

Camera Raft Level Tests and Simulations for obs_comCam

Jim Chiang

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Test Stand 8 Raft-level EO Testing

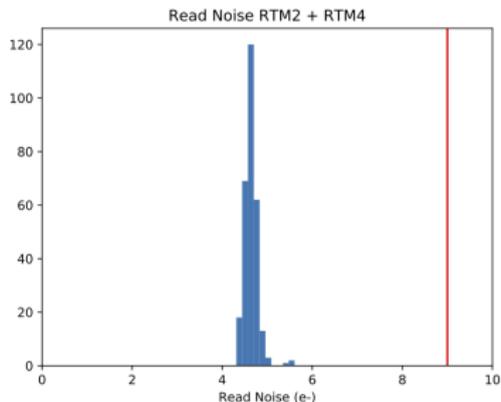
- ▶ Suite of tests listed in [LCA-57](#) (cf. [LCA-128](#))
 - ▶ Tests replicated from TS3: read noise, image quality (bright and dark defects, traps), dark current, linearity, CTE (from EPER), QE, PSF, system gains, PTC
 - ▶ New raft-level tests:
 - ▶ Crosstalk, both intra- and inter-sensor
 - ▶ Average and peak power dissipation
 - ▶ Gain stability on 1 and 12 hour time scales
- ▶ Analysis procedures defined in [LCA-15063](#) (cf. [LCA-10103](#))
- ▶ R&D activities:
 - ▶ Fe55 shape measurements for understanding deferred charge.
 - ▶ ...
- ▶ File format and directory structures defined in [LCA-13501](#) (cf. [LCA-10140](#))

Raft-level Data Access

- ▶ [Data Portal](#) and [eTraveler Runs List](#) (TS8 runs at BNL)
- ▶ BNL's list of [useful TS8 runs](#)
- ▶ [Data Catalog](#) - Direct links to associated datasets are in the individual eTraveler harnessed job pages.
- ▶ Python interface to eTraveler results tables - Richard

Python Access to eTraveler Database (Richard)

- ▶ Python api now under active development, with lots of functionality already in place:
 - ▶ Assembly hierarchy (ASPICs and CCDs in/connected to REBs; in rafts)
 - ▶ Acceptance testing results
 - ▶ Code all in GitHub
 - ▶ Api and derived tools are documented in a [Primer](#)
 - ▶ Lots of example applications in my [GitHub repo](#)



obs_comCam needs and uses

- ▶ TS8 tests can provide gains, read noise, CTI, bad-pixel masks, crosstalk(?).
- ▶ How should we make these data available?
 - ▶ Using the Butler?
- ▶ Camera diagnostics (see [Camera Monitoring & Diagnostic Cluster Session](#)):
 - ▶ PSF monitoring: FWHM, ellipticity
 - ▶ astrometry
 - ▶ sky background
 - ▶ atmospheric transparency
 - ▶ ...

(Simple) imSim simulations for ComCam

- ▶ Inputs to the sims:
 - ▶ OpSim: seeing, night-sky variations, telescope deformations(?)
 - ▶ CatSim: stars, galaxies (for monitoring PSF and shape measurements)
 - ▶ imSim: sensor effects, electronics readout
- ▶ Uses:
 - ▶ Test fixtures for developing diagnostic tools and Camera monitoring test reports
 - ▶ Data format development: Header metadata and directory structure written by CCS will differ for TS8 and ComCam contexts
 - ▶ Pathfinder for higher fidelity simulations needed for [ComCam validation activities](#)
- ▶ Raft-level simulated data in CCS-like format now exists on lsst-dev: `/home/jchiang/comcam` and can be served up by the Butler using `obs_comCam`.
- ▶ Next steps:
 - ▶ Generate more imSim data with CCS-formatting
 - ▶ Get `processCcd.py`, et al., running on them