PREX GEM data analysis update

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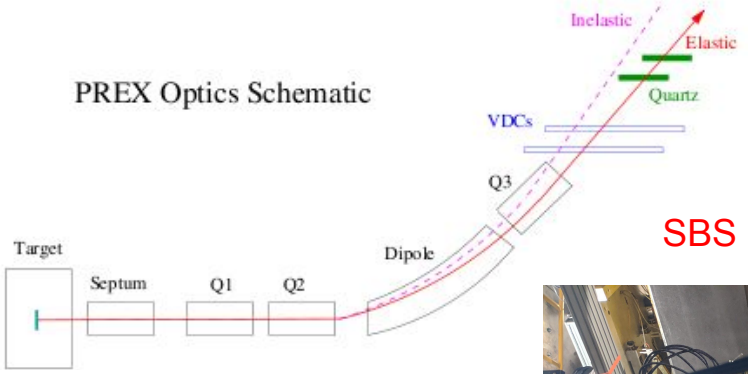
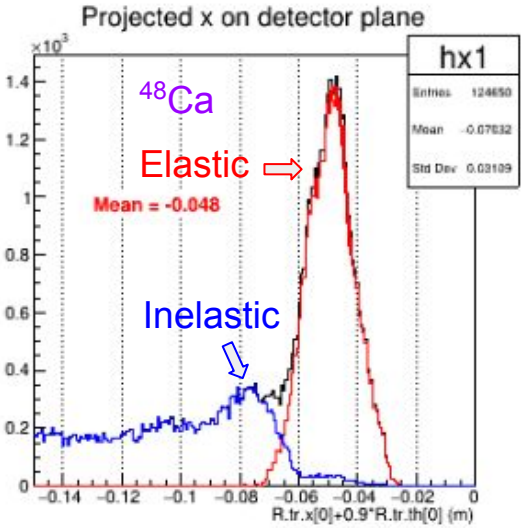
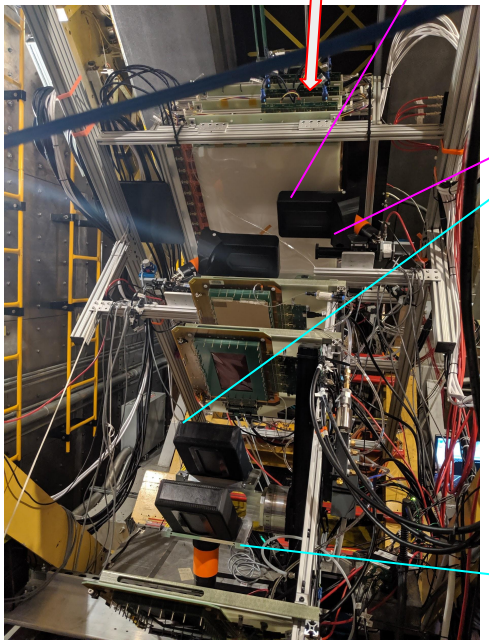
(On behalf of PREX/CREX collaboration)

