

Test lab GEM stand

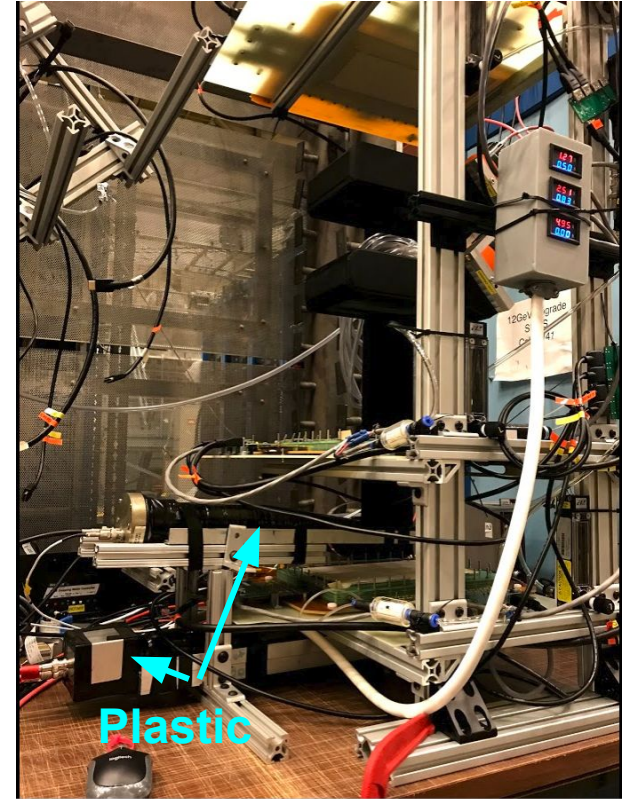
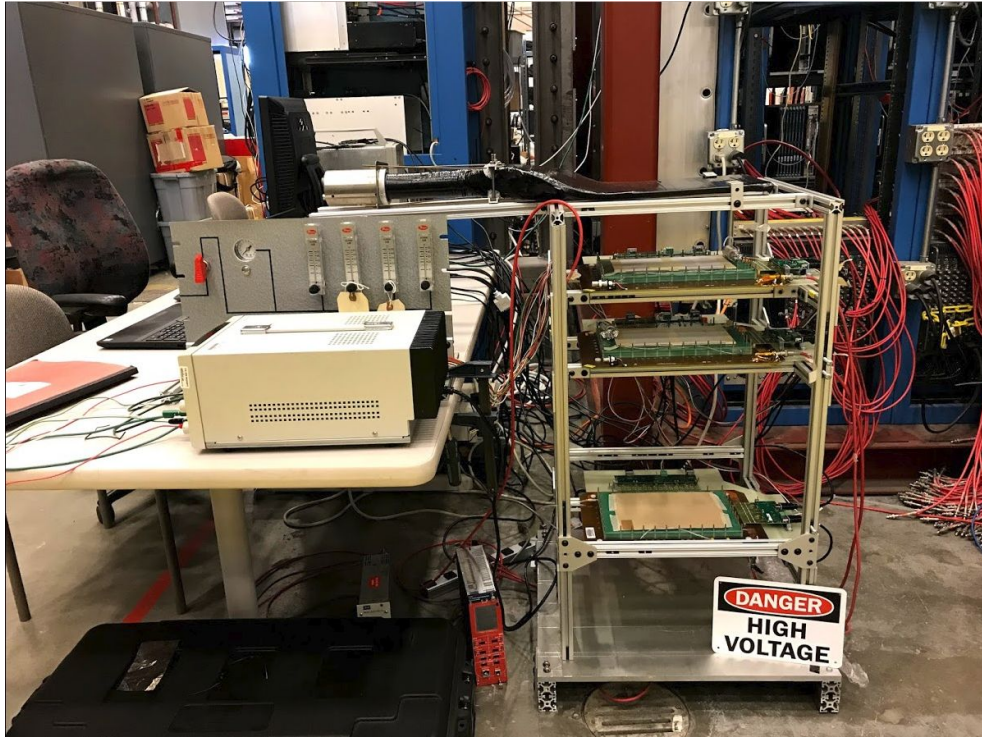
Chandan Ghosh

