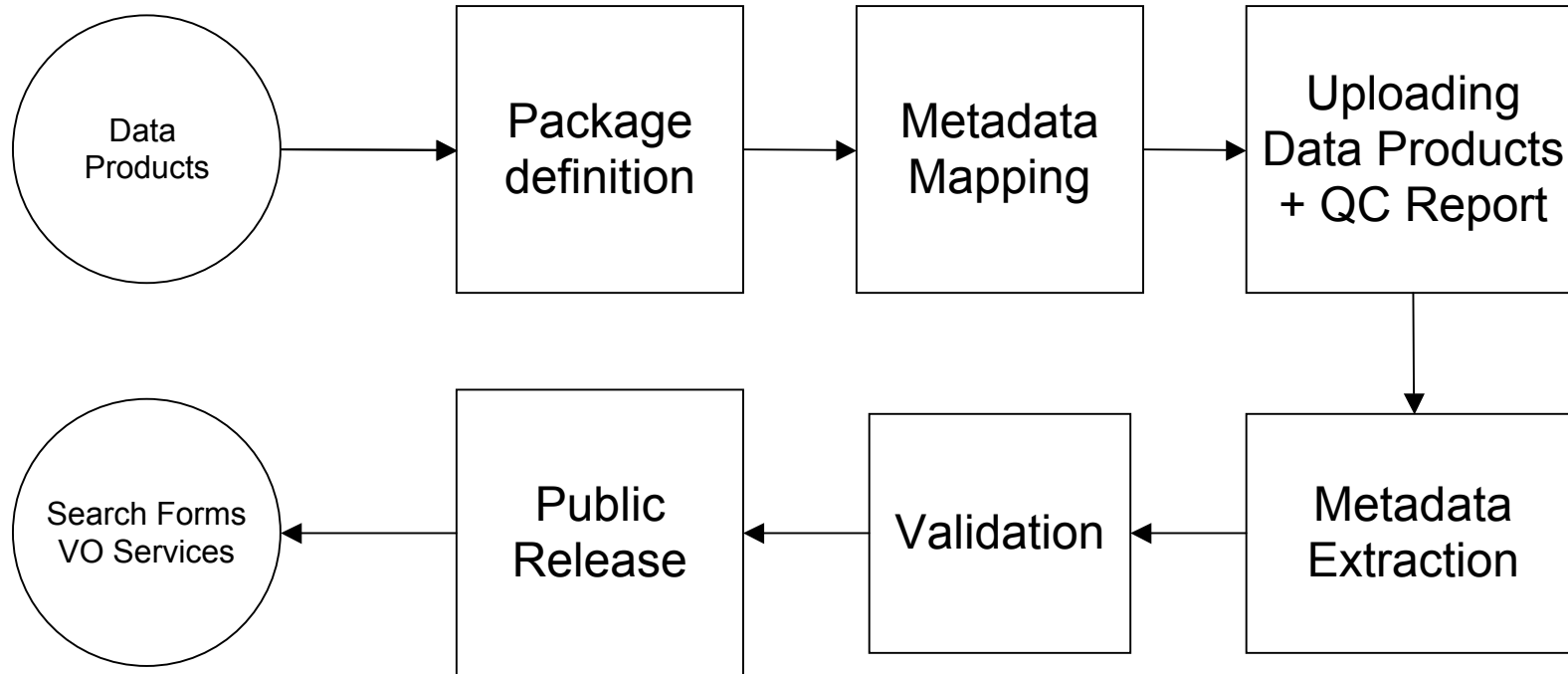# Phase 3 Tools for ESO Public Surveys

- Submission of reduced data products

- Schematic workflow

- P3 submission interface & tools

- Metadata mapping

- Conclusions

Submission of reduced data products

Schematic workflow

```
  ┌──────────┐      ┌──────────┐      ┌──────────┐      ┌──────────────┐
  │   Data   │ ───▶ │ Package  │ ───▶ │ Metadata │ ───▶ │  Uploading   │
  │ Products │      │definition│      │ Mapping  │      │Data Products │
  └──────────┘      └──────────┘      └──────────┘      │ + QC Report  │
                                                         └──────────────┘
                                                                │
                                                                ▼
  ┌──────────┐      ┌──────────┐      ┌──────────┐      ┌──────────────┐
  │  Search  │ ◀─── │  Public  │ ◀─── │Validation│ ◀─── │   Metadata   │
  │  Forms   │      │ Release  │      │          │      │  Extraction  │
  │VO Services│     └──────────┘      └──────────┘      └──────────────┘
  └──────────┘
```

Metadata homogenization is a key issue at the time of archive ingestion, in order to ensure that useful archive services can be build up.

