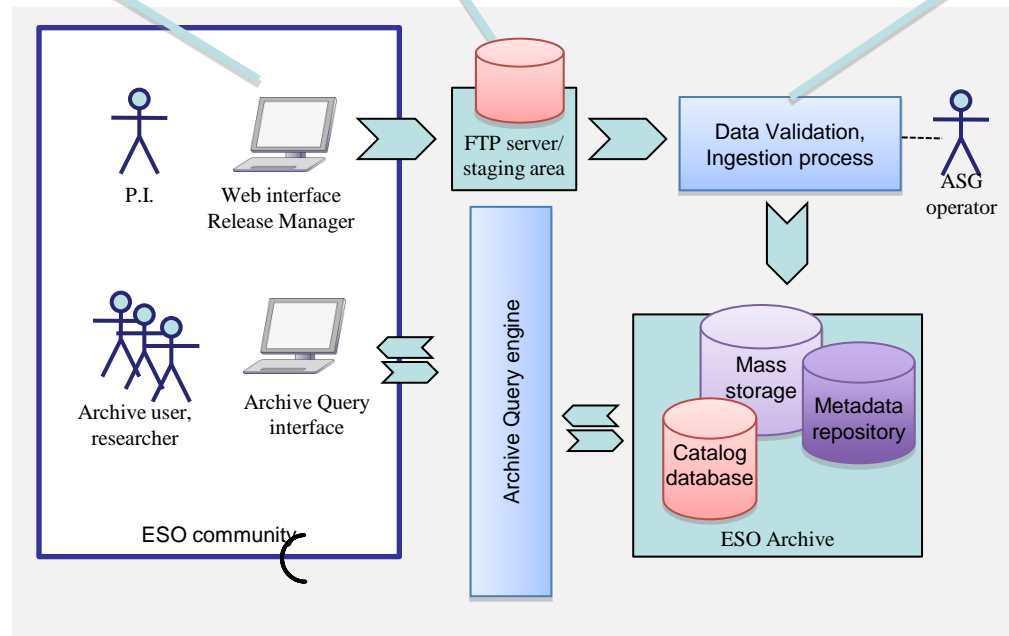
The release validator is a command-line application that helps to verify the data standard and validity of the header keywords against predefined rules.

The data is transferred by the PI/Co-I via FTP to the dedicated staging area.



The release manager is a web application that allows the P.I. to define data collections and releases and to manage the Phase 3 delegation to co-investigators.

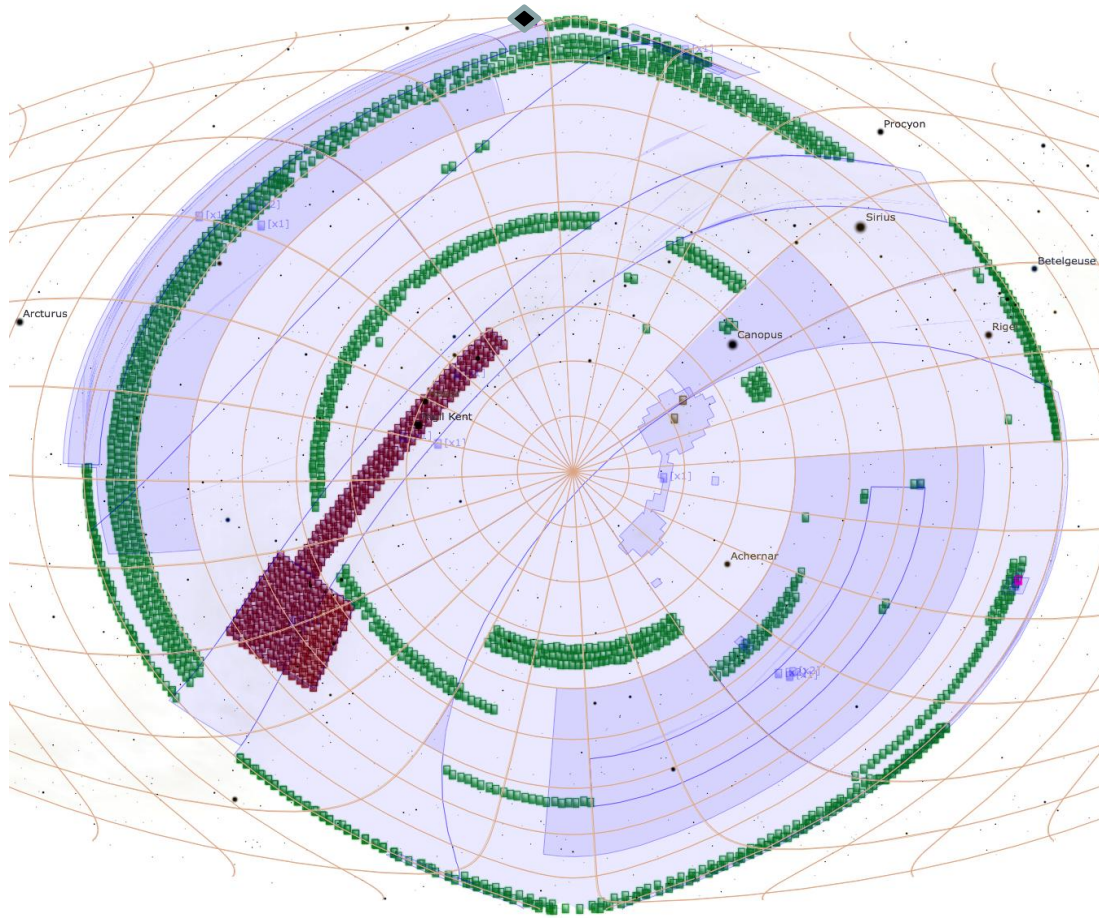
**Phase 3 Start of operations: 10 March 2011**



Interfaces between the Phase 3 data flow, its users and the ESO Science Archive Facility.

Survey	Submission Date	Date of Observations	Release Content	Pass-bands	Sky coverage (sq.deg)	Type of Data Products	Total volume	Total number of files	VISTA tile images	Pub. date
<b>VVV</b>	03.05.2011	Feb 2010 – Sep 2010	Contiguous patch of bulge and disk region including multi-epoch data in Ks	ZYJHKs	~520 (348 tiles)	Tiles, single-band source lists	1.5 TB	7980	2660	25.07.2011
<b>VIDEO</b>	03.05.2011	Nov 2009 – Feb 2010	XMM-LSS field	YJHKs	1.5	Tiles, single-band source lists	24 GB	291	97	25.07.2011
<b>VMC</b>	08.09. 2011	Nov 2009 – Nov 2010	2 tiles in the LMC: one overlapping the 30 Doradus and the other the South Ecliptic Pole region	YJKs	3	Stacked tiles and pawprints, single-band and band-merged source lists	8.1 GB	1256	6	25.09.2011
<b>VHS</b>	15.09.2011	Nov 2009 – Sep 2010	VHS DES: 120 secs in JHK VHS ATLAS: 60 secs in YJHK VHS GPS: 60 secs in JK	YJHKs	~1910	Tiles, pawprints, single-band source lists	3.9 TB	96474	4560	17.10.2011
<b>UltraVISTA</b>	06.10.2011 – 30.01.2012	Dec 2009 – Apr 2010	Deep imaging of the COSMOS field	YJHKs, NB118	1.5	Stacked images, SExtractor catalogues including Ks-selected multi-band catalogue	87 GB	19	5	15.02.2012
<b>VIKING</b>	10.10.2011	<i>Phase 3 data submission to be closed by P.I.</i>					19 GB	6276		

**Data products available from** [http://archive.eso.org/wdb/wdb/adp/phase3\\_vircam/form](http://archive.eso.org/wdb/wdb/adp/phase3_vircam/form)  
**Release descriptions at** [http://www.eso.org/sci/observing/phase3/data\\_releases.html](http://www.eso.org/sci/observing/phase3/data_releases.html)



The VISTA public survey DPs released through the Phase 3 process in 2011/2012 cover almost **2500 square degrees** of the Southern Hemisphere.

- VHS - green,
- VVV - red,
- VMC - yellow,
- VIDEO - pink,
- UltraVISTA - black

Entire survey footprints are shown in light blue.

Survey	Data Collection	Submission Date	Date of Observations	Release Content	Filter	Sky coverage	Total volume	Total number of files	Phase 3 State
VIKING	GAMA09	28.06.2012	12/2009–11/2010	Tile images, single- and multi-band source lists (DR1)	ZYJKs	33 tiles	109 GB	2805	closed
	SGP	28.06.2012	12/2009–11/2010	“	ZYJKs	9 tiles	26.3 GB	689	closed
	CFHLS_W1	02.07.2012	12/2009–11/2010	“	ZYJKs	6 tiles	19.3 GB	516	closed
VIDEO	VIDEO_CDFS	25.07.2012	11/2010–12/2011	Imaging of the VIDEO-CDFS1 field; 40 tiles and associated single-band source lists (per OB)	ZHKs	1 tile	9.6 GB	120	closed
	VIDEO_ES1	25.07.2012	10/2010–11/2011	Imaging of the ELAIS-S1 field; 118 tiles and associated single-band source lists (per OB)	ZHKs	2 tiles	29.5 GB	354	closed
	VIDEO_XMM (DR2)	25.07.2012	10/2010–12/2011	Imaging of the VIDEO-XMM field; 156 tiles and associated single-band source lists (per OB)	ZYJKs	3 tiles	35.0 GB	468	closed
	VIDEO_XMM_DeepStack	31.07.2012	11/2009–11/2011	Deep co-added images of the VIDEO-XMM3 field	ZYJKs	1 tile	4.5 GB	26	closed
	VIDEO_XMM_CAT	31.07.2012	11/2009–11/2011	Deep ZYJKs catalogue of the VIDEO-XMM field	ZYJKs	1 tile	302 MB	2	reopened
	VIDEO_ELAIS_S1_CAT	31.07.2012	11/2009–11/2011	Deep Z and Ks catalogue of the ELAIS-S1 field	ZKs	1 tile	229 MB	2	closed
	VIDEO_ES1_DeepStack	31.07.2012	11/2009–11/2011	Deep co-added images of the ELAIS-S1 field	ZKs	1 tile	18.8 GB	11	closed
VMC	VMC_CAT	10.08.2012	11/2009–11/2010	Based on the deep tile images released in DR1	YJKs	2 tiles	805 MB	3	open
	VMC_MPHOT_J	13.08.2012	“	Multi-epoch photometry	J	2 tiles	475 MB	3	open
	VMC_MPHOT_Ks	13.08.2012	“	Multi-epoch photometry	Ks	2 tiles	908 MB	3	open
	VMC_MPHOT_Y	13.08.2012	“	Multi-epoch photometry	Y	2 tiles	395 MB	3	open
	VMC_VAR	14.08.2012	“	Catalogue of variables	–	2 tiles	<1 MB	3	open
	VMC (DR2)	10.08.2012	11/2009–11/2010	Deep co-added images	YJKs	tbd	7.7 GB	104	open
	VMC_SINGLE	27.08.2012	11/2009–11/2010	50 individual tile images of the two fields released in DR1	YJKs	2 tiles	20.7 GB	150	closed
VVV	VVV (DR2)	20.08.2012	10/2010–10/2011	2667 tiles	ZYJKs	tbd	1.4 TB	8001	open
	VVV_CAT	21.08.2012	04/2010–09/2010	ZYJKs Catalogue in the Via Lactea	ZYJKs	269 tiles	90 GB	270	open
	VVV_MPHOT_Ks	21.08.2012	04/2010–09/2010	Multi-epoch photometry	Ks	269 tiles	35.7 GB	270	open
	VVV_VAR	22.08.2012	04/2010–09/2010	Catalogue of Variables in the Via Lactea	–	269 tiles	331 MB	269	open
VHS	VHS (DR2)	26.08.2012	10/2010–09/2011	Tiles, pawprints, single-band source lists	YHJKs		4.6 TB	107592	open
Ultra-VISTA	ULTRAVISTA_CAT	05.09.2012	12/2009–04/2010	Ks-selected matched multi-band source catalogue of the COSMOS field listing 331077 sources to fluxes as faint as Ks~23.7 (5-sigma, AB), including NB118 data in the ultra-deep stripes. Based on the Ultra-VISTA DR1 data.	YJKs, NB118	1 tile	68 MB	1	ingested; Publication Date: 24.09.2012

<sup>[1]</sup> Reports the *date of last modification* for data uploaded but not yet formally submitted to ESO (i.e. release state “open”).

- VISTA DR1 – about 7 TB of data products (DPs) - announced on ESO web pages, ESO newsletter & Messenger
- VISTA DR2 and catalogue release – upload & publication ongoing for 2012 Q4
- DPs available from the newly deployed query interfaces



The screenshot shows the ESO Science Archive Facility website. The header includes the ESO logo and the text 'Science Archive Facility'. A navigation menu on the left lists various services like 'Data Portal', 'Raw Data Query Form', and 'Reduced Data Query Form'. The main content area features a 'Welcome to!' message and a list of contents including raw data, reduced data, and various data products. A sidebar on the right contains a search bar and a 'query Help' link.



Other data products query forms

## ESO Data Products VISTA Query Form

Science Archive Facility | ESO Home | Home | Data

ESO Science Archive Facility

query Help | Status of Requests

**Data products are available for download by the astronomical community worldwide!**



The screenshot shows the VISTA Query Form interface. It includes fields for 'Tile RA [deg]', 'Tile DEC [deg]', and 'Tile rotator offset angle [deg]'. There are checkboxes for 'TL\_RA', 'TL\_DEC', and 'TL\_OFFAN'. A dropdown menu shows 'VIDEO/XMM3', 'VMC-LMC', 'VV/BULGE', and 'VV/DISK'. Below this is the 'EPS\_REG' section with a checked box and the text 'ESO public survey region name'. The 'Observation Parameters' section includes a dropdown for 'Any', 'IMAGE JITTER', and 'Any', and a 'Filter' dropdown with options 'H', 'J', 'Ks', and 'Y'. There is also an 'OBSTECH' field.

[http://archive.eso.org/wdb/wdb/adp/phase3\\_vircam/form](http://archive.eso.org/wdb/wdb/adp/phase3_vircam/form)



# ESO SAF – Community access to Public Survey DPs

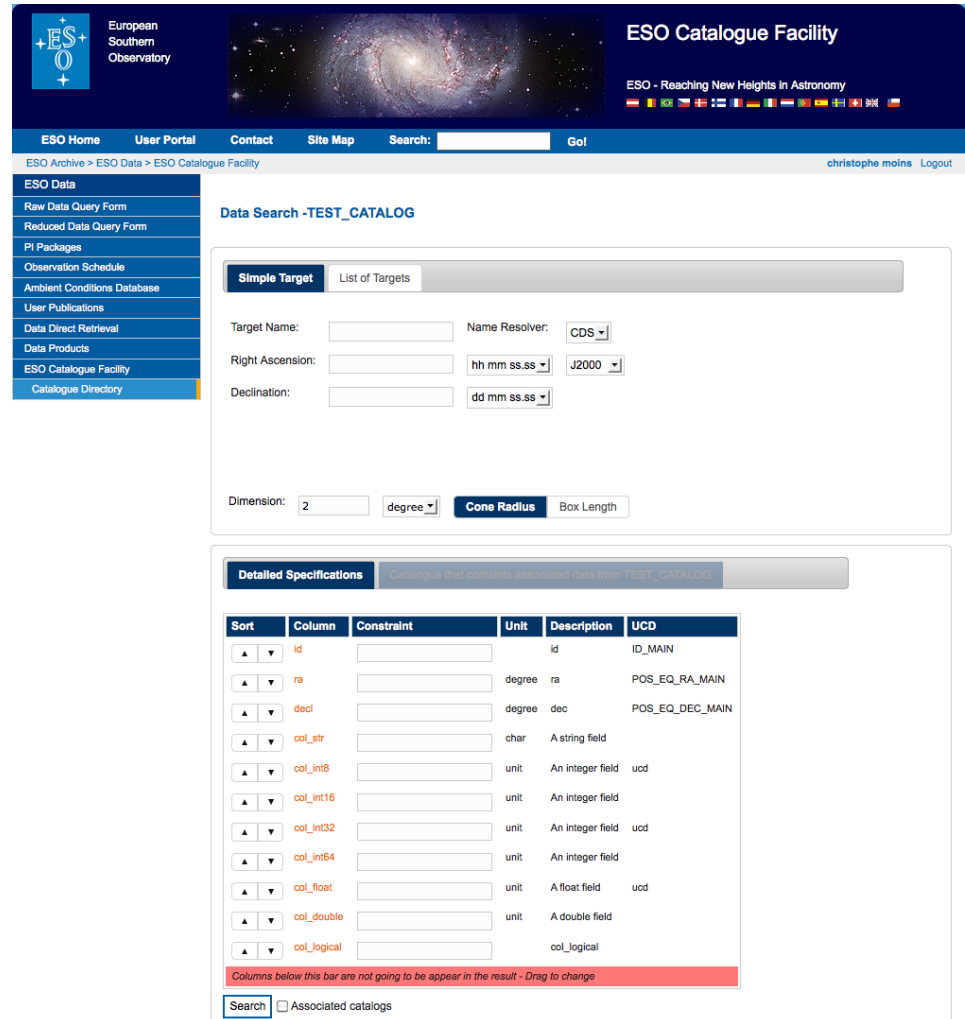
- The total number of PS DPs files downloaded is 11452 for a volume of **~3141 GB** since Dec 01, 2011
- Data volume and number of files downloaded listed by release name:
 