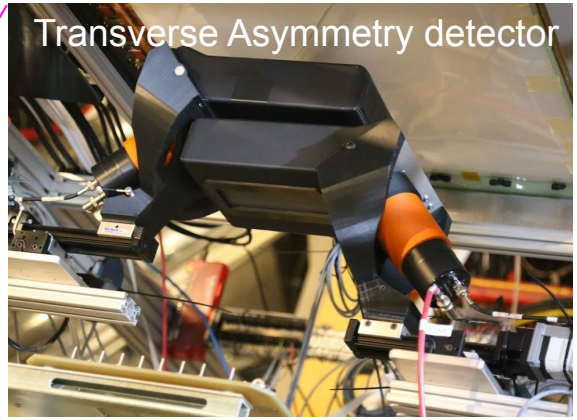
Detectors

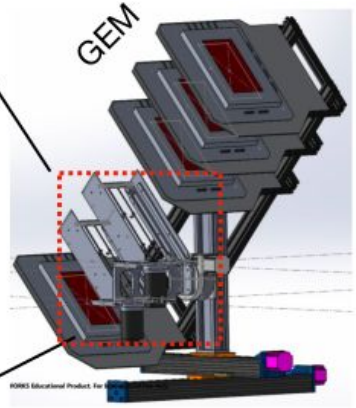




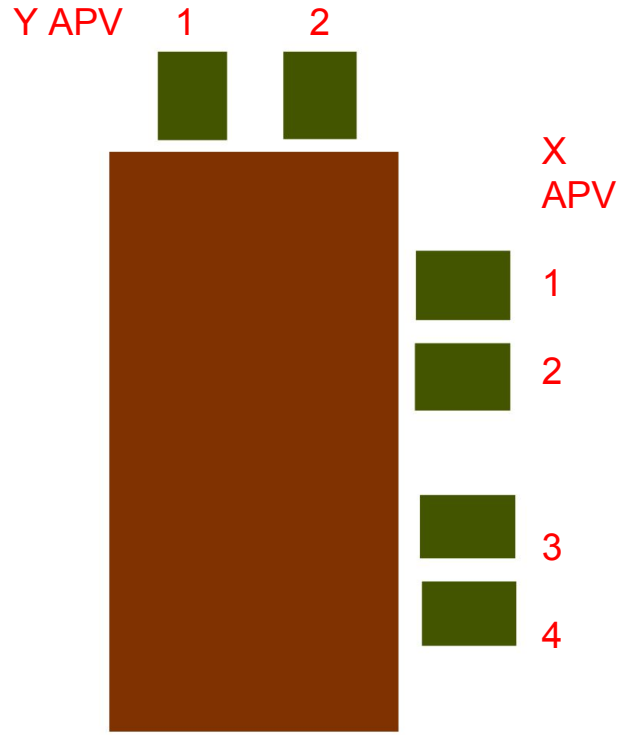
SBS GEM dets





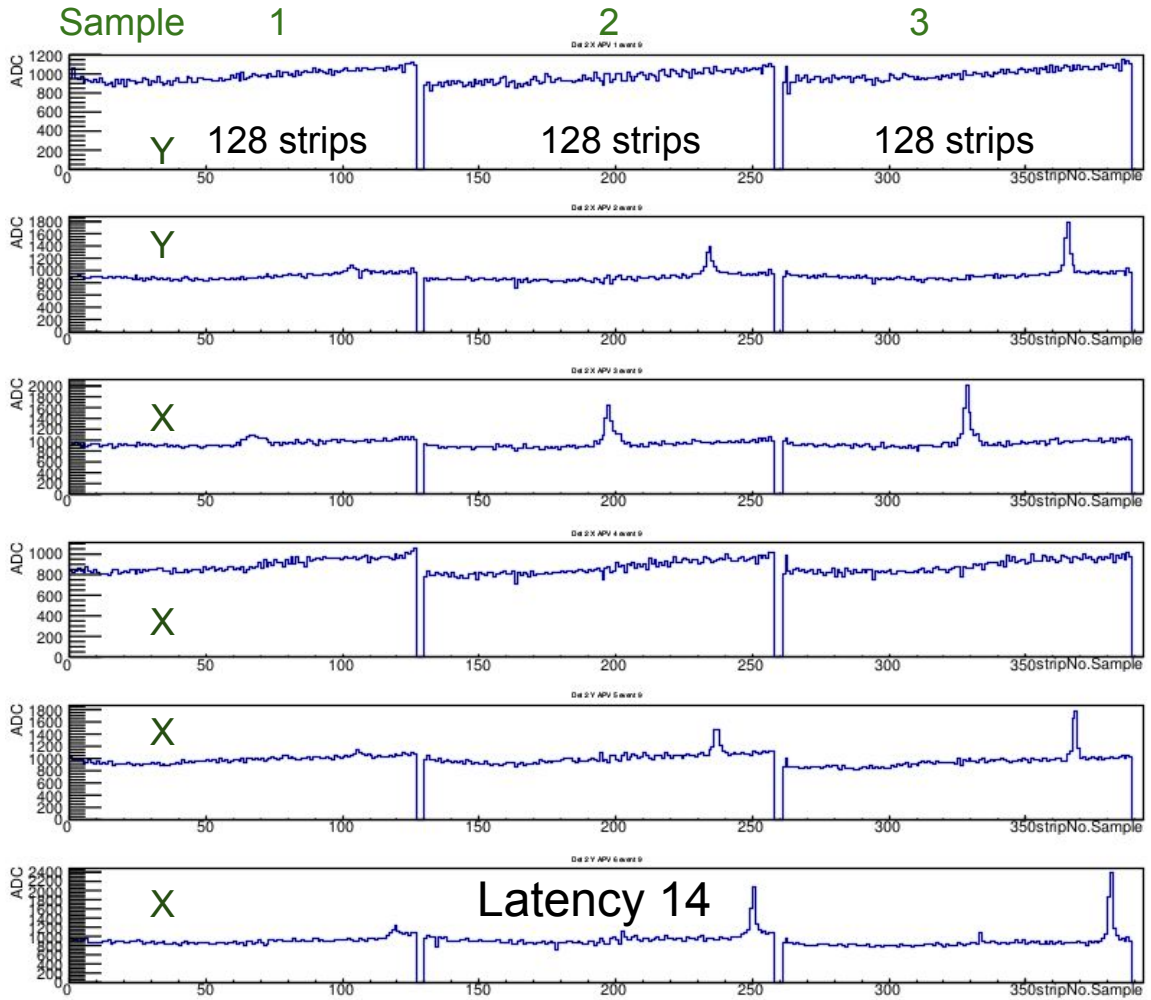


D. McNulty

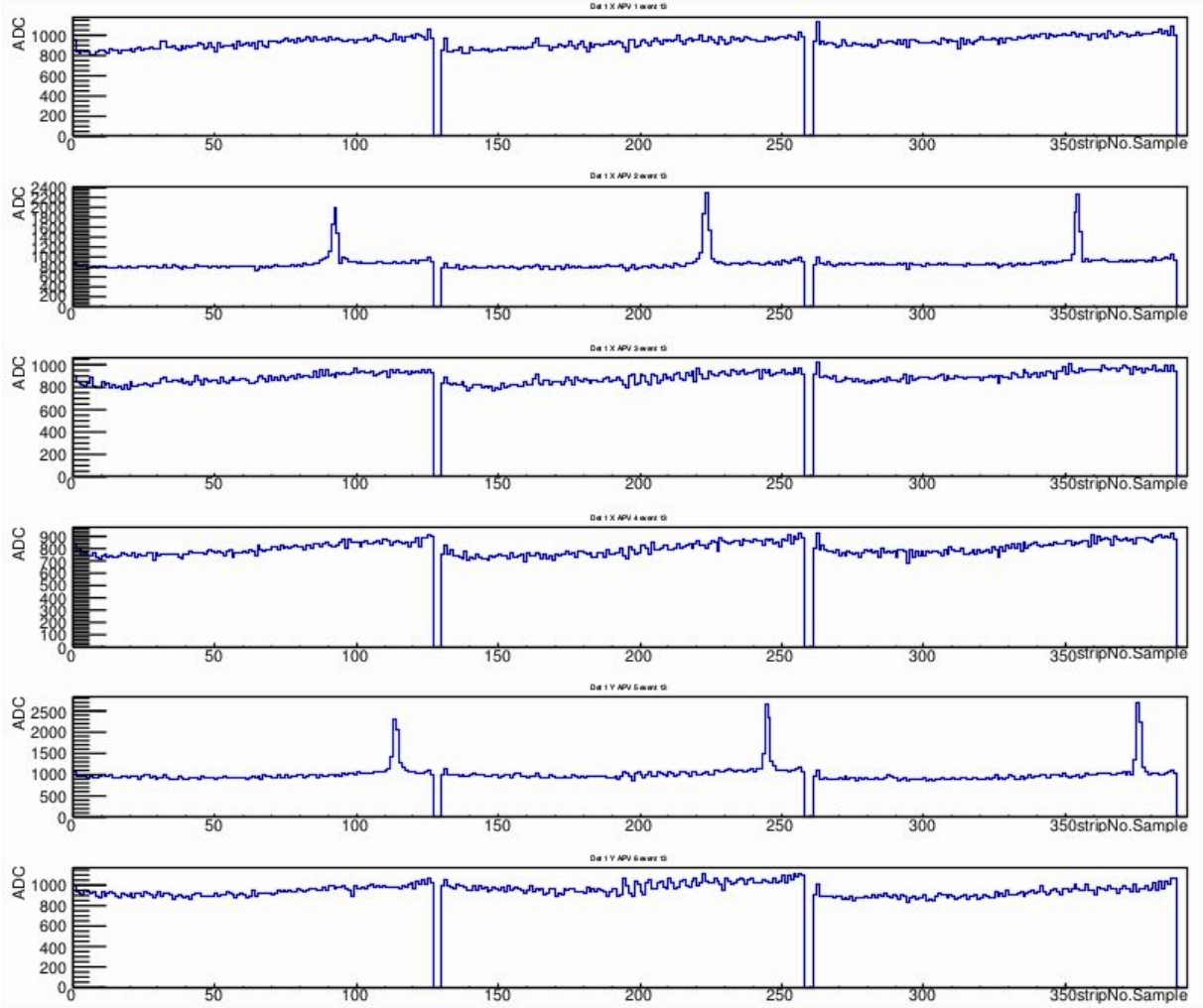