February 1, 2019

Hardware update

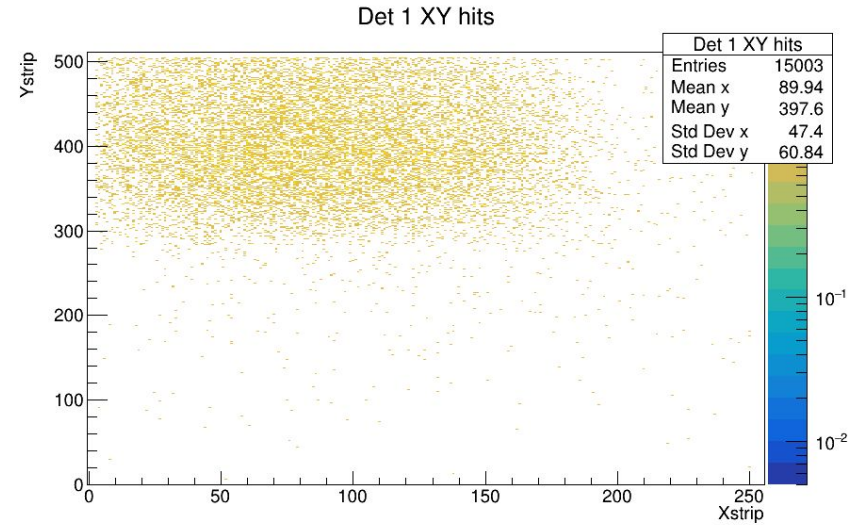
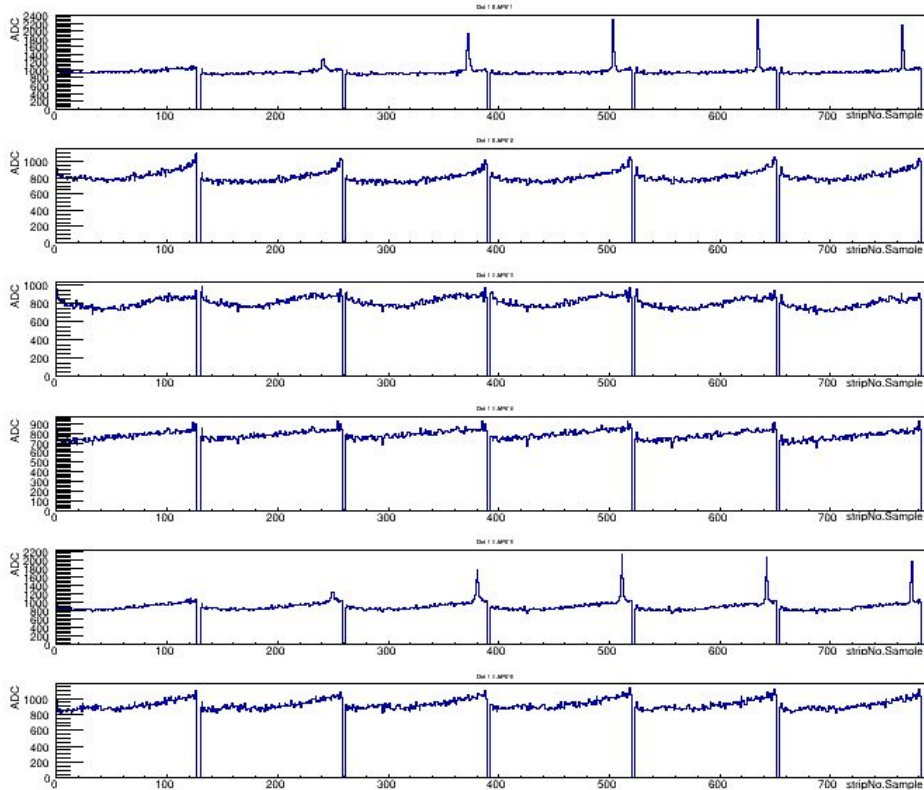
- With QDC in the ROL, there are problems of missing trigger and event word mismatch. Without QDC, I could take three GEM detectors data with cosmic using ISU setup. With SBU setup, the problem happens randomly!!
- Gas leakage problem is still there - send email to the engineer - didn't hear from him.
- Three GEM detectors are placed on SBU stand, ready to go (except gas connection)
- Borrowed a TIR module from Bob for the SBU DAQ.

