

Calibration meeting (TID/LCLS Ops) - 6/28/2023

Current primary objectives:

1. Understand the root cause for the non-linearity (checker mark) observed for the ePix10k small detectors (on hold for beamtime);
2. Develop the backplane pulsing system;
3. Investigate the relative gain ratios for the ePix10k2M to understand the effect of applying per pixel gains to correct the switched gain tiger-teeth pattern (ties into the work with the Berkley grup);
4. Effect of increasing the ACQ/R0 windows, and the CompEnOn window length, on the tiger-teeth pattern;
5. Develop and apply Gabriel's calibration method for the LCLS detector.

Topics to discuss during the meeting (progress):

1. Progress for the past week:
 - a. Progress in getting the pulser system up and running at ASC - Xilinx cards have been flashed;
 - b. Relative gain ratios;
 - c. ACQ window increase testing;
 - d. Gabriel's calibration method;
 - e. any other business;
2. Preparation for beamtimes:
 - a. The following beamtimes have been approved:

Camera testing	Station	Dates	Objective
ePix10ka small and 2M	MFX	13 and 15 July	Verify we understand the checker mark problem with the ePix10k small and 2M.
ePix10k smalls	MFX	July 21	Retake the calibration data needed to come up with calibration constant for these cameras.
ePixHR	MFX	Aug 29, Sept 14+15	Evaluate the operation and performance of the ePixHR detector (ideally ASIC v4)

- b. Beamtime setup;
- c. DAQ scripts;
- d. Direct python visualization during beamtime;
- e. Oscilloscope setup;
- f. anything else?
- g. Initial ePixM test plan for the non-back-thinned and back-thinned prototypes. Test plan to be discussed can be found here: [1.4.8. Performance evaluation](#)

Meeting notes: