

Document Number: WFC-CAS-WPS-00000-00025
Document Title: End of Month Report Mar 05
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Document Issue: 1
Document Date: 11/4/2005



Summary

This document presents work package progress by CASU during March 2005.

For further details of group activities over the past month and quarter see

<http://www.ast.cam.ac.uk/vdfs/diary.html>

For the minutes of all group meetings see

<http://www.ast.cam.ac.uk/vdfs/docs/minutes>

- The testing of WFCAM data transfer to ESO is now complete and works according to specification. All we need now is some real UKIDSS data to transfer. Starting this in earnest awaits the influx of WFCAM science data, beginning with the science verification phase of the current WFCAM observing run, which we anticipate having to hand to transfer by roughly the end of April.
- Updated reports on the properties of the Phase I commissioning data are available on <http://www.ast.cam.ac.uk/vdfs> including a new study checking the data validity via galaxy number counts and predicted galaxy colours for redshift determinations. Further photometric monitoring of pipeline processed phase-I data supported the preliminary conclusion regarding throughput and demonstrated that the z-band sensitivity is also as good as originally expected.
- JRL went out to JAC for 2 weeks for the first part of the WFCAM March commissioning run. He has made progress on several aspects of the summit pipeline, mainly related to: attempting to speed it up by rewriting large chunks of it; sorting out the SDF -> FITS conversion problems; and testing the tape writing scripts. However, the weather and problems with focus tilt adjustments conspired to make this a less than useful science commissioning session.
- During this visit good progress was made between JRL, DI and PH on the detector behaviour front. The reset anomaly and the difference between single and co-added darks have been greatly improved after modifications made during Derek Ives' visit. The reset anomaly is now about 10% of the level it was previously and appears to be stable with respect to variations in readout modes, though more tests remain to be done. The curtaining problem, however, remains and has necessitated the development, writing and testing of a software solution. This still needs to be fully integrated into the standard pipeline.
- WFCAM came off the telescope just after STH arrived for what was meant to be a 3-week visit, this was curtailed to 1 week during which the final adjustments were made to the photometric calibration plan in close consultation with JAC staff. After a brief spell in Cambridge devising an algorithm for measuring and deriving the illumination correction, STH has gone back out to JAC to take part in the remainder of the commissioning, initiate the photometric calibration plan (derive colour equations, zero-points, analyse meso-step sequence for illumination correction) and to help with some of the observing for UKIDSS science verification.
- The intermittent "crud" on the field lens and possible (hardware) and software solutions were also discussed during JRL's visit and a variant of the defringing algorithm was mooted as a possible solution.
- All of the nights on which WFCAM science data were taken after a stable WFCAM system was in place (i.e. after the preceding engineering commissioning) are being pipeline processed (in practice starting with the 8th November and running through to the

30th November). In spite of protestations to the contrary, most nights contained some usable science data, though sorting the wheat from the commissioning chaff is definitely slowing progress.

- We are now a few iterations further downstream with data transfers to WFAU with 3 whole nights of processed data completed for transfer by the end of last week; 2 further nights completed since then and several more well on the way to completion. We expect to have all of the useful phase-I data processed by the end of April though caution that the level of quality of the end science product often leaves a lot to be desired. Given the new delays in acquiring WFCAM science data, CASU and WFAU have been coerced to release these processed data products to a somewhat wider section of the UKIDSS community than originally agreed. This may cause future problems.
- CASU have drafted in responses to the 74 CASU-related VDFS FDR RIXs and updated the FDR document set as much as possible to be consistent with the changes made to the crucial DPR keyword table. However, further progress on this, i.e. finishing the task, is now mainly held up by the lack of a final version of the signed-off RIX response document. We need to see the exact agreed wording of the Board disposition before we can finalise the changes and distribute them internally for comment. Agreed, updated versions of these documents are needed before the next visit to ESO to discuss the various changes made to the FDR documents.
- The move back into the refurbished APM building went surprisingly smoothly and is now completed. The long delayed hardware purchases and final system checks have now been made and the standard pipeline hardware setup is now complete, with sufficient storage and processing capability for the first year of WFCAM data.