Setups: SBU stand and latency scan setup

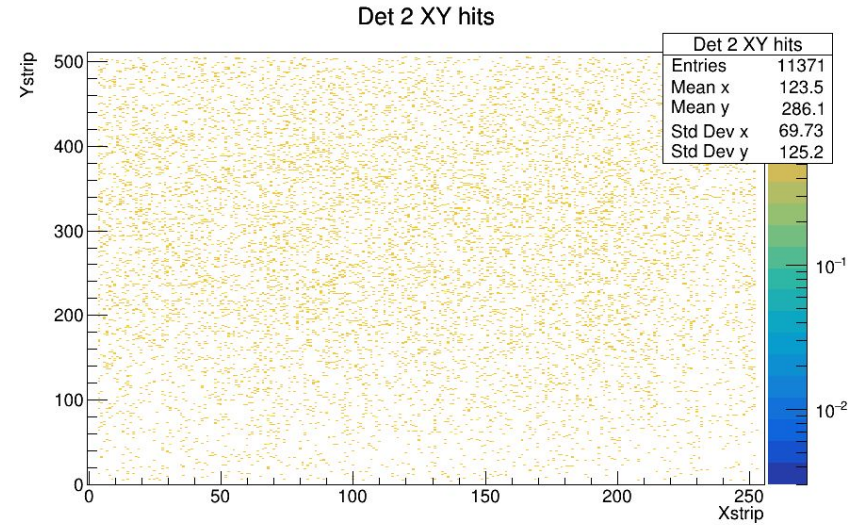
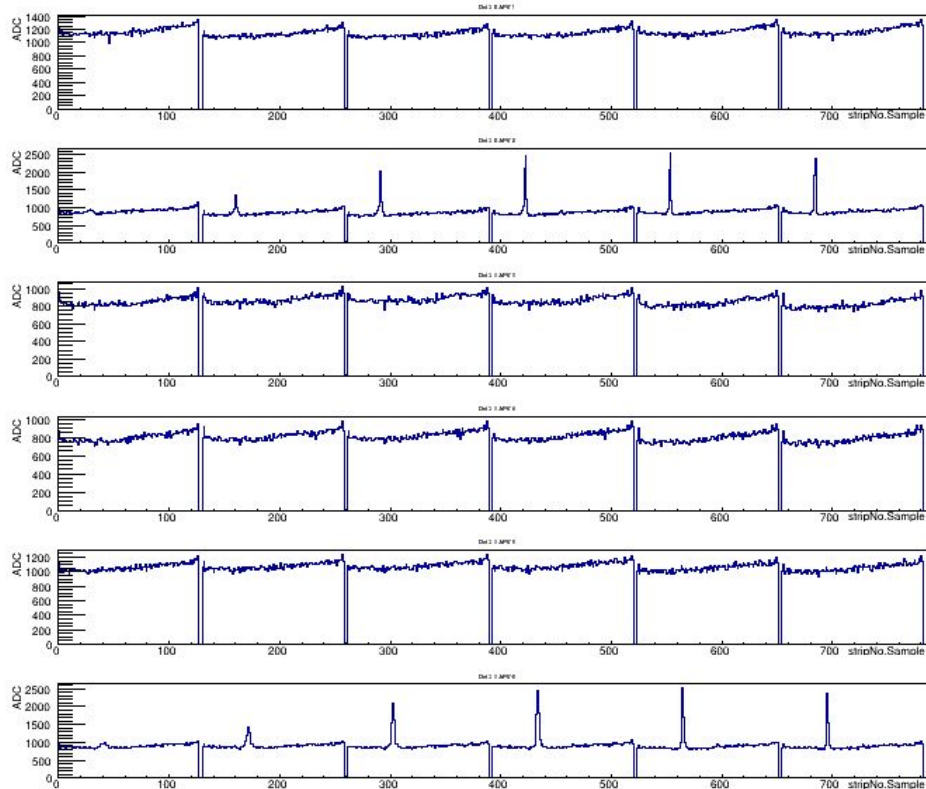


- ❖ Latency for the present setup is 12 (*25 ns)