Schematic of one GEM Detector

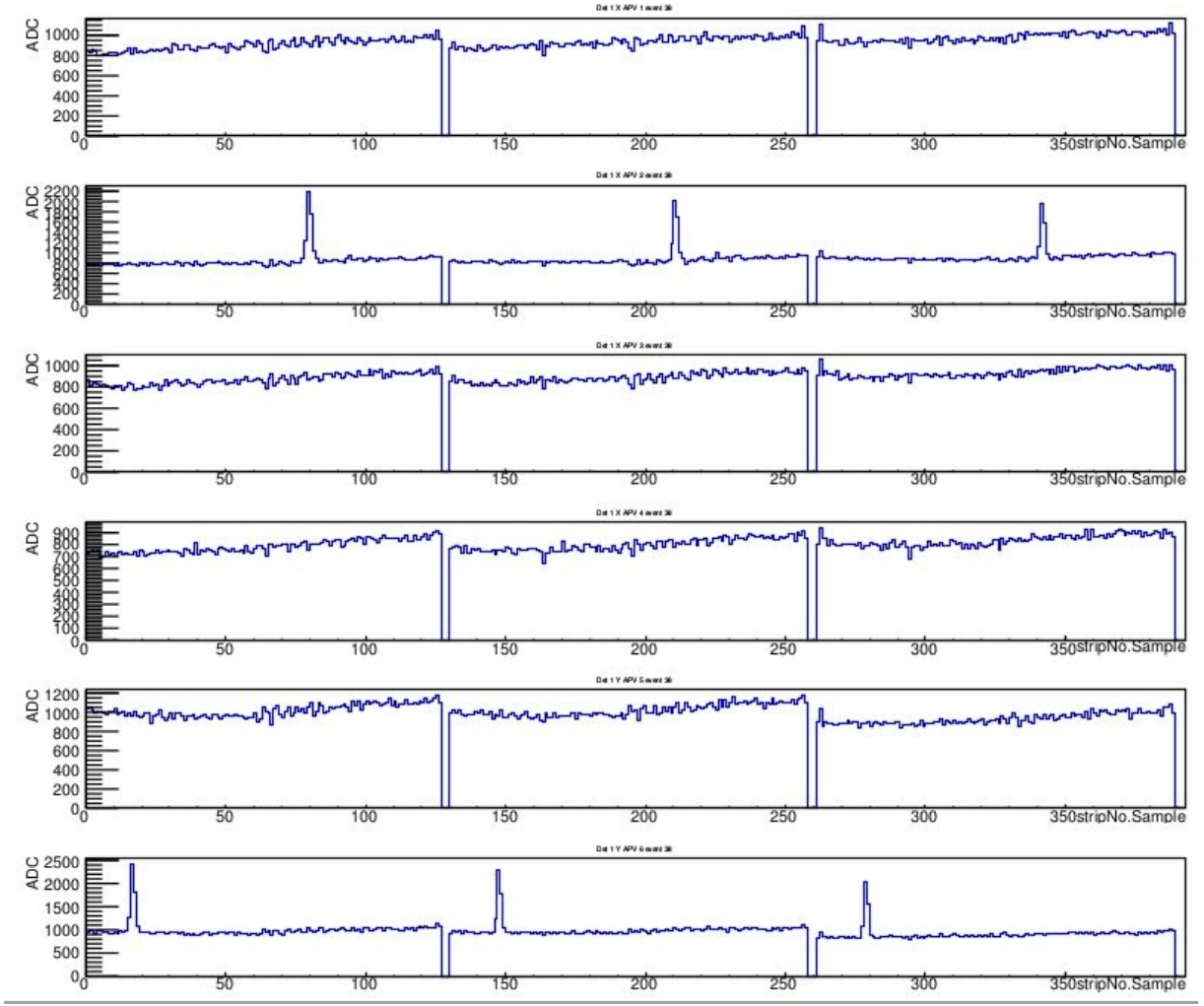
Only three samples/strip



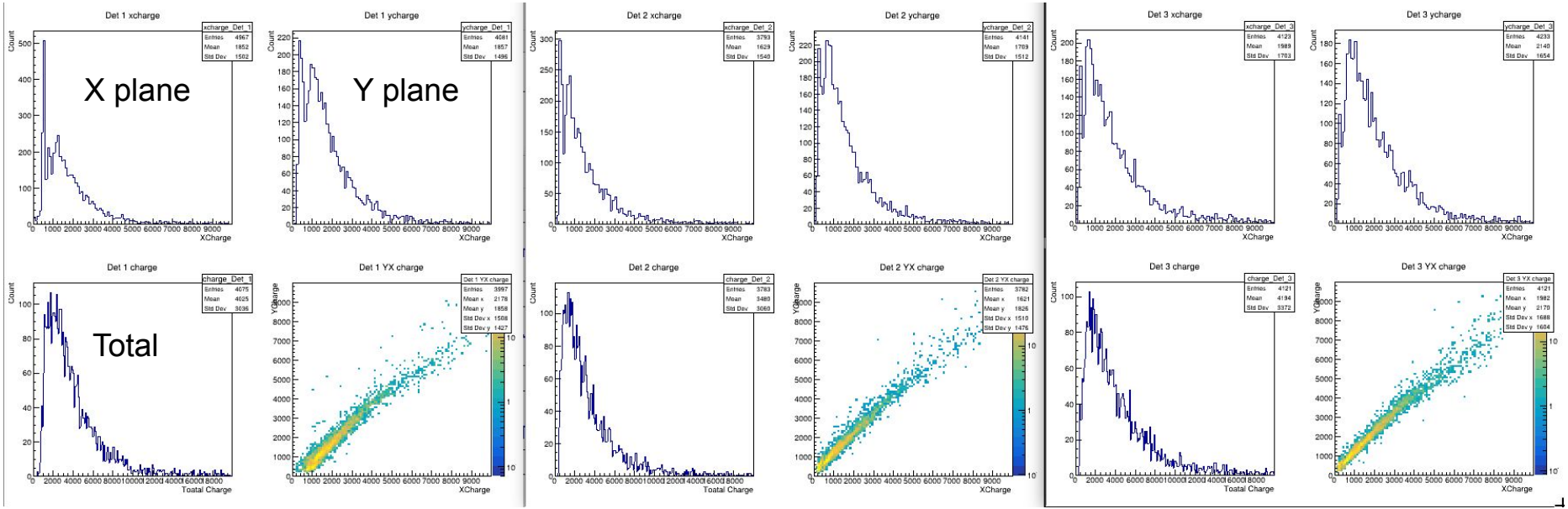
