



ESO Reflex

Workflow Instructions

To run this workflow on the demo data:
- Turn on highlighting. Choose "Tools" -> "Animate at Runtime" from top menu and set it to "1".
- Press the "Run" button OR ctrl-R to start the workflow.

To run on a different data set:
- Click on ROOT_DATA_DIR and set as appropriate.
All subdirectories of RAW_DATA_DIR will be searched for data.
- If desired, change END_PRODUCTS_DIR (IMPORTANT: END... should not be a subdirectory of the RAW_DATA_DIR, otherwise it will be searched for raw data!
- Press the "Run" button OR ctrl-R to start the workflow.

To monitor the progress of the workflow in more detail:
- Open "Window" -> "Runtime Window" in top menu before starting the workflow.

Reflex is described in A&A, 559, A96, credit it in publications that used the workflows. Workflow & VISIR pipeline manual are located at: http://www.eso.org/sci/software/pipelines/#reflex_workflows

Setup Directories

- ROOT_DATA_DIR: /run/media/ivanov/Backups/VISIR/Reduced
- RAW_DATA_DIR: /run/media/ivanov/Backups/VISIR/Raw (change it only if you do NOT want to use the calibration database delivered with the pipeline)
- CALIB_DATA_DIR: /scratch/Duties/VISIR_pipeline/install/calib/visir-4.3.3 (None of the directories below should be a subdirectory of RAW_DATA_DIR or CALIB_DATA_DIR)

Working Directories:

- TMP_PRODUCTS_DIR: \$ROOT_DATA_DIR/products/TMP_PRODUCTS_DIR
- BOOKKEEPING_DIR: \$ROOT_DATA_DIR/products/BOOKKEEPING_DIR
- LOGS_DIR: \$ROOT_DATA_DIR/products/LOGS_DIR
- BOOKKEEPING_DB: \$BOOKKEEPING_DIR/bookkeeping.db

Output:

- END_PRODUCTS_DIR: \$ROOT_DATA_DIR/products/END_PRODUCTS_DIR

Global Parameters

- FITS_VIEWER: /usr/bin/xsca (The viewer for product inspection (may require full path))
- EraseDirs: false ("true" erases BOOKKEEPING_DIR, TMP_PRODUCTS_DIR & LOGS_DIR (Lazy Mode will not work), "false" does not erase them)
- GlobalPlotInteractWkly: true (Disable interactive GUIs for the whole workflow Overrides in subworkflows have precedence.)
- SelectDataSetMethod: Interactive (Specify how datasets for processing are selected: "All" = all datasets, "New" = never reduced before, "Reduced" = successfully reduced before, "Failed" = unsuccessfully reduced before, "Interactive" = interactive selection.)
- ProductExplorerMode: Triggered (Specify when to show the ProductExplorer GUI. "Triggered" = after all data sets were reduced. "Enabled" = shows it after each dataset. "Disabled" = never show it)

Step 1: Data Organisation and Selection

Step 2: Image Registration Coaddition

Step 3: Optional Photometry

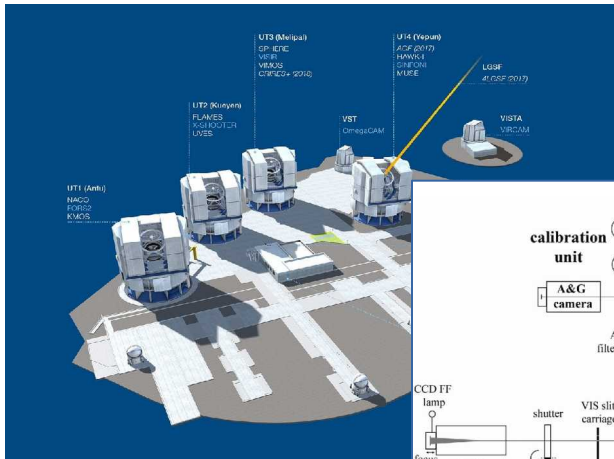
Step 4: Calibration Output Organization

Auxiliary and debug parameters, please do not change: ● GLOBAL_TIMESTAMP: 2017-09-25T12:44:26 ● ESORexArgs: --suppress-prefix=TRUE ● END_PRODUCTS_SUBDIR: 2015-10-15T17:35:34/VISIR_IMG_OBS215_2_0001_tpl ● N_SELECTED_DATASETS: 3

