



# VST ATLAS archiving at WFAU

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# Outline

- VISTA Data Flow System archive operations
- Archive plans for ATLAS
- Current status
- Questions for the consortium

# VISTA Data Flow System (2002-)

- Two phases: UKIRT/WFCAM, then VISTA
- Collaboration: CASU pipeline, WFAU archive
- 2006-: WFCAM Science Archive
  - UKIDSS, plus PI programmes
  - 900+ registered users for proprietary UKIDSS data
  - DR9 (ESO proprietary), DR7 (world public)
- 2010-: VIRCAM Science Archive
  - 5/6 Public Surveys: VHS, VIDEO, VMC, VVV, VIKING
  - Proprietary access by consortia; public releases soon



# VDFS archive operations (1)

- Further details in two talks from last year's ATLAS Kick-off Meeting
  - *Science Archives at WFAU*
  - *Quality control/user interface at WFAU*
- Both available from ATLAS website:  
<http://astro.dur.ac.uk/Cosmology/vstatlas/>

# VDFS archive operations (2)

- (Nightly pipeline products released by CASU)
- Transfer of data products by observing month
- Ingest image metadata into load database
- Generate JPEGs from images
- Provide access to flat files (1-2 wks after release)
- Ingest catalogue files into load database

# VDFS archive operations (3)

- Post-nightly product generation
  - Difference images, stacks, mosaics, time-series, etc
- Quality control
  - Some automated & checked by WFAU staff
  - Some by survey representatives - crucial
  - Yields deprecated images & ppErrBits (object flags)



# VDFS archive operations (4)

- Source-merging
  - Multi-band sources from single-band detections
- Production of seamless catalogue
  - Through choice from duplicates in overlaps, etc
- Cross-neighbour table generation
  - Sources in external catalogues within matching radius
- Production of release database

# Plans for ATLAS

- Fairly simple application of VDFS processes
  - Data rate fairly modest
  - CASU handling all ESO Phase 3 products
  - No post-nightly data products to generate
- *WFAU concentrate on delivering archive to support survey science by the consortium*



# Archive functionality (1)

- Similar functionality as for WFCAM & VIRCAM
- Access to images and seamless catalogues
  - Menu-driven, free-form SQL and VO interfaces
  - Provenance tracking within database
  - Image cut-outs and colour images, KML overlays
  - Cross-neighbour tables for external catalogues

# Archive functionality (2)

- New functionality under development
- Updated browser-based user interface
  - Coupling of query & plotting interfaces
  - Cross-archive querying using VO TAP service
- CasJobs-like personal database storage
- Interoperability with client tools via WebSAMP

# Data releases

- Public releases
  - DR<sub>1</sub> in March 2013, DR<sub>2</sub> in March 2014
  - Databases matching tagged file sets in ESO archive
- Consortium releases
  - Proprietary access restrictions
  - On an incremental, per-Period basis
    - Available within a month of release of last data by CASU (assuming interleaving with WFCAM, VIRCAM work OK)

# Current status

- Transferred test set of data files from CASU
  - Used these to complete database schema
  - Currently ingesting data into load database
- Adapting scripts for remaining curation tasks
- Web-based UI starting to take shape
  - <http://surveys.roe.ac.uk/osa>
- Major progress expected in next few months

# Questions for the consortium

- Details of processes to sort out
  - Quality Control, global calibration, consortium access
- Science requirements
  - Cross-neighbours with which catalogues?
    - VHS and VIKING, of course
    - Also readily do SDSS, GALEX, WISE, 2MASS, etc, etc...
- Anything else you are expecting from us?