Latency 13



Latency 12

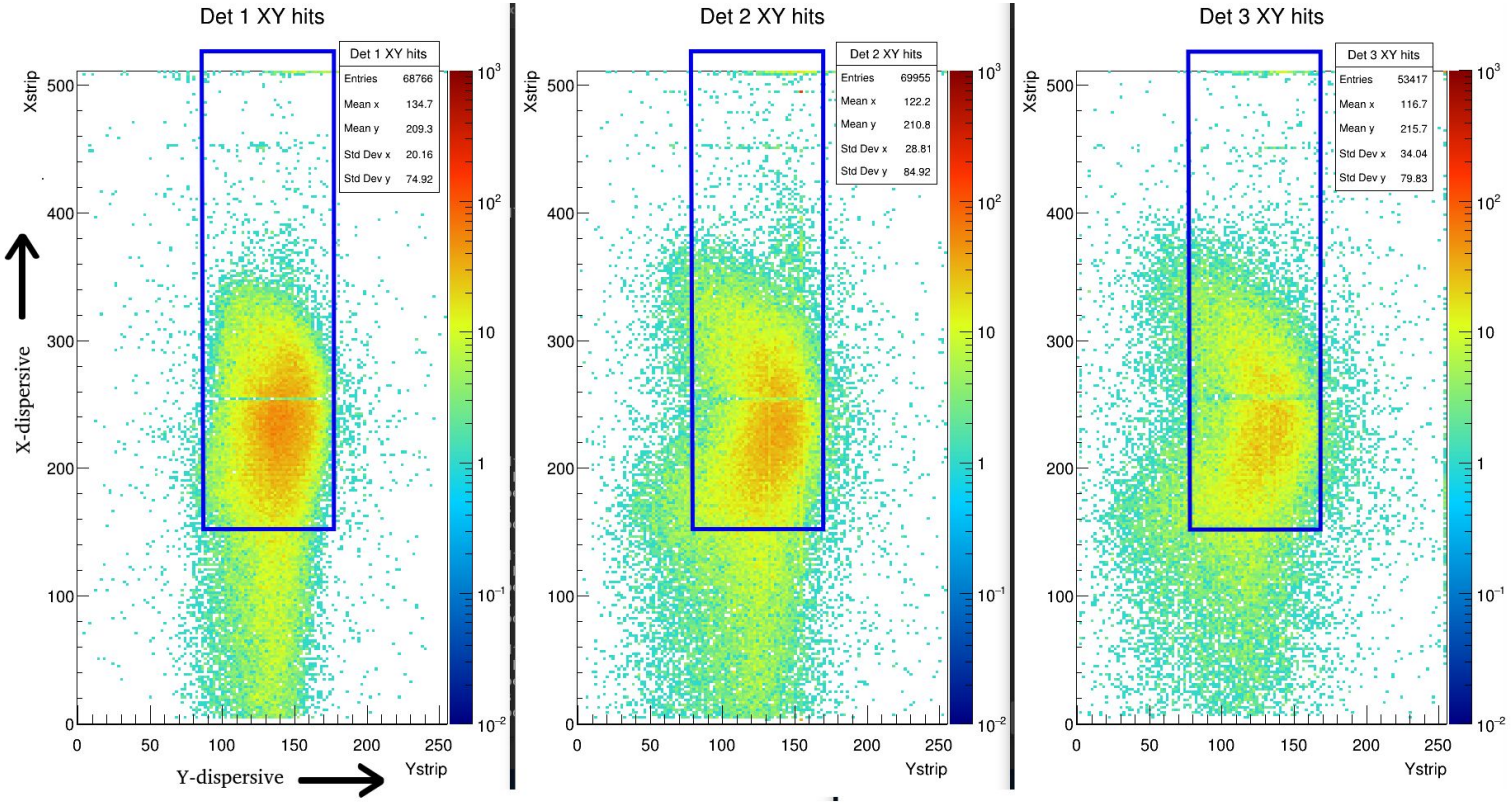


Charge correlation between two planes

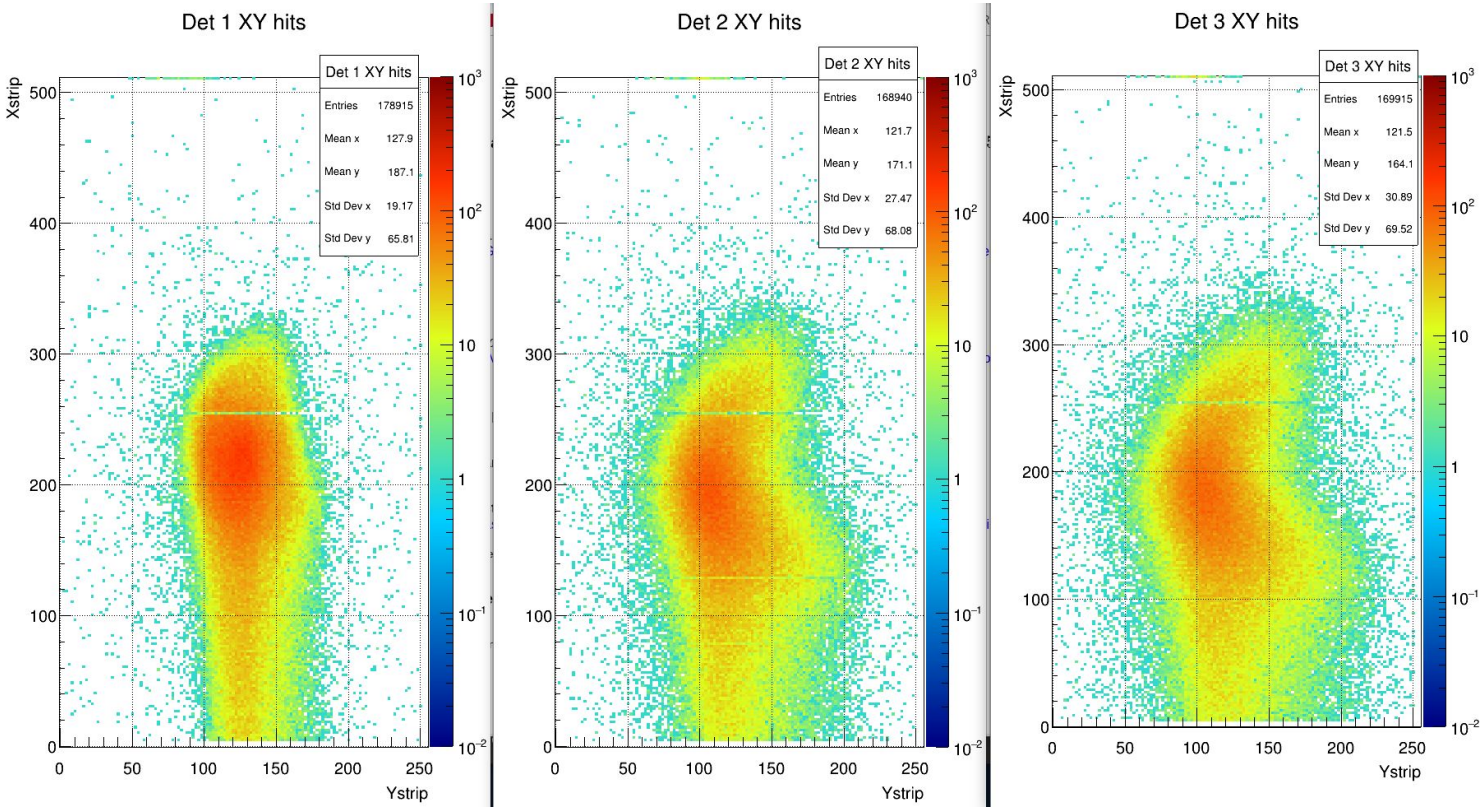


