

# Pipeline versions update

- V1. stacking bug, no errors, no Petrosian fluxes, old 2MASS ce's**
- V2. fixed stacks, better sky, full standard catalog parameters, new 2MASS ce's = EDR version**
- V3. same as V2. + includes cross-talk reduction by  $\sim x10$ , sky estimation split on exposure time = DR1 version**
- V4. same as V3. + improved sky estimation, 2MASS calibration with  $0 < J-K_s < 1$**

# CASU processing update

**30 Tbytes raw data + 60 Tbytes processed = 2 million 2kx2k images**

Version	Semester	Images	Catalogues	Calibration	Available
#1	#1	05A	stacking bug	no errors or Petrosian fluxes	2MASS old ce May 2005 -Jul 2005
#2	#2	05A	fixed stacks better sky	full standard parameter set	2MASS new ce (EDR version) Aug 2005 -Sep 2005
#3	#4	05A	+cross-talk removed +improved sky	+minor catalog bug fix	+J-Ks limits Apr 2006 -May 2006
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#1	#3	05B	+cross-talk removed	full standard parameter set	2MASS new ce (DR1 version) Oct 2005 -Feb 2006
#2	#4	05B	+improved sky	(selected UDS reprocessing)	+J-Ks limits Jun 2006 -Jul 2006
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#1	#4	06A	(new foibles)	(in progress)	Jun 2006 -Aug 2006
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# Processing steps

- **prepare** - ingest, check, MEF, check, index, select, preview, process
- **linearity** - dome sequences, non-linearity < 1%
- **dedark** - combine darks, illumination-dependent reset anomaly
- **flatfield** - weekly/monthly twilight flats, stable, internal gain corr
- **curtain** - +/-5 ADUs, ~ 4-quadrant symmetry, bilinear removal
- **skysub** - group master skys by time and MSB if possible
- **combine** - interleaves, compute shifts and stack dithers
- **catalog** - detect and parameterise objects
- **classify** - morphological classification
- **astrom** - astrometric calibration per detector
- **photom** - photometric calibration per pointing
- **check** - examine QC, reject bad products, random inspection

# Updates ..... EDR ..... DR1 .....

- **more robust front-end to deal with missing files and nulls**
- **06A dome and std sequences indicate non-linearity still  $< 1\%$  triggered by cf. 2MASS**
- **skysubtraction now group master skys by time and MSB if possible now also makes better use of all potential sky data**
- **catalog software upgraded to generalise image detection and remove internal quantisation problem**
- **photometric calibration, restricted colour range, error per pointing nightly average ZP and scatter per filter, reinvestigating Y and Z calibration including Galactic extinction correction terms**
- **PSF fitting slow progress, but major problems now fixed? will improve astrometry as well**
- **persistence investigated, removal impractical, impact negligible?**
- **stacking includes seeing (optional) and sky noise weighting**