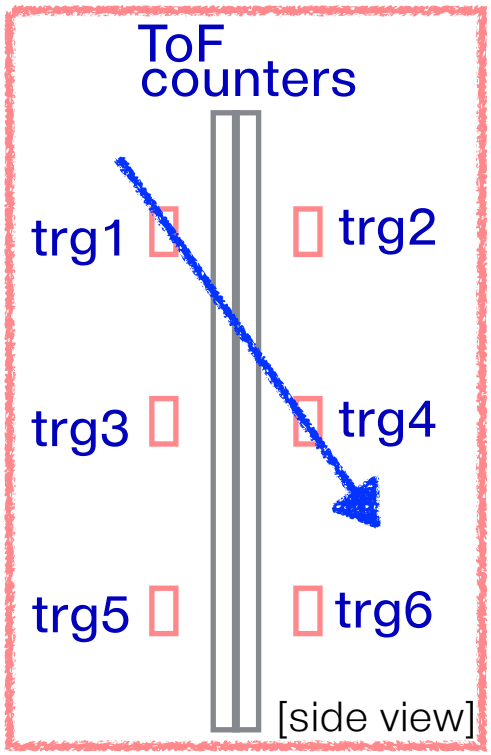
Status report

12 January 2015

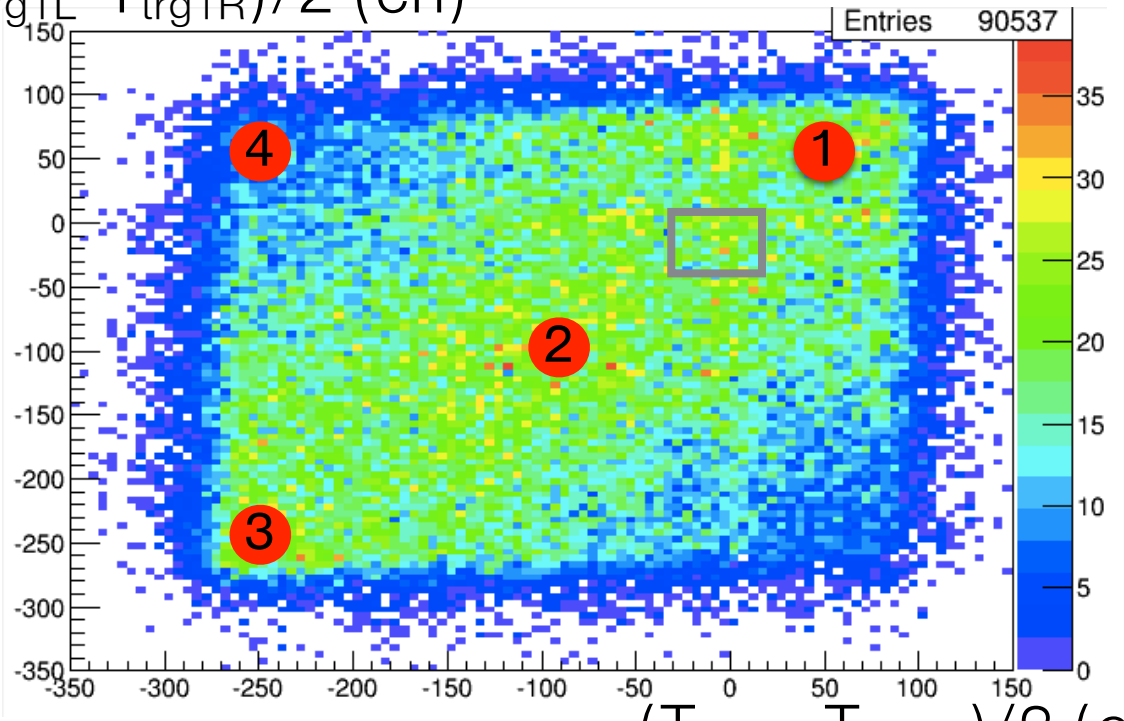
Shinhyung Kim

Event Selection

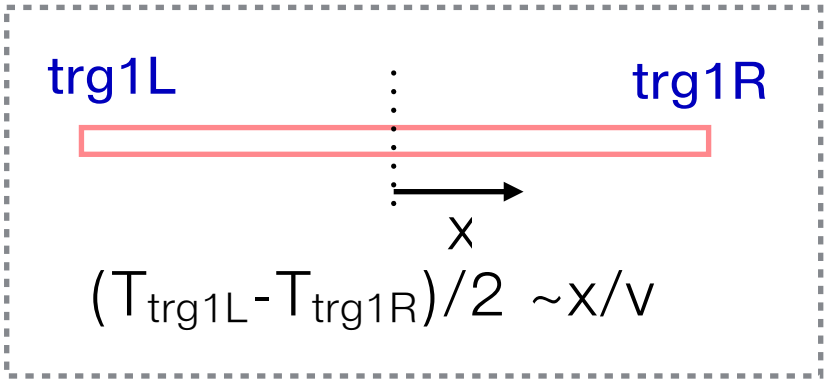


~90k events (14.4%)