Detector 1 Detector 2 Detector 3

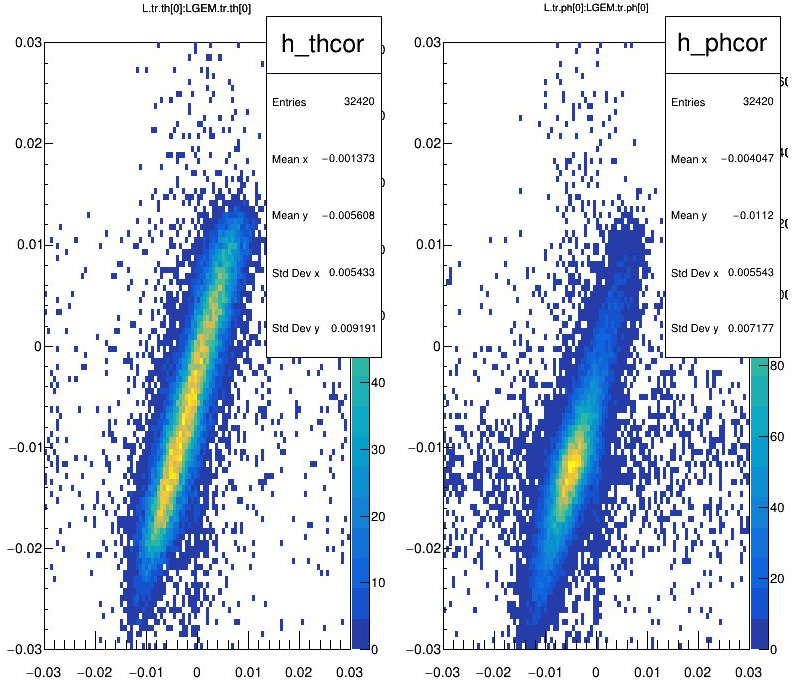
Hit Distributions of GEM detector planes:LHRS