➤ VHS	49 GB	1822
➤ VVV	1925 GB	8703
➤ UltraVISTA	1126 GB	296
➤ VMC	10 GB	281
➤ VIDEO	31 GB	350
- Data volume and number of files downloaded listed by data products type:
 

➤ Source lists (tables)	1405 GB	6115
➤ Calibrated images	1035 GB	2461
➤ Weight-maps	687 GB	2492
➤ Preview images	35 MB	236
➤ Calibrated pawprints	10 GB	148
- Since Dec 01, 2011, there were 367 queries to the ESO SAF with data download, i.e. more than one access to the DPs on the ESO SAF each day!

## Catalogues – high level scientific data products from PS

- Catalogs are ingested to the ESO archive via the newly deployed Phase 3 infrastructure
- They will be accessed by the community via the new Catalogue facility interface of the ESO SAF.
- Additional support to the science carried out by the community.




The screenshot shows the ESO Catalogue Facility web interface. At the top, there is a header with the ESO logo and the text 'European Southern Observatory' and 'ESO Catalogue Facility'. Below the header is a navigation bar with links for 'ESO Home', 'User Portal', 'Contact', 'Site Map', and a search bar. The main content area is titled 'Data Search - TEST\_CATALOG' and contains a search form with fields for 'Target Name', 'Right Ascension', and 'Declination'. There are also dropdown menus for 'Name Resolver' (set to 'CDS') and 'Dimension' (set to '2'). A 'Cone Radius' button is visible. Below the search form is a 'Detailed Specifications' section with a table of columns and their constraints.

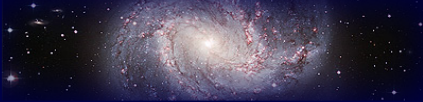
Sort	Column	Constraint	Unit	Description	UCD
▲▼	id			id	ID_MAIN
▲▼	ra		degree	ra	POS_EQ_RA_MAIN
▲▼	decl		degree	dec	POS_EQ_DEC_MAIN
▲▼	col_str		char	A string field	
▲▼	col_int8		unit	An integer field	ucd
▲▼	col_int16		unit	An integer field	ucd
▲▼	col_int32		unit	An integer field	ucd
▲▼	col_int64		unit	An integer field	ucd
▲▼	col_float		unit	A float field	ucd
▲▼	col_double		unit	A double field	ucd
▲▼	col_logical			col_logical	

Columns below this bar are not going to be appear in the result - Drag to change

Search  Associated catalogs




European Southern Observatory



## ESO Catalogue Facility

ESO - Reaching New Heights in Astronomy



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User Portal
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Site Map
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Go!

