

Sensor Parameters in Acceptance/Optimization and Characterization/Calibration

Aug. 12, 2014

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Electro-Optical Tests

**LSST CCD EO Acceptance Testing- TS 3-
LCA-10103**

***Image File Data Sets* LCA-128**

Flat Field Exposures
Pocket Pumping Exposures
Dark Integrations
Fe55 X-ray Exposures
Wavelength (QE) scan
SuperFlat
Spot Images
RO system noise Images
RO system Crosstalk Images

Image File Format

FITS file format and hdr keywords **LCA-10140**

Raft Testing

crosstalk
crosstalk stability
gain stability
linearity
Noise

[LCA-10066](#) for all contributions to overall flatness requirement

Image section format

Supporting Data Analysis Techniques
Bias Offset Correction
Illumination non-uniformity Correction
System gain and noise via Fe55 analysis

CCD Specification Verification LCA-128

Read noise
Full Well
Non-linearity
Serial CTE
Parallel CTE
Crosstalk
Dark Current
QE
Bright Pixels
Dark Pixels
Traps
Column Defects
Pixel Response non-uniformity
Point Spread Function

Characterization Evaluation

Sensor Characterization

Crosstalk vs. Readout Rate

Tearing - surface inversion study (Fast Clear)

Bright Defects vs Temperature

1, 2, or 3 phase charge collection and pixel correlations

Charge Correlation vs. Backside Bias voltage

Gain and Noise vs OS current load

Sensor "Features"

Brighter/Fatter

ITL/STA CL Anti-Blooming Implant Doc-14303

Photometric Effects at Per. of E2V Doc-14323

PE of Blooming Stop Implant of E2V Doc-14324

"Dim Row" in E2V Doc-14325

Image Persistence in E2V Doc-14326

E2V Response to light intensity Doc-14327

Amp-Amp Crosstalk in E2V Doc-14328

Photometric response of STA1920A Doc-14329

SpotScan probe of edge Effects in E2V Doc-14330

Tree Rings in flat data for E2V Doc-14331

Sensor Calibration

Using DM Stack for characterization

Cosmic Ray & darks-Muons/gam's (DM stack)

flatness characteristics

fringes (thickness effects)

brickwall pattern

detailed QE Measurements

detailed pixel defect maps

Fe55 gain stability tests over time/temp

CCD Effects on Lensing Systematics

CCD Effects on Shear Residuals

Raft Level Crosstalk

TS 8 will have CCS/DAQ/DM software

will be scripted to be used in an automated sequence

Readout

Noise vs Pixel Readout Rate

Gain and Noise vs. VOD and VRD

Linearity vs VOD and VRD voltages