Submission of reduced data products

- The submission procedure for public survey data products will closely follow the procedure being developed for the delivery of data products resulting from ESO Large Programs.

- Specific guidelines for phase 3 of Public Surveys with focus on the survey data products as stated in the survey management plans are currently under preparation.

- PIs/Co-Is of ESO Public Surveys are being assisted in the submission process by ESO's External Data Products group.

Guidelines for the submission of data products resulting from ESO Large Programs

Image Guide — SAF - Science Archive Facility - Mozilla Firefox <2>

File   Edit   View   History   Bookmarks   Tools   Help

http://archive.eso.org/cms/eso-data/data-submission/image-guide

ESO
European Organisation
for Astronomical
Research in the
Southern Hemisphere

Science Archive Facility

Site Map   Contact

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EURO VO

VirGO Stellarium

Guidelines for imaging data products

The table below contains the minimum set of information ('data items') requested for image headers (example header).

Providing these metadata in the FITS header and mapping it to the appropriate data items will enable users to fully characterise the data and to query for this information.

For each data item the table includes a description and a FITS header keyword suggestion. Keywords may assume different names as long as there is a one-to-one correspondence. The colour of each line indicates whether that item is: required , highly recommended or optional

Data item	Description	FITS keyword
Curation		
Facility	The observatory or facility where the data was obtained	ORIGIN
Telescope	Telescope name. Please use the TELESCOPE key values from the raw frames (if present)	TELESCOP
Creator	Name of PI/Co-I	PI-COI
Collection	Proposal ID (identifier of the original proposal) or name of data collection	PROG_ID
Photometric calibration	(uncalibrated, relative, absolute)	FLUXCAL
Astrometric calibration	(uncalibrated, relative, absolute)	SPATCAL
Software reference	Description of software/pipeline used for processing (e.g. MVM, IRAF, etc.), with version	PROCSOFT
Bibliographic reference	Please use a format like 2006A&A...454..423V	BIBREF
Instrument		
Instrument name	Please use instrument values from the raw frames or as specified in the proposal	INSTRUME
Filter name	Please use the filter values from the raw frames or as specified in the proposal	FILTER
Instrument mode	Instrument mode (partly identifying optical path) as specified in the proposal[1]	INS_MODE
Observation		
Effective exposure time	Effective exposure time (flux rescaled) [s]	EXPTIME
Total exposure time	Total exposure time [s]	TEXPTIME
Unit of pixel values	(ADU, ADU/s)	BUNIT
Number of frames	Number of combined frames	NCOMBINE
Minimum flux	Min. physical value across image in BUNIT	DATAMIN
Maximum flux	Max. physical value across image in BUNIT	DATAMAX
Effective gain	Detector sensitivity in no. of electrons/count	GAIN
Comments	Further explanations about this data product	COMMENT
Target		
Target name	Target name	OBJECT
RA of the target	Right Ascension of target	RA_TARG
DEC of the target	Declination of target	DEC_TARG
Target position error	Positional uncertainty of target coordinates ["]	ERR_TARG
WCS		
NAXIS1	Number of bins along axis 1	NAXIS1
NAXIS2	Number of bins along axis 2	NAXIS2
CD1_1	Linear transformation matrix element 1,1	CD1_1
CD1_2	Linear transformation matrix element 1,2	CD1_2
CD2_1	Linear transformation matrix element 2,1	CD2_1
CD2_2	Linear transformation matrix element 2,2	CD2_2
CRPIX1	Pixel coordinate of reference point	CRPIX1
CRPIX2	Pixel coordinate of reference point	CRPIX2

Done

The P3 user interface for the submission of data products

The web-based <u>Submission Interface</u> provides a unique entry point for the delivery of reduced data to ESO and will guide PI/Co-Is through the submission procedure.

- Project selection

- Data package/release specification

- Configuration of metadata mappings

- Data upload

- Data Release

The submission interface includes the interactive <u>Metadata Editor</u> which is used to define a metadata mapping from the data products to the ESO science archive for each data product type.