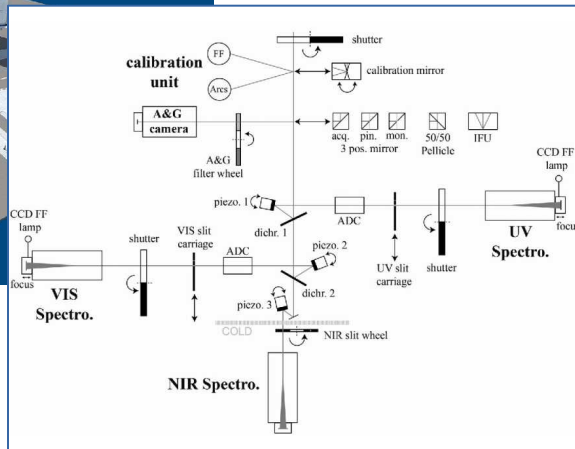
Valentin D. Ivanov, EAS 2022, 30.06.2022



ESO Reflex and pipelines



VLT suite of instruments



XSHOOTER overview

ESO instrument pipeline page:

Instrument	Release Notes	Source Kit	User Manual	Cookbook	Additional Documents	Additional Datasets	Reflex Tutorials	Status
AMBER	2017-04-01	4.3.7	4.3.4					Operational on hold
CRIFRES	2016-10-12	2.3						Operational on hold
DETMON	2016-02-15	1.3						Operational on hold
EFOOSC	2016-04-01	2.2						End of maintenance
FORS	2017-02-24	5.3						Operational on hold
GIRAFFE	2017-04-26	2.1						Operational on hold
GRAVITY	2017-04-24	1.0						Active
HAWKI	2017-04-01	2.2						Operational on hold
ISAAC	2016-02-15	6.1						End of maintenance
KMOS	2017-02-24	1.4						Active
MIDI	2017-04-01	2.8						End of maintenance
MUSE	2017-10-01	2.2						Active
NACO	2017-02-24	5.4						Operational on hold
SINFONI	2017-04-19	3.0						Operational on hold
RDEI	2017-05-15	1.5						End of maintenance
SPHERE	2017-03-14	0.2						Active
UVES	2017-10-19	5.8						Operational on hold
VCAM	2017-04-01	2.3						Operational on hold
VIMOS	2017-04-24	3.1						Operational on hold
VISIR	2017-02-24	4.3						Operational on hold
XSHOOTER	2017-10-19	2.9.3	12.17			Additional NIR Beams model catalog (130 MB)	Tutorial: 2.18 Demo Data: 1.2	Operational on hold



We have many complex instruments that generate complex data!

Pipelines (instrument-specific data processing software) are:

- designed and developed by the instrument consortia
- released, maintained and upgraded by ESO

Pipelines can be executed via: esorex, **Reflex**. And in the future – the python-friendly EDPS.

Resources and help

Refereed Paper:



ESO Reflex Webpage:



ESO Reflex video tutorial:



Bibcode
Authors

Cites **Date**
Title

[List of Links](#)
[Access Control Help](#)

2013A&A...559A..96F 104.000 11/2013 [A](#) [E](#) [F](#) [X](#) [R](#) [C](#) [Q](#) [!](#)

Freudling, W.;
Romaniello, M.;
Bramich, D. M.;
Ballester, P.; Forchi, V.;
García-Dabío, C. E.;
Moehler, S.;
Neeser, M. J.

Automated data reduction workflows for astronomy. The ESO Reflex environment



Resources and help

ESO instrument pipeline page:

<https://www.eso.org/sci/software/pipelines/>

Reflex refereed paper:

<https://ui.adsabs.harvard.edu/abs/2013A%26A...559A..96F/abstract>

ESO Reflex Webpage:

<https://www.eso.org/sci/software/esoreflex/>

ESO Reflex video tutorial:

<https://www.youtube.com/watch?v=d8egujo63tl&list=PLpnVxAKx0wuaBb5zRN0DmpQXdLWAvmlYS>