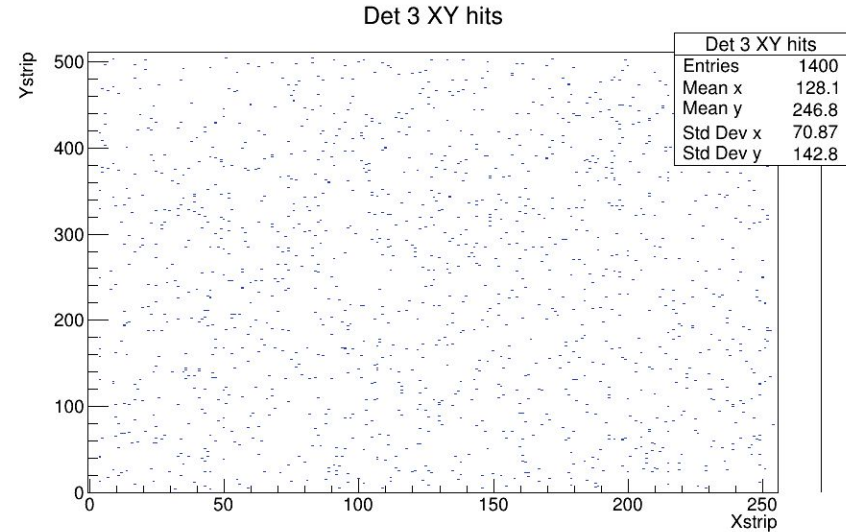
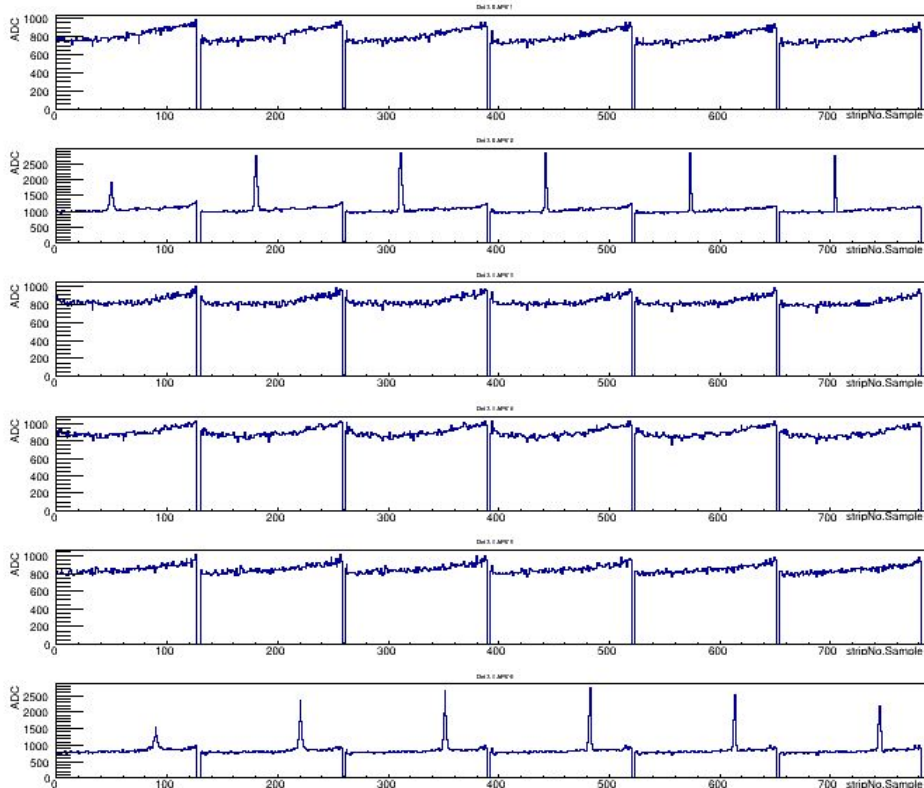
Single Event hit distribution over strip: Bottom detector