File Edit View History Bookmarks Tools Help

http://vodev1.hq.eso.org:8080/saf-upload/programcreate.do

Google

ESO Data Products Submission

1. Program selection | 2. Package selection | 3. Edit Package details | 4. Configure mappings | 5. Upload Data | 6. Set release date

MY PREVIOUS PROGRAMS

Program
- KIDS
- UltraVISTA
- VHS
- VIDEO
- VIKING
- VMC
- VPHAS+
- VST ATLAS
- VVV
- jr-prog1

Select

OTHER PROGRAMS

Program
- 175.A-0706
- 175.A-0839
- 175.C-0685
- 176.A-0319
- 176.A-0589
- 177.A-0591
- 177.A-0680
- 177.A-0837
- 177.B-0615
- 177.B-0682

Security token

Select

REQUEST NEW PROGRAM

Program Name

PI username   JRETZPI

Reference URL

Abstract

Submit

? Instructions

Please select an ESO program from which the data products you are about to submit originate. You can either choose from the list of programs you have previously already submitted data for (left panel), or from the list of other programs data submission has been enabled for (middle panel).

If you select from "OTHER PROGRAM" you have to provide the "Security token" -- a shared password enabling access by a team of investigators. It has been made available at the time of program creation to the requestor (usually the PI of the program).

If your program is not displayed in either list, please submit a request for creating a new program using the right panel. Generally, the ESO program identifier is adopted as program Name.

The P3 tool for data organization and transfer

- Integrated into the workflow of the submission interface
- To be downloaded from the ESO website
- Executed locally on the users host which holds the data to be submitted
- Creates an inventory of data product files
- Data product type classification
- Supports definition of relations between files
- Secure file transfer to the ESO archive

ESO Data Products Submission

1. Program selection | 2. Package selection | 3. Edit Package details | 4. Configure mappings | Mapping editor

Submit (stores mapping, sample FITS header and sample pre-computed values in ESO archive)

Setup Rules Advanced

MAPPING RULES AND METADATA

This table lists all metadata that this archive facility supports.

All required metadata (marked with a *) must have a value; this value is obtained by executing the rule expression.
A default rule expression is predefined for all items. To validate the rules, you need first to upload a FITS header. After validation, you should remove the invalid rules.
The validation runs all rules against the sample FITS header, and the resulting values are displayed on the test result column.
All required items must have a rule and all mapping rules must to be valid in order to have you dataset properly described.

You can toggle the display of advanced information about the metadata if required.

Validate || Clear rules that generate warnings

Metadata description	Expression	Test result	Actions
Facility *	"ESO-La Silla"	ESO-La Silla	[edit]
Telescope *	TELESCOP	MPI-2.2	[edit]
Creator	"H. Hildebrandt"	H. Hildebrandt	[edit]
Collection	"164.O-0561,169.A-0725"	164.O-0561,169.A-0725	[edit]
Photometric Calibration *	"ABSOLUTE"	ABSOLUTE	[edit]
Astrometric Calibration *	"ABSOLUTE"	ABSOLUTE	[edit]
Temporal Calibration *	"CALIBRATED"	CALIBRATED	[edit]
Software reference	{SOFTNAME}	SWarp	[edit]
Bibliographic reference	'2006A&A...452.1121H'	2006A&A...452.1121H	[edit]
Instrument name *	"WFI"	WFI	[edit]
Filter name *	FILTER	BB#B/99_ESO842	[edit]
Instrument mode			[edit]
Technique of Observation *	"imaging"	imaging	[edit]
Effective exposure time *	{EXPTIME;s}	1.0 s	[edit]
Total exposure time *	{TEXPTIME;s}	11696.8 s	[edit]
Unit of pixel values *	BUNIT	ADU/s	[edit]
Number of frames	NEXP	39	[edit]

Conclusions

➢ Phase 3 represents the final step in the execution of ESO Public Surveys.

➢ Phase 3 closes the loop with the user community.

➢ Phase 3 is a joined effort of the public survey PIs/CoIs with ESO/EDP.

➢ Phase 3 deliveries are the survey data products and the QC report as stated and agreed upon in the Survey Management Plan.

➢ A focused workshop for Phase 3 with tutorials for public survey PIs/CoIs will be organized once data products will become available.