VISTA

Action remedy and mailing lists for VISTA

Paranal Science Operation 25–June–2009

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1 Introduction

In case of the survey telescopes VISTA and VST a copy of the data taken with the respective cameras is kept in the ESO archive while a second copy is sent from Garching to the data centers in Cambridge (CASU — 'C'ambridge' 'A'stronomic 'S'urvey 'U'nit). CASU processes the data on night-to-night basis, produces photometrically and astrometrically calibrated tiles and single band catalogues. These data are then sent to WFAU and stored in the science data archive. Most of the survey teams are expected to get the processed data from CASU and WFAU, and after some (possible) additional processing and checks they will send the advanced data products, calibrated images and catalogues, to the ESO Archive through the phase 3 procedure. In case of the ULTRAVISTA public survey, which does a data reduction on their own and coordinated within the ASTROWISE consortium, the raw data will be provided from the Garching archive operations. CASU nevertheless would receive the full VISTA data and provide reduced products as for the other surveys.

I would like to provide an overview about the available mailing lists and action remedy systems which exist to distribute informations and to follow up problems or other tasks.

2 Overview

At ESO for VLT/I operations we currently use the following action remedy systems at ESO. (PPRS and PSO systems are 24h on call services. usd-help@eso.org are responding within two working days):

- PPRS Paranal Problem Reporting System (ARuser-GUI or WEB interface)
- DFS Data Flow System (ARuser-GUI or WEB interface)
- USD helpdesk email to usd-help@eso.org (or WEB interface)
- PSO Paranal Science Operations (ARuser-GUI or WEB interface)

In parallel there are the following mailing lists for VISTA:

- vista@eso.org VISTA, Science Operations Paranal (24h on duty)
- usd_vircam@eso.org User Support Department, Garching
- qc_vircam@eso.org Quality Control Group, Garching
- est@eso.org ESO Survey Team, Garching
- vircam@ast.cam.ac.uk CASU VIRCAM mailing list

And the following additional mailing lists for VST:

- vst@eso.org VST, Science Operations Paranal
- usd_ocam@eso.org User Support Department, Garching
- qc_ocam@eso.org Quality, Garching

And the following additional mailing lists are used for VLT, VLTI and the survey telescopes:

- paranal@eso.org Paranal not related to VISTA or VST
- saop@eso.org Data Flow and Archive Operations Garching
- par-dataflow@eso.org Data Flow Paranal

The Paranal Science Operations instrument mail accounts like vst@eso.org and vista@eso.org will be linked to the PSO action remedy system in near future.

3 Action Remedy System versus mailing lists

Whenever a mail is sent which requires an action by a support scientist or astronomer, then the action remedy system is to be used. If a mail is sent to provide an updated information which doesn't require any immediate reaction then the mailing lists can be used. In case of doubts the mail should be sent to the action remedy system. The assigned person can close the ticket if there is no action required or follow up the issue depending on the content of the respective tickets.

3.1 Action Items:

The action remedy is typically used to distribute the work to the available support astronomers or engineers and at the same time to archive and to document the response. One can later query the data base for similar cases to simplify the follow up in the given case.

Problem reports from the Paranal Science Support members, VISTA IOT members, and engineers, related to urgent data quality problems and other urgent observation support requests should be directed to: vista@eso.org.

Phase 1 and phase 2 proposal preparation requests and comments on WEB based and other documentation should be directed to usd-help@eso.org as for the other instruments. This should be as well the address for all external users, public survey PIs and future PIs.

Like for the VLT the long-term and medium-term scheduling is under supervision of Garching. This includes re-scheduling of observations in case of technical or operational problems. Related requests are to be directed to usd-help@eso.org.

Post-observation support requests for the archiving of science data products "phase 3" should be directed to usd-help@eso.org

General recommendation: If you are not sure if you should send a action remedy ticket: Just send it!

3.2 Mailing Lists:

Periodic reports or information updates which could be interesting for all IOT members should be send with the mailing lists like vista@eso.org, usd_vircam@eso.org, qc_vircam@eso.org, est@eso.org in the cc-list. We can nicely sort and filter these mails. There are typically

more problems with too selective distribution of bits of information then problems with spam.

Currently the pipeline related DFS-tickets are copied to the mailing list vircam@ast.cam.ac.uk at CASU.