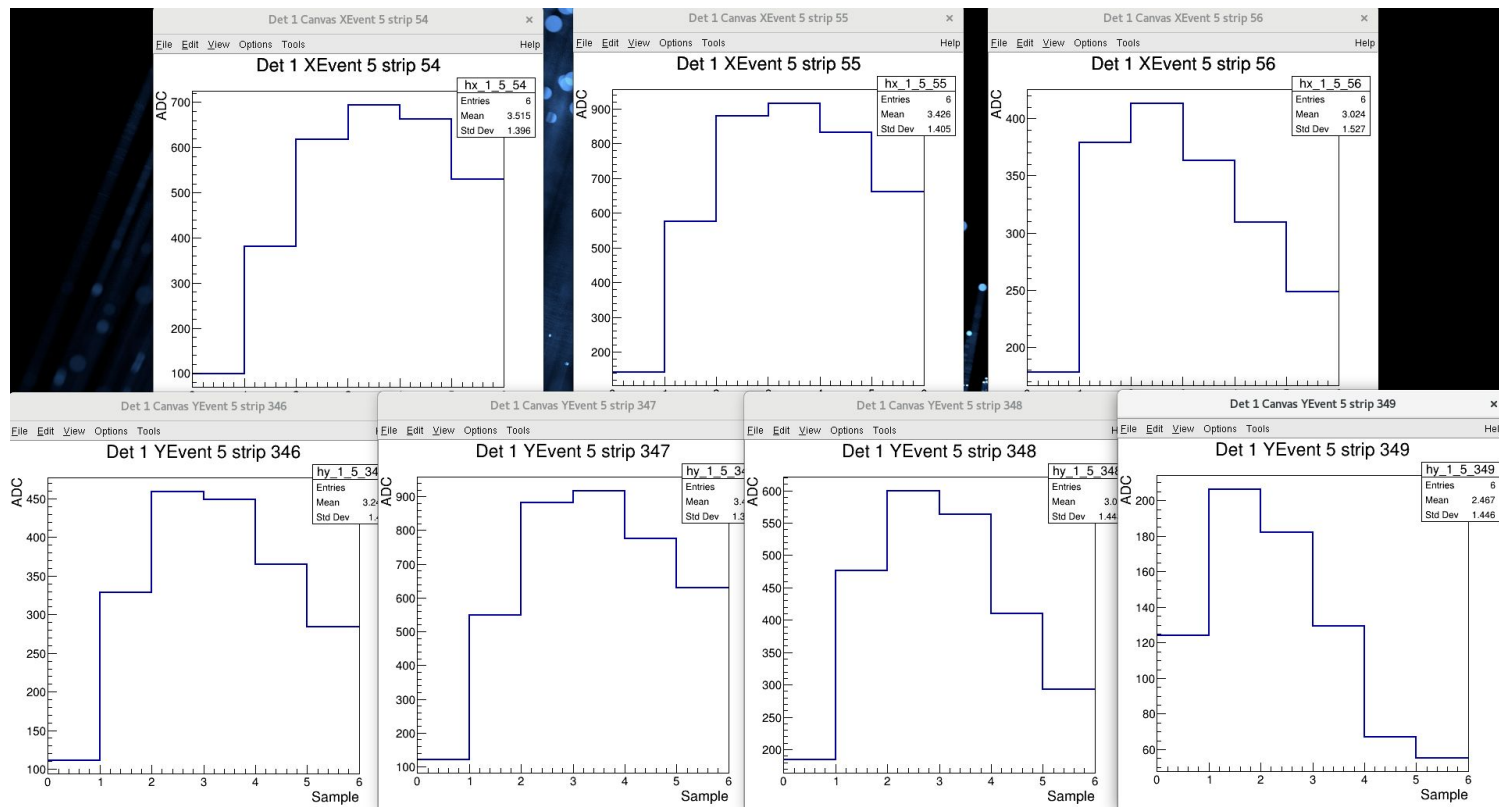
Single Event hit distribution over strip: Middle detector