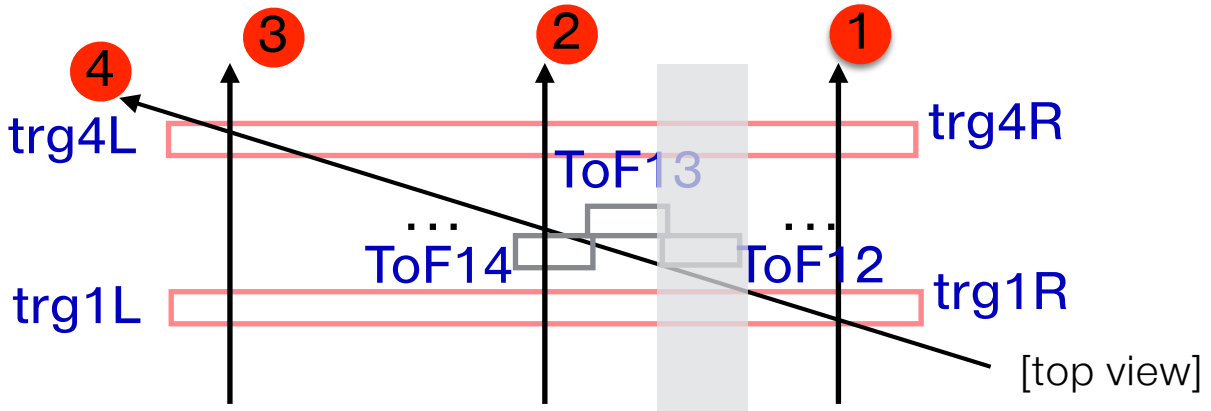
$(T_{trg1L}-T_{trg1R})/2$ (ch)



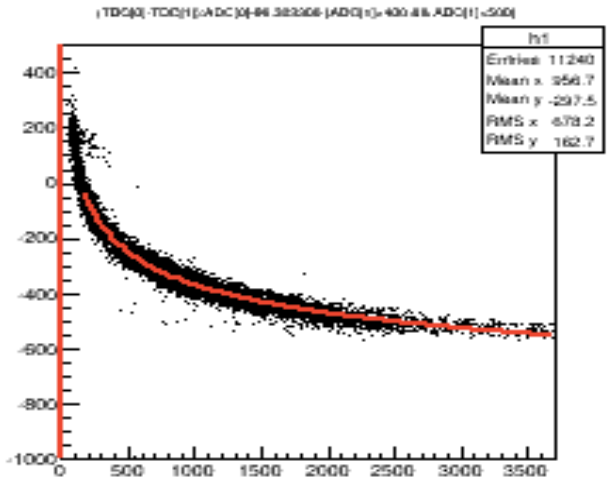
$(T_{trg4L}-T_{trg4R})/2$ (ch)

