OU-NIR Status

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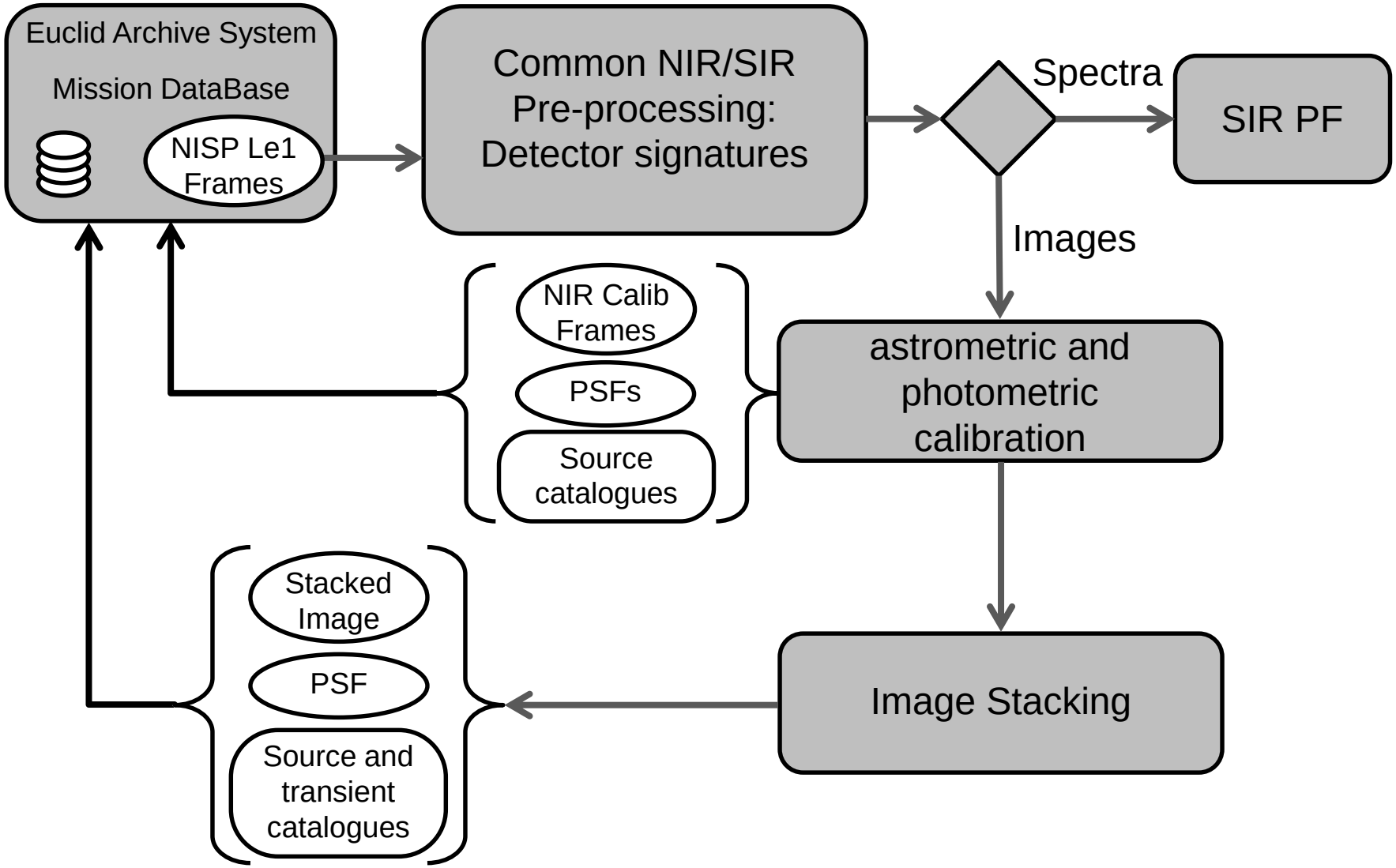
NIR PF: Overview



NIR PF: current status

All “green” PEs are available and have been used in the SC8 Main runs

Available, not used:

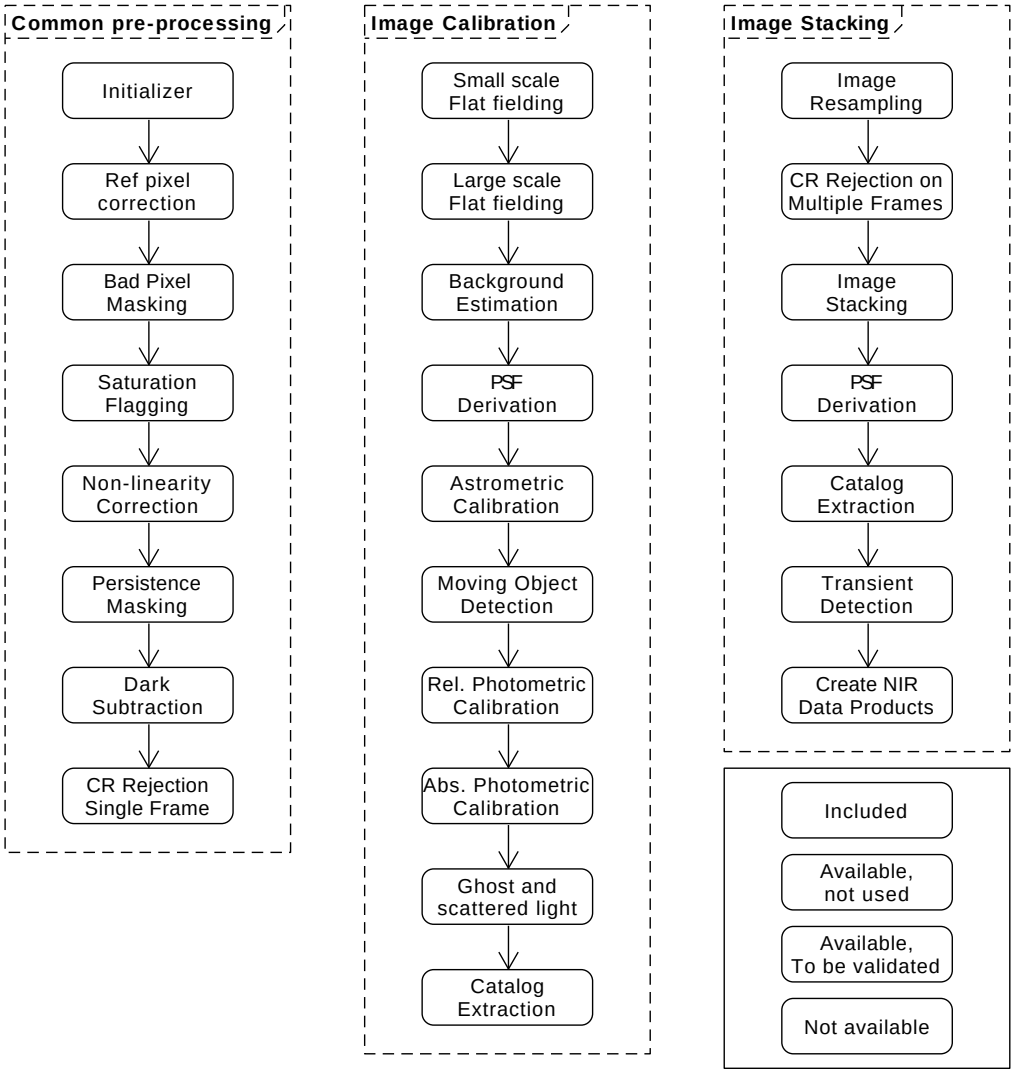
- Ref pixel correction: not needed for MACC acquisition, and all simulations are for MACC mode

Available, to be validated:

- CR rejection Single Frame: on-going.
- Persistence Masking and Ghost and Scattered Light are not yet validated: corresponding effects to be included in the sims

Not available:

- Moving Object and Transient Detection not available yet



NIR Calibration pipelines

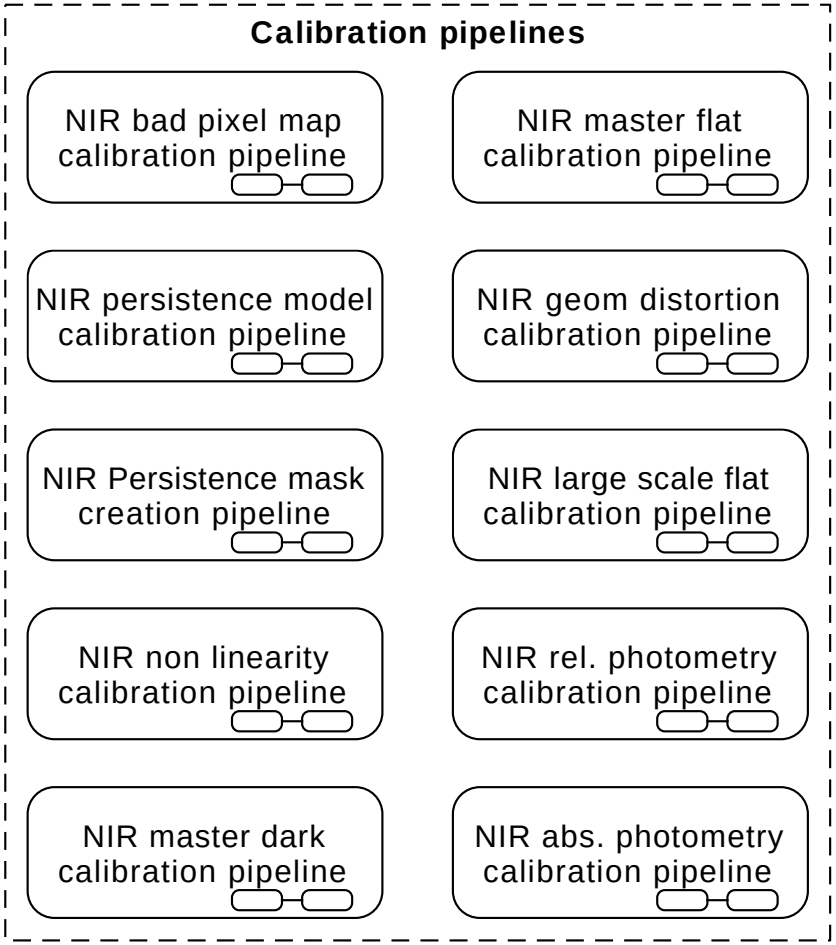
"Green" pipelines have been used to generate calibration products needed by the NIR PF

Available, not used:

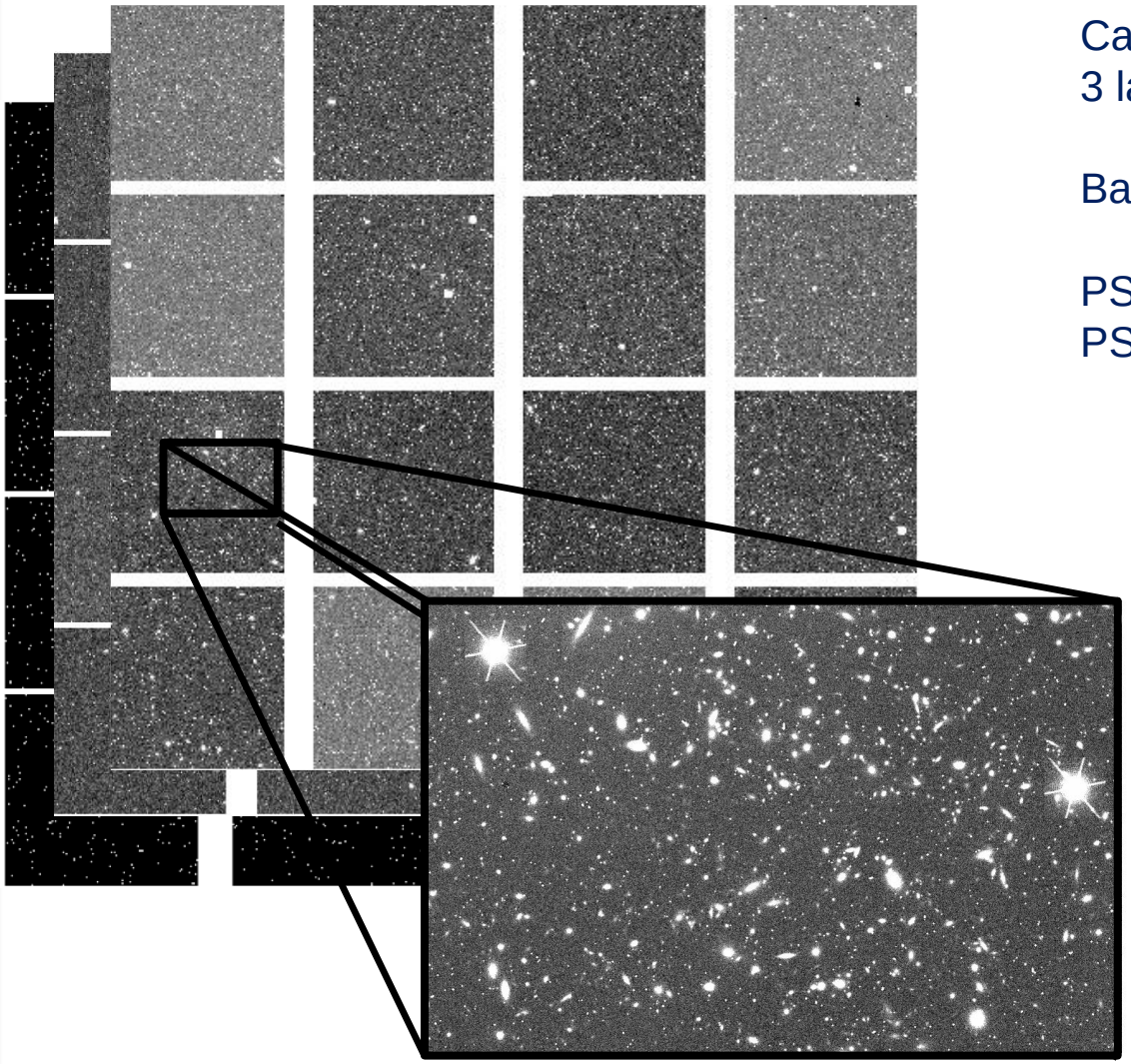
- Non-linearity calibration pipeline, waiting MDB update for new non-linearity model and DM update

Available, to be validated:

- Persistence Masking: corresponding effect to be included in simulated images
- Bad pixel mask split into:
  - front-end: a number of tasks to find individual bad pixel flavours, tested on simulated raw darks and raw flats as well as on lab data
  - back-end: put together various BP flavours to assemble the final bad pixel mask
  - Consistency with IDT ensured