Single Event hit distribution over strip: Top detector

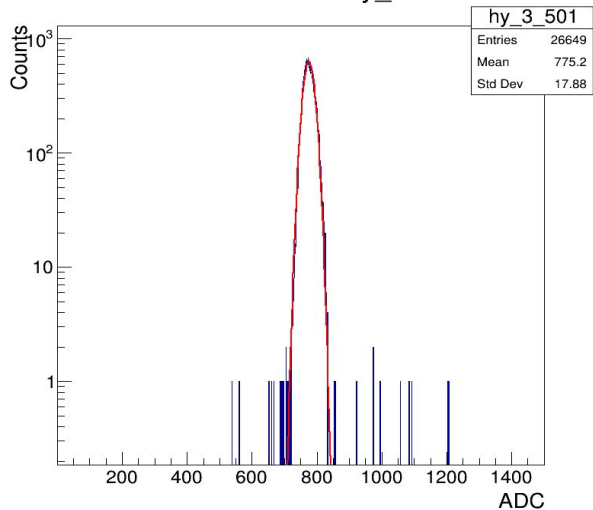


Single event sample distribution

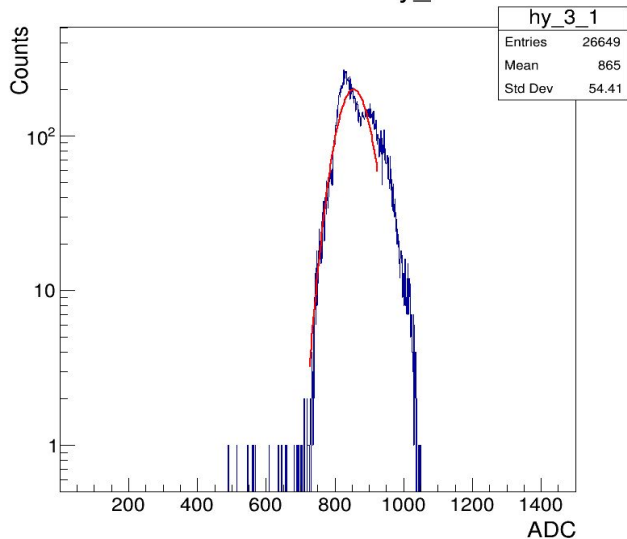


Pedestal top detector

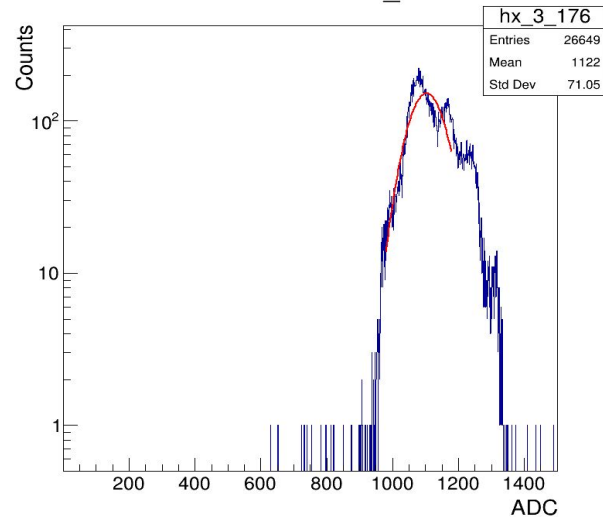
Det 3 Pedestal y_501



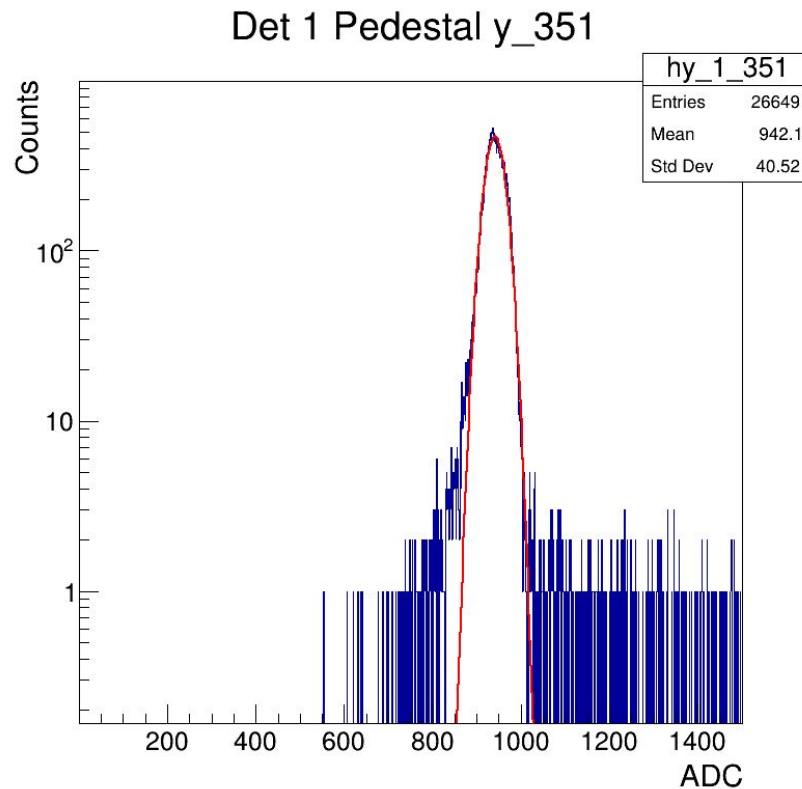
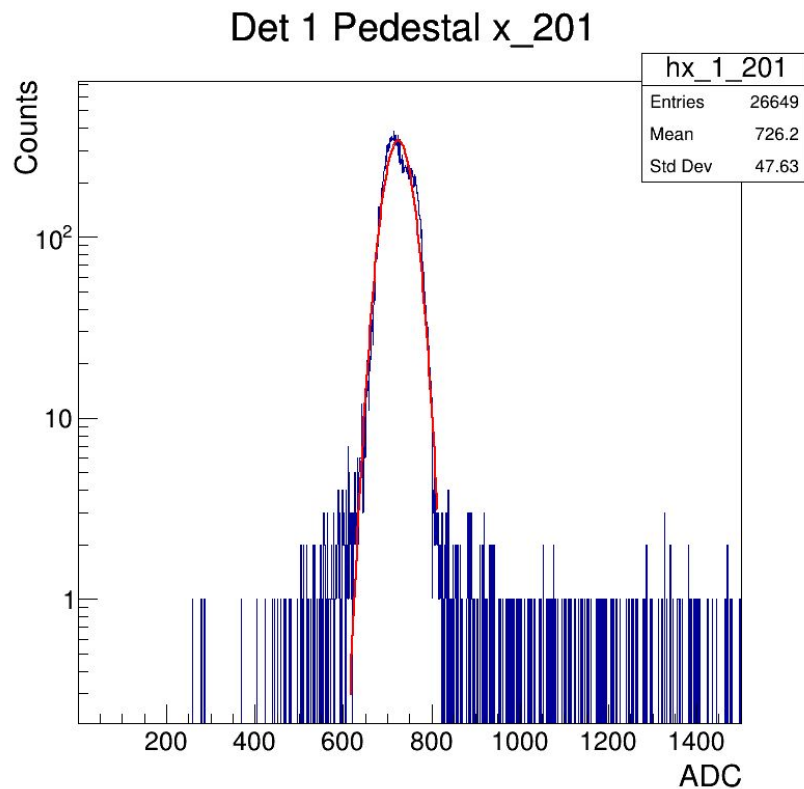
Det 3 Pedestal y_1