3.3 Examples:

Question from external users or PIs	usd-help@eso.org
CASU or QC finds bad noise pattern on detector 16	usd-help@eso.org
CASU or QC finds that the data taken for QBs 200134	usd-help@eso.org
to 200234 are not science grade due to the bad noise	
nattern on detector 16	
Invitation for VideoConf on Tuosday	vista@oso.org
invitation for videocom on fuesday	
	usd_vircam@eso.org,
	qc_vircam@eso.org, est@eso.org
Bad noise on detector 16 detected on latest health	vista@eso.org, PPRS ticket
check plots	
TIO or astronomer finds bad noise on data from de-	PPRS ticket
tector 16	
It was found after some weeks that observations were	usd-help@eso.org
taken out of the constraints set	
Camera/telescope in maintenance period, not avail-	vista@eso.org,
able	usd_vircam@eso.org,
	qc_vircam@eso.org, est@eso.org
Flux level decreasing on dome flats, detected on fits	usd-help@eso.org
data files at QC or CASU	
I'd like to send a catalog to Science Archive	usd-help@eso.org
External user finds problem in user manual or WEB	usd-help@eso.org
page	
There is a new pipeline recipe which should be up-	DFS ticket
dated at QC, PSO	

As a general rule we only provide one address (usd-help@eso.org) to external applicants, Pls,...to contact ESO.

PPRS tickets will be sent in copy to vista @eso.org, usd_vircam@eso.org, qc_vircam@eso.org and if requested to a still to be defined address at the external data centers.

4 Quality control feedback from PSO, QC, CASU and other groups

The data quality of the science and calibration data obtained with VISTA/VIRCAM are first evaluated by the telescope and instrument operator and support astronomer in due time. After this the calibration data is reduced by the data reduction pipeline as installed on Paranal (on wvcpl). The data reduction pipeline will write preliminary QC-logs, which will be then included into the health check parameter monitoring plots. In case of the science

files the pipeline data reduction will combine the jitter images to a combined reduced data frame. In case of the wide fields surveys only the first pawprint taken on a tile will be combined. Accordingly only the QC parameters of this pawprint will be logged and will be later included into the health checks. The health checks include the monitoring of absolute parameters such as read out noise, gain factors, image quality and photometric zeropoints. Furthermore the health check will monitor if calibration data have changed in respect to the data sets kept in the calibration data base.

At the 2nd level (8 to 10 days later) the data as delivered to the archive will be analyzed by the quality control group in Garching. QC is dedicated to verify the quality and validity of the calibration data and does spot checks on science data.

At the 3rd level (18 to 20 days later) the data will be reduced at the data centers (CASU in case of VISTA), which has no responsibility to systematically verify the data quality. However - the data centers will certainly spot problems and report the cases to the addresses given above. CASU has for other projects provided WEB based information about the data quality to the science teams associated with the surveys.

At the 4th level the science ready products like tiles and catalogs will be delivered to the PIs of the public surveys.

With the data flow being setup in the before mentioned way and considering the long response times for any reports generated at later stages, it is obvious that the quality check at the time of the observations is of fundamental importance. Due to the high data flow only a small part of the data can be inspected in due time. Some parameters as logged by the pipeline can be retrieved with the help of shell scripts from the QC log files to verify if the image quality was within the user provided constraints (on and off-axes) and if the sky transparency can be presumed clear/photometric or not. There is no further check to decide if observations are taken within or without the constraints then the one of the telescope and instrument operator or in less frequent case by the VISTA support astronomer during the next working day, based on the raw and reduced data on the hard disks.

As well at the 1st level, when the data is taken, diagnostic health checks are provided by the QC group. This was in the past based on the long-term monitoring of absolute parameters. The diagnostics would be far more powerful if the data is compared with the available reference data set in the calibration data base. In case of VISTA, VST it is foreseen to compare the new calibration data with the stored master calibration data in due time. The health checks are examined by the telescope and instrument operators (for the data taken at night) and by the support astronomer (for the data taken during the day).

Problems and other reports which are related to very recent data as spotted in real time checks or on the dynamic health check plots have to be addressed to the operations team vista@eso.org or directly submitted into the PPRS to immediately take any action for the next hours or nights of operations.

Problems spotted at the later stages are typically spotted too late: We report, repair and re-schedule the observations later. There will be no system in place to cover all technical, scheduling and operational problems, before delivering the data to the public survey PIs. This is given by the amount of data flow expected at least for the shallow wide field surveys. Problems and other reports at the late stages refer to data sets and observation blocks which were executed some time ago and may have to be re-scheduled in some cases. In these cases the further actions should be coordinated via usd-help@eso.org Despite of that there is no commitment to CASU and other data centers to spot prob-

lems with the data quality, there will be certainly cases that problems with the instrument or the data quality are found at this stage. The respective reports would be sent to usd-help@eso.org as discussed above. Similarly the public survey PI or other persons working with science data products will report to usd-help@eso.org