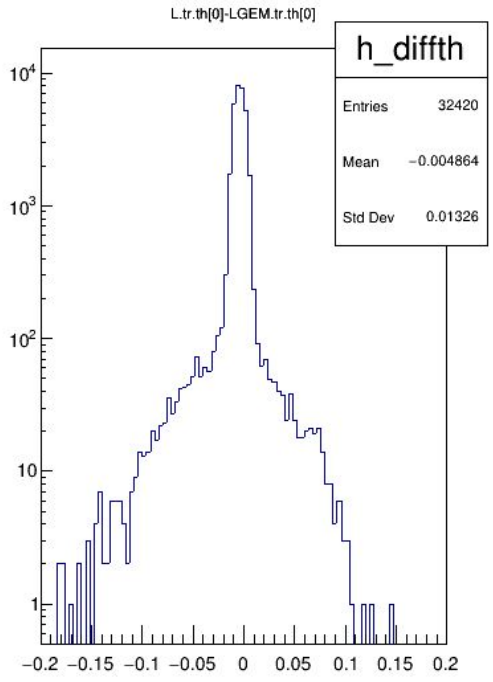


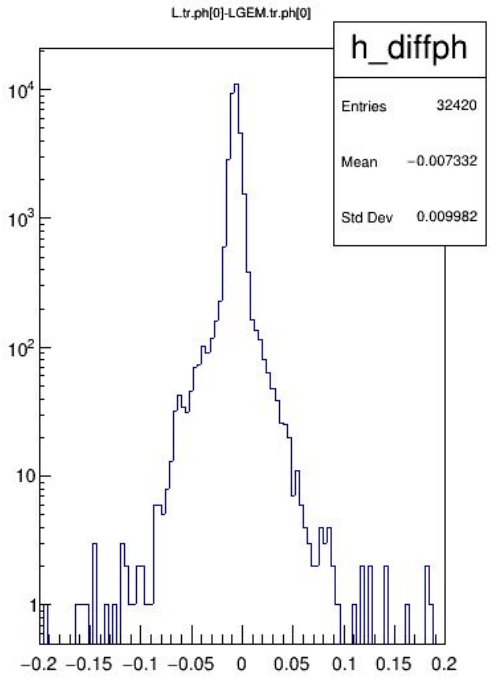
Hit Distributions of GEM detector planes:RHRS