Det 3 Pedestal x_176

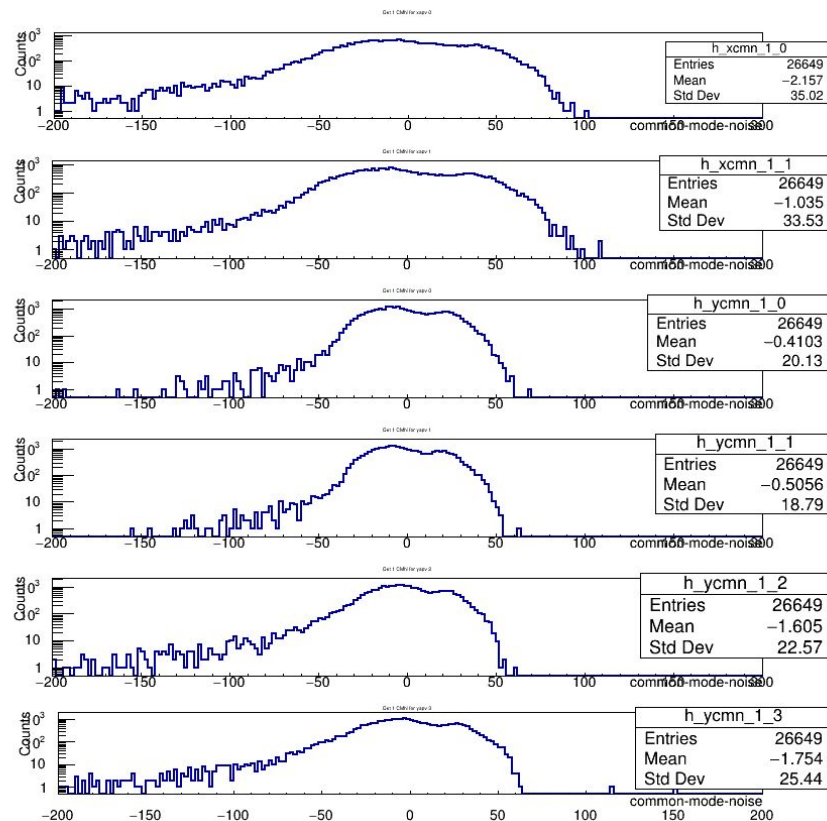


Pedestal bottom detector

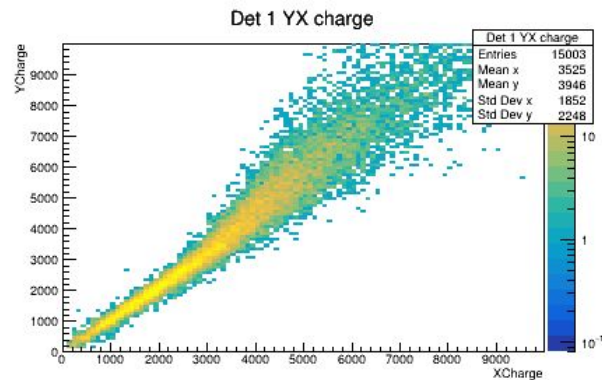
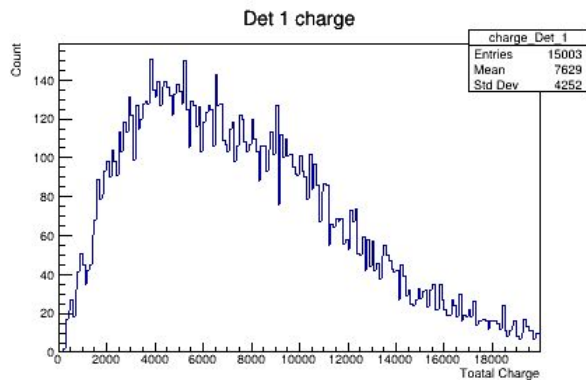
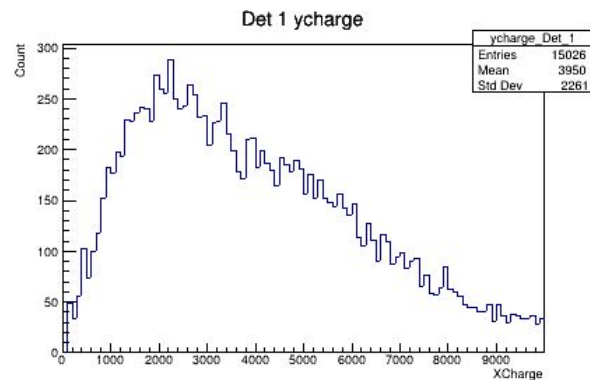
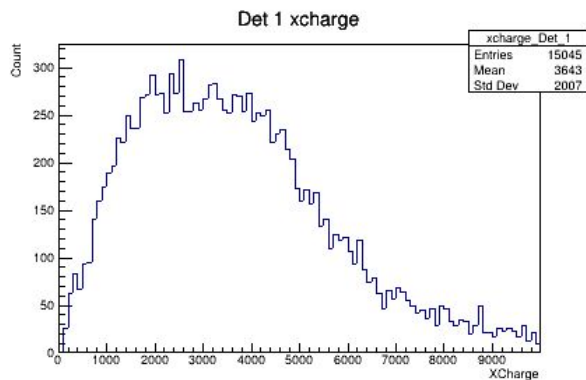


