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This document presents work package progress by CASU during August 2005. For further details of group activities over the past month and quarter see <u>http://www.ast.cam.ac.uk/vdfs/diary.html</u>. For the minutes of all group meetings see <u>http://www.ast.cam.ac.uk/vdfs/docs/minutes</u>

Science Verification and interaction with UKIDSS

CASU attended the UKIDSS SciVer meeting held at ROE this month. Talks were presented by MJI (pipeline processing), MR (flatfields, CASU WWW pages), STH (photometric calibration) and EGS (internal SciVer: stacking, completeness). See http://www.ast.cam.ac.uk/~wfcam/docs/reports/sv/ and http://www.ast.cam.ac.uk/~wfcam/docs/reports/sv/ and http://apm15.ast.cam.ac.uk/casudoc/wfcam/science-verification for details. All presentations have been placed on our www pages for internal/external access.

There was good interaction and feedback from the UKIDSS Testers community. The following suggestions have been taken on board:

- The discussion of catalogue parameters has been extended (with emphasis on classification and fluxes), see http://www.ast.cam.ac.uk/vdfs/docs/newparams4.pdf
- 2. The summary/status pages now include inline images as well as postscript files
- 3. A page of known bugs and features with the data has been started (not yet complete/available)

The next SciVer meeting will be held at the IoA on September 21st. STH and Paul Hewett are also hosting a WFCAM calibration workshop on September 20th. STH will circulate a document discussing his findings with the calibration of WFCAM data in good time for this meeting.

WFCAM processing status

The new photometric calibration has now been applied to all data up to and including 19th April (SV1). These new catalogues also include a revised parameter set:

- 1. new magnitudes (Petrosian, Kron, Hall)
- 2. errors on the measured quantities
- 3. the larger apertures have been rescaled to be smaller (the largest has been shrunk from 64 to 24 arcsecs).

Reprocessing has been carried out on all data affected by the pipeline software stacking bug. Also all the SV data up to and including 19th April (SV1) has been reprocessed with the new catalogue generator in order to calculate the new parameters, errors etc.. We were all asked to examine this new data for problems prior to releasing it and prior to finishing off the rest of the 05A data catalogue (re)generation.

A prototype crosstalk-removing algorithm has been written by MJI, and is in the middle of testing. At this stage it is unclear if it is worth reprocessing all the 05A data again to incorporate this. MJI, after discussions with NCH, recommended using it in anger on 05B data and then re-assessing the situation re: 05A data further downstream. The main reason is to limit the long-term number of available reprocessed versions of the same data.

Two new disc servers (8 TBytes each) have been ordered. A new rack will also be ordered shortly to locate some of the disk server kit more appropriately.

JAC Telecons

The main item discussed was how far the requirements of the summit pipeline have been met, particularly with respect to its speed.

WFCAM is currently on the telescope and working. An automated guide star acquisition system is now in place. Fine-tuning of the optics has been carried out to sort out tilt etc. Images were found to be 0.65" on all chips (Gemini reported 0.5" images in V on the same night) on the 1st night of on-sky tests. The field lens has been cleaned so that the worst of the scattered light/thermal emission problems (the "crud") has been eliminated.

Some redesigning of the UKIDSS WFCAM survey MSBs has been done to help improve the observing efficiency whilst maintaining the science return. The primary result from this should be a significant reduction in the nightly raw data rate.

Status of VDFS

The latest version of the ETC including the revised C code has been circulated to JPE, MJS and MJI for comment. The other docs have been signed locally and are ready to distribute for signatures.