ESO Archive > ESO Data > ESO Catalogue Facility
christophe moins [Logout](#)

- ESO Data
- Raw Data Query Form
- Reduced Data Query Form
- PI Packages
- Observation Schedule
- Ambient Conditions Database
- User Publications
- Data Direct Retrieval
- Data Products
- ESO Catalogue Facility
- Catalogue Directory

**Query Results**  
 Started: Wed Oct 05 12:49:34 GMT 2011 Ended: Wed Oct 05 12:49:34 GMT 2011  
 Total number of matches: **6100010**

Results 1-10 of 1000 (1000 before filtering) Show  results per page

Text boxes under columns select matching rows [Apply Filter](#) [Clear Filter](#)

id	ra	decl	col_str	col_int8	col_int16	col_int32	col_int64	col_float	col_double	col_logical	←
Number	Number	Number	String	Number	Number	Number	Number	Number	Number	Number	Number
<input type="checkbox"/>	1	08:41:13.26	-26:02:33.4	string_0_0.5154698276983675	-1590839235	1516620009	-945586918	-2060002711	0.09952	0.65494	false
<input type="checkbox"/>	2	09:52:22.32	23:52:23.5	string_1_0.7002865881106745	1942292946	252385296	6387681	-1196644383	0.04310	0.27684	true
<input type="checkbox"/>	3	11:45:24.01	02:35:40.9	string_2_0.698313934713425	392918992	-684494777	537549267	434051836	0.38152	0.12363	false
<input type="checkbox"/>	4	11:20:59.71	17:49:35.2	string_3_0.49852231846566286	1778059361	1630905683	1759020164	1238530161	0.90273	0.79084	true
<input type="checkbox"/>	5	19:56:19.03	05:04:38.0	string_4_0.47077211776421535	-2070921019	-159699361	-1580352235	101466625	0.08557	0.14646	false
<input type="checkbox"/>	6	20:10:09.02	76:59:58.2	string_5_0.984973500197411	1411654170	1204245895	-1704661152	1079278359	0.39748	0.48007	true
<input type="checkbox"/>	7	22:50:57.65	04:20:07.7	string_6_0.45509151711586904	-2038760287	-1704661152	1997874446	1536189915	0.14816	0.43170	false
<input type="checkbox"/>	8	20:23:56.87	32:49:14.6	string_7_0.720398289574247	-1198976031	-1492005496	1533235293	-1641906203	0.95036	0.38846	true
<input type="checkbox"/>	9	01:58:46.16	47:59:12.7	string_8_0.6738143930464285	-158752399	1944136365	-585871594	-215679973	0.01723	0.74208	false
<input type="checkbox"/>	10	02:46:35.16	-34:20:53.3	string_9_0.6248833857047618	-1191389443	1647383072	-253928958	-1732468680	0.10082	0.92413	true

Demo by Joerg Retzlaff next.....

decl	degree	double	dec
col_str	char	char[256*]	A string field
col_int8	unit	int	An integer field
col_int16	unit	int	An integer field
col_int32	unit	int	An integer field
col_int64	unit	int	An integer field
col_float	unit	float	A float field
col_double	unit	double	A double field
col_logical	unit	short	col_logical

Columns below are hidden - Drag to change

- Eleven public survey projects ongoing – several hundreds astronomers involved as PIs,co-Is – lots more DPs to be ingested/validated/published.
- ~7 TB of DPs from VISTA DR1 were transferred, validated for standard and contents, and then ingested into the ESO archive. Similar delivery (volume and content) for VISTA DR2.
- New query interface of the ESO SAF and catalogue DR1.
- The community accesses these DPs and downloaded ~ 3TB since official announcement of VISTA DR1 on 12/2011.
- Phase 3 is fulfilling its goals in terms of
  - Publishing catalogs from public surveys.
  - Supporting PS and advertise their scientific results (28 referred papers, 11 ESO PRs, etc.).
  - Validation and publication of DPs - Community is eager to download and use DPs for their science.