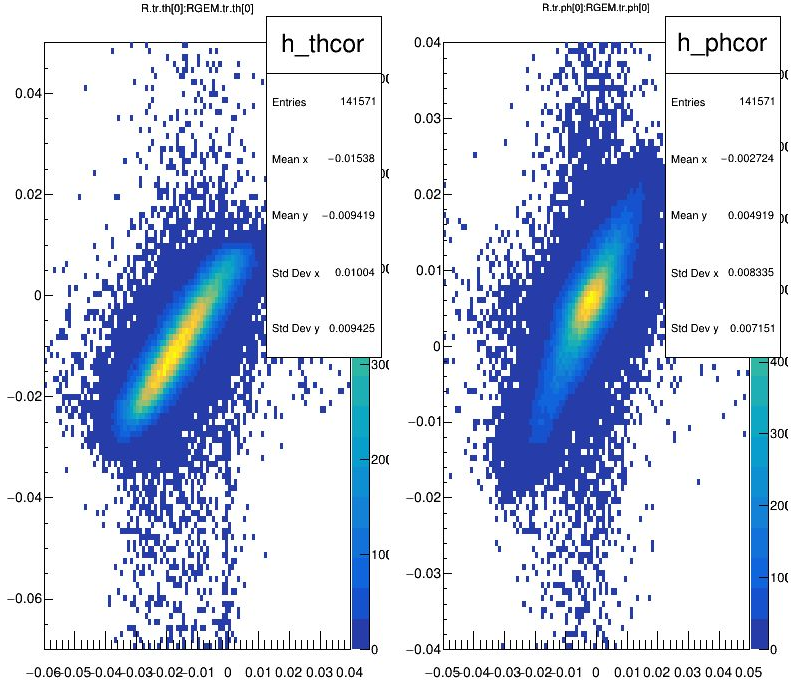
LHRS: VDC vs GEM Theta-Phi correlation

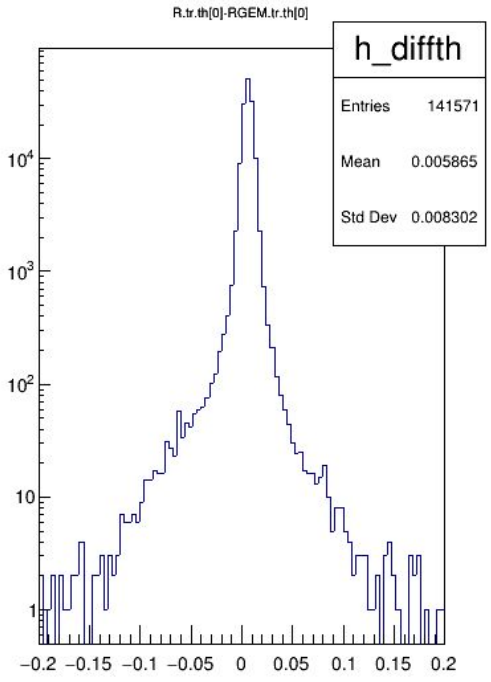


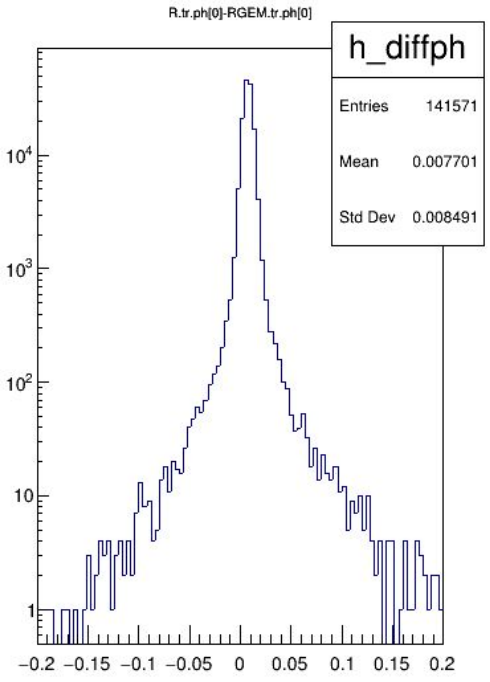




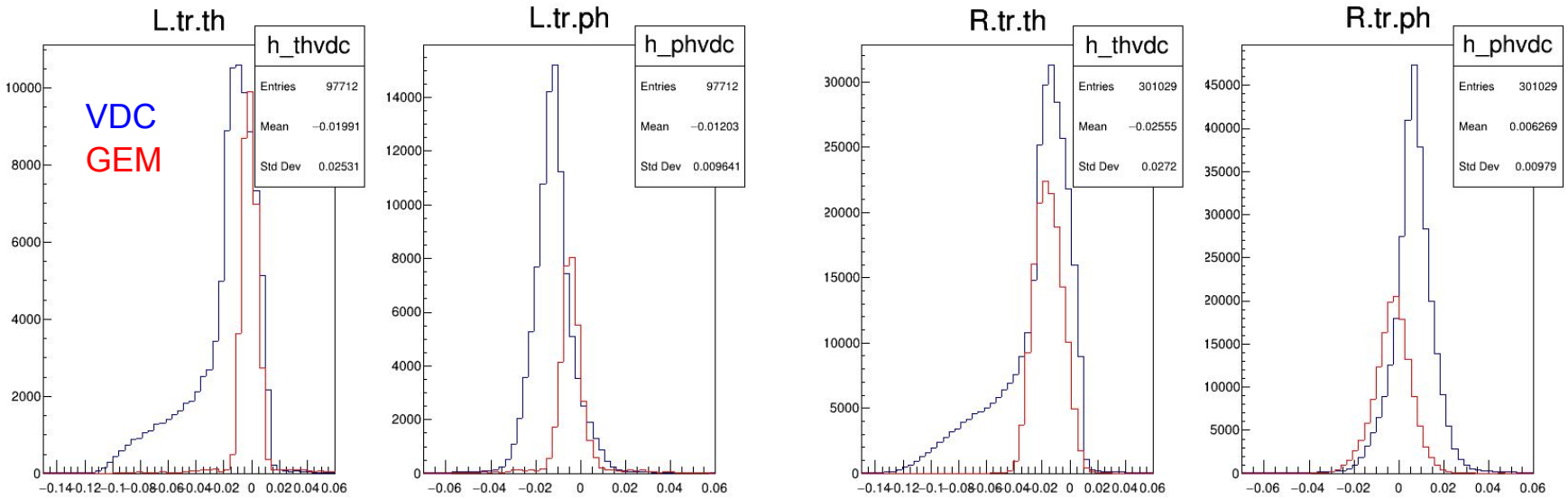
RHRS: VDC vs GEM Theta-Phi correlation







Theta-Phi:VDC (Blue) & GEM (Red)



- GEM detector's offsets need to be adjusted - Use VDC as reference
- Missing radiative tail - Investigate GEM tracking further

Issues and path forward

- analyzer: Can’t handle the maximum number of channels required for GEM setup in the HRS.
- Still using local copy of analyzer - the analyzer on a-onl machines doesn’t work.
- Use VDC as reference and align the GEM detectors.
- No Sieve data with the GEM detectors exist. We have to project GEM tracks to the VDC focal plane and use VDC database for reconstruction
- Analyze the large GEM detectors data too