common-mode -noise: Bottom GEM detector

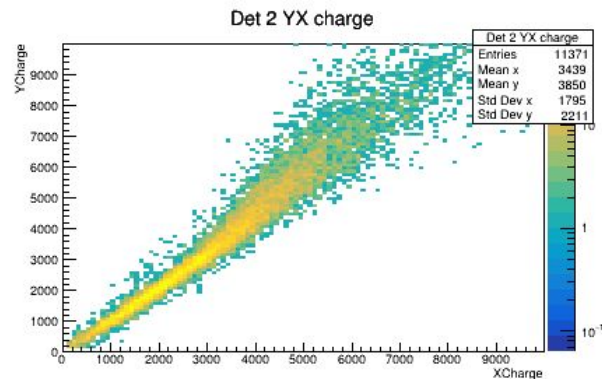
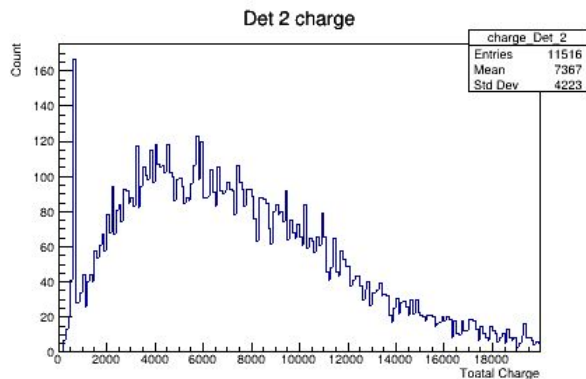
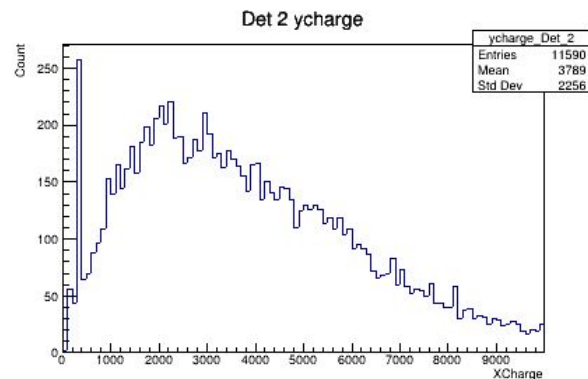
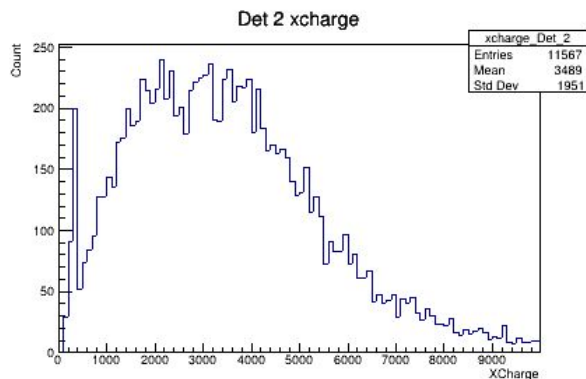
- ❖ Two slot backplane is more noisy!!
- ❖ As usual the end-channels of APV cards are more noisy



Bottom detector charge



Middle detector charge



Top detector charge