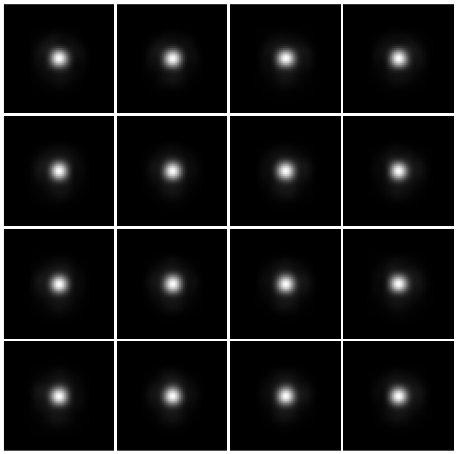
NIR calibrated images



Calibrated single epoch images:
3 layers: science, RMS, DQ flags

Background companion image

PSF image – x6 oversampling
PSF model

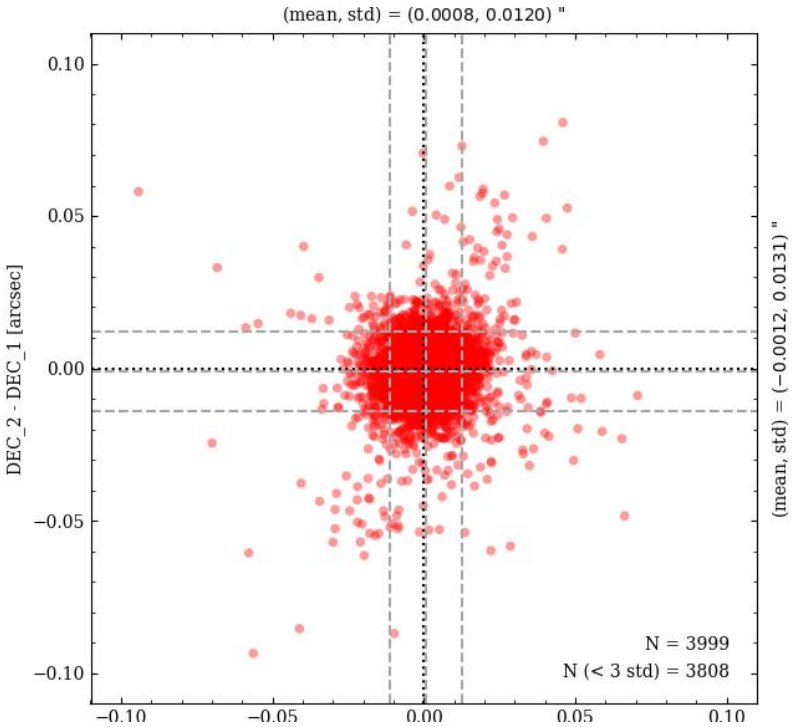


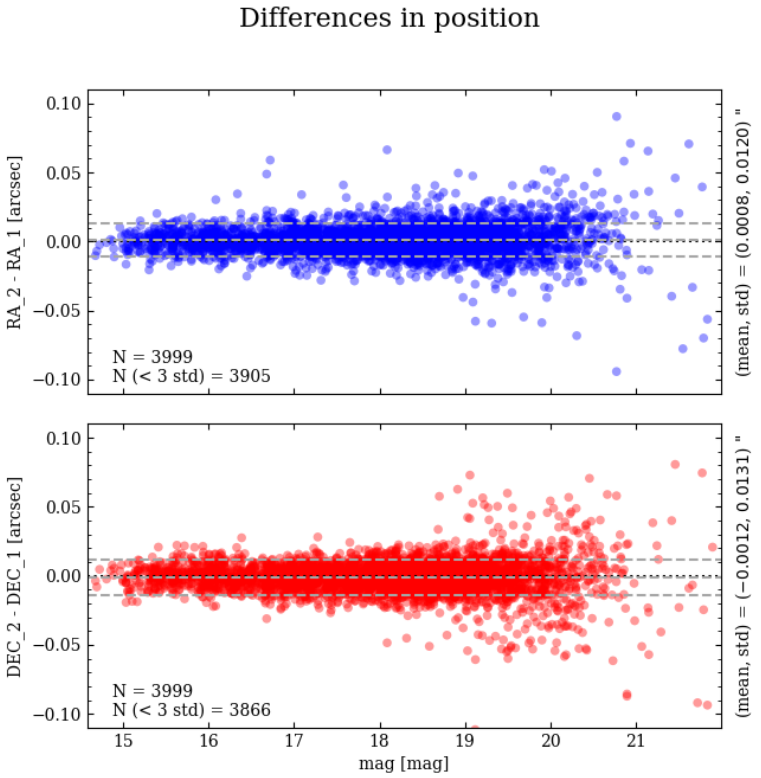
Astrometric Calibration

Based on SCAMP:

- Pre-solution derived on self-calibration field as prior
- Astrometric solution derived for each observation