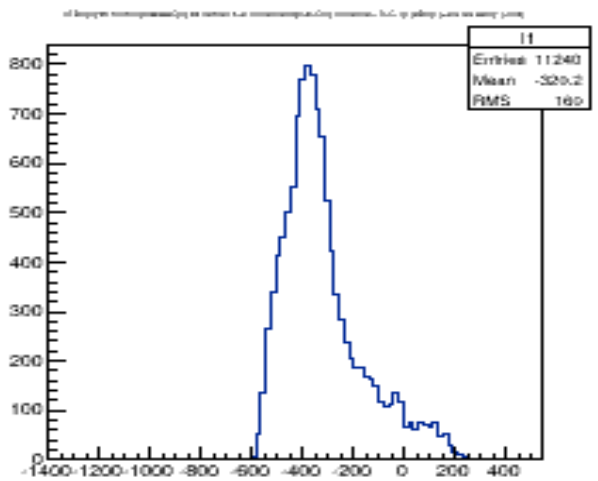


$(T_{trg1L}-T_{trg1R})/2 \sim x/v$

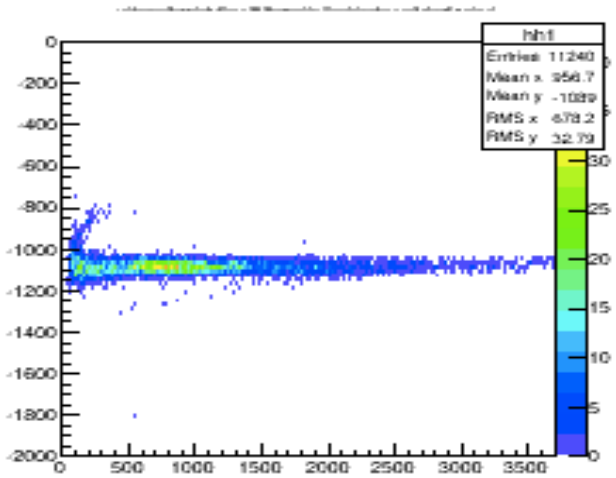


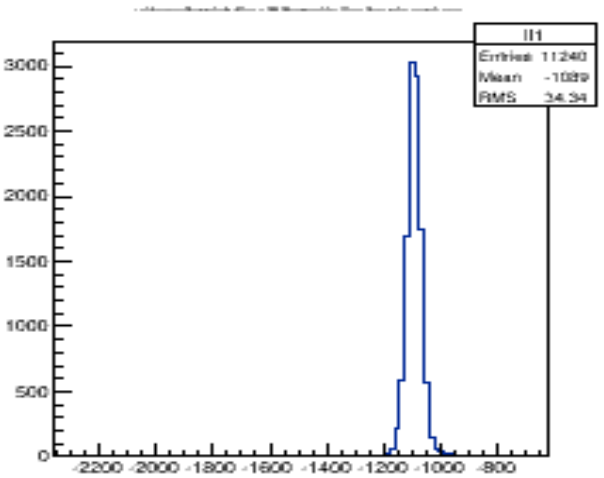
~300 events (0.05%)



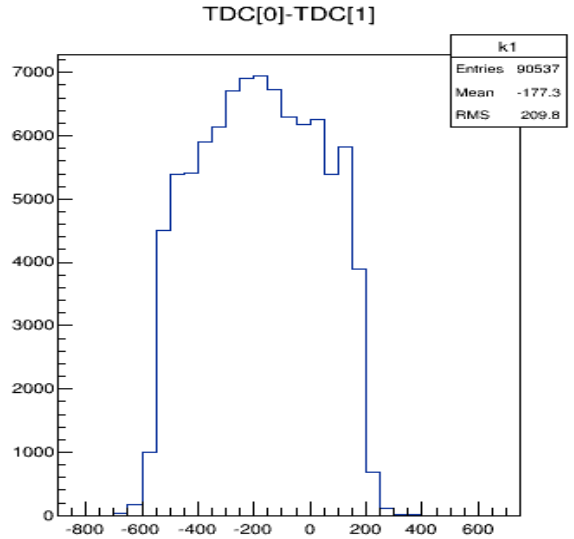


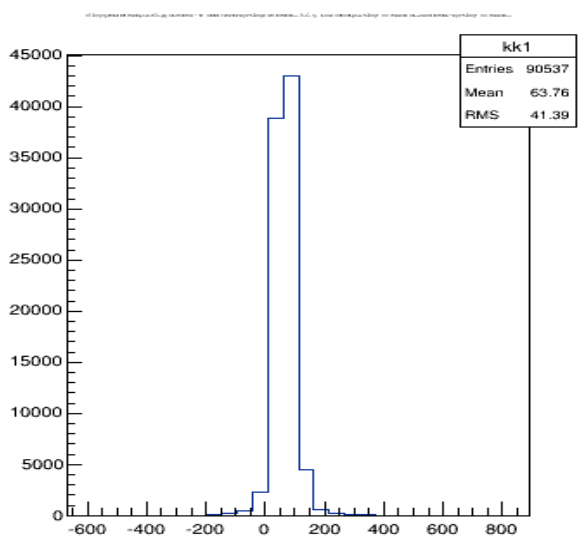
TDC1-TDC2 v.s. ADC1 w/ ADC2 fixed





lost position information





TDC1-TDC2 ~ x/v
ADC2/ADC1 ~ exp(2x/lambda)

