Req 5.3.6

Title:

CCD hysteresis, strong signal

Objective:

Quantify the effect of CCD signal reminiscence at timescales *larger* than 60 sec.

Reminiscence of a strong signal (a saturated star) in subsequent observations ("ghosts") is a potentially debilitating problem for data reduction and interpretation. The absence of this effect should be verified by observations of very bright objects and subsequent dark exposures.

If "sources" are detected in the dark frames at the pixel positions of bright sources in the first field, signal reminiscence is a problem, which can be characterized by the decay time of a strong signal.

Fulfilling or fulfilled by:

Selfstanding

When performed/frequency:

Commissioning.

Sources, observations, instrument configurations:

Observe a field containing very bright objects followed by a few dark exposures. Number of dark exposures to be determined by experience. Do this on more chips to be determined by experience.

Outputs:

When significant effect is detected:
CalFile– 536 *CCD Hysteresis*, containing the signal decay time.

Estimated time needed:

2 hours

Priority:

desirable

TSF:

Mode– stare N=2
TSF– OCAM_img_obs_stare and **TSF– OCAM_img_cal_dark**

Needed functionality:

catalog - associate
misc - plotting

CA:

First, quick look analysis on RTD.

Subsequent: process the bright field with standard image pipeline.

Then continue with interactive procedure. Select the bright (saturated) objects from the catalog of the bright field. Use the pixel position of these sources to inspect the corresponding positions in the dark frame. In case reminiscent signal is detected: plot the source magnitude as function of time (exposure number), and measure the decay time. If reminiscence is detected, repeat the experiment with more dark frames and determine decay-times.