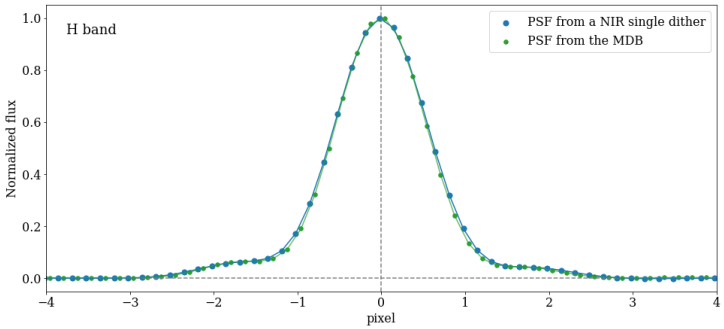
Baseline: VIS catalog as reference



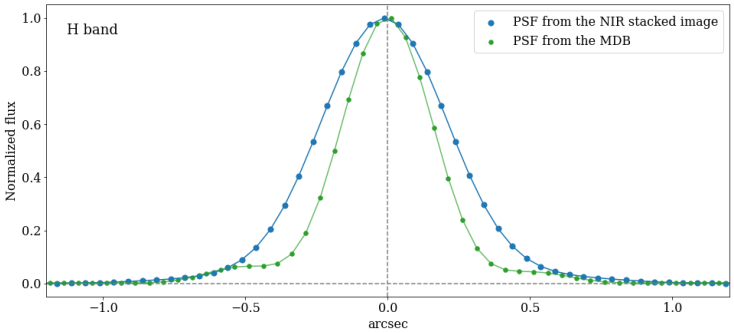


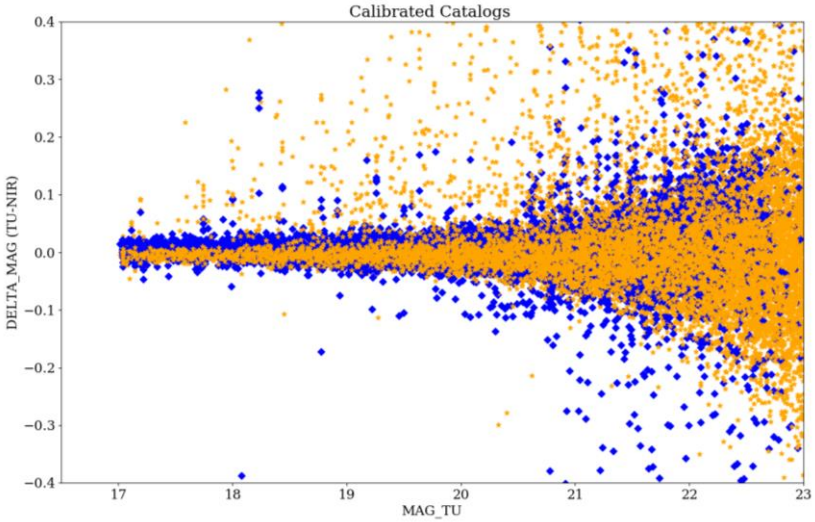
PSF and Photometric Calibration

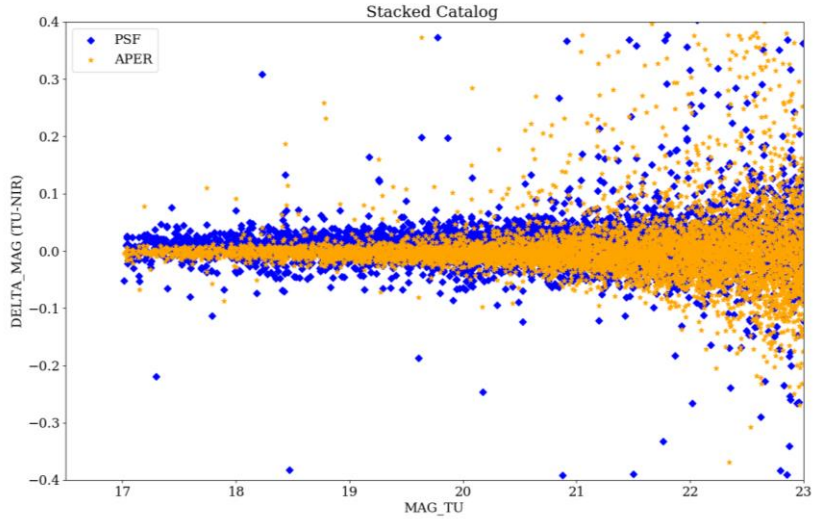
Single epoch images



Stacked images







Conclusions and next steps

NIR PF ~90% complete:

- Ongoing work to improve code and validation
- Adding quality parameters
- Migrating to new EDEN, DM, and MDB

Calibration pipeline ~70% complete:

- Self-cal pipeline being tested also by the VIS PF
- Ongoing work to integrate and validate missing pipelines
- Verifying consistency with the calibration plan
- Preparing for PV phase rehearsal