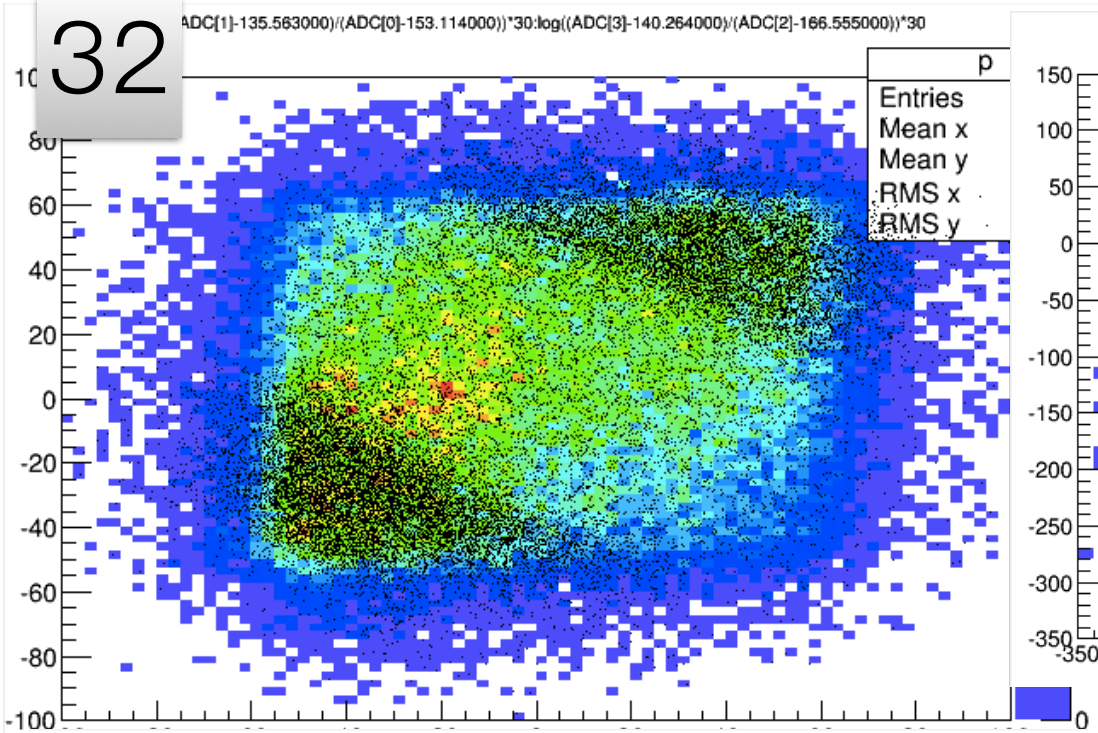
$$ADC_{top} = c_1 e^{-(90-y)/\lambda}$$
$$ADC_{bot} = c_2 e^{-(90+y)/\lambda}$$

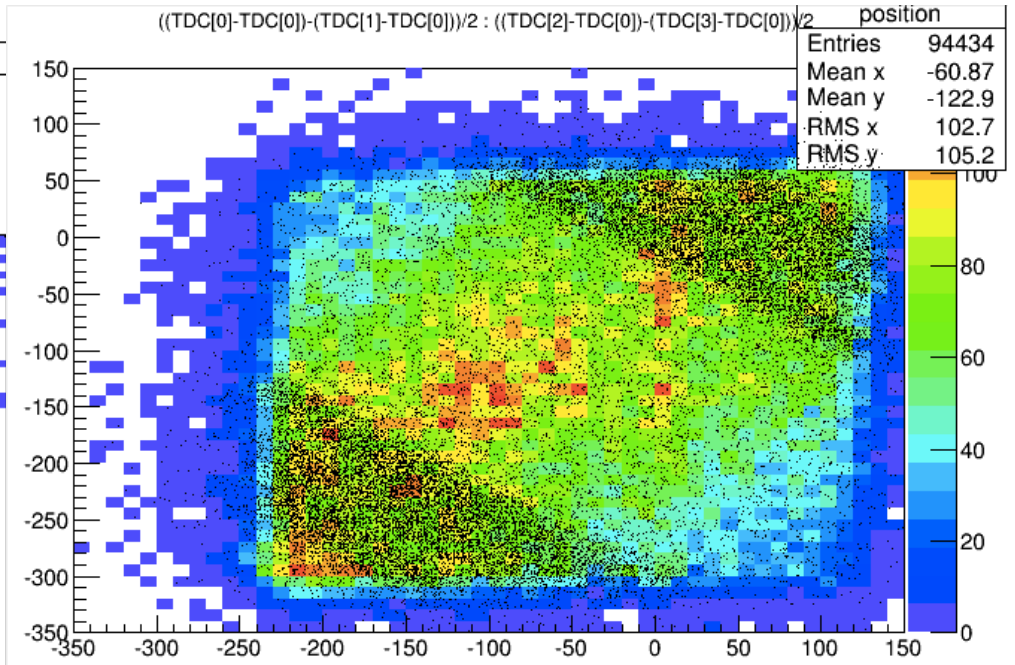
$$y = \lambda \cdot \frac{1}{2} log[\frac{ADC_{top}}{ADC_{bot}}] + \frac{\lambda}{2} log(c_2/c_1).$$

instead of (TDC1-TDC2)/2 v.s. (TDC3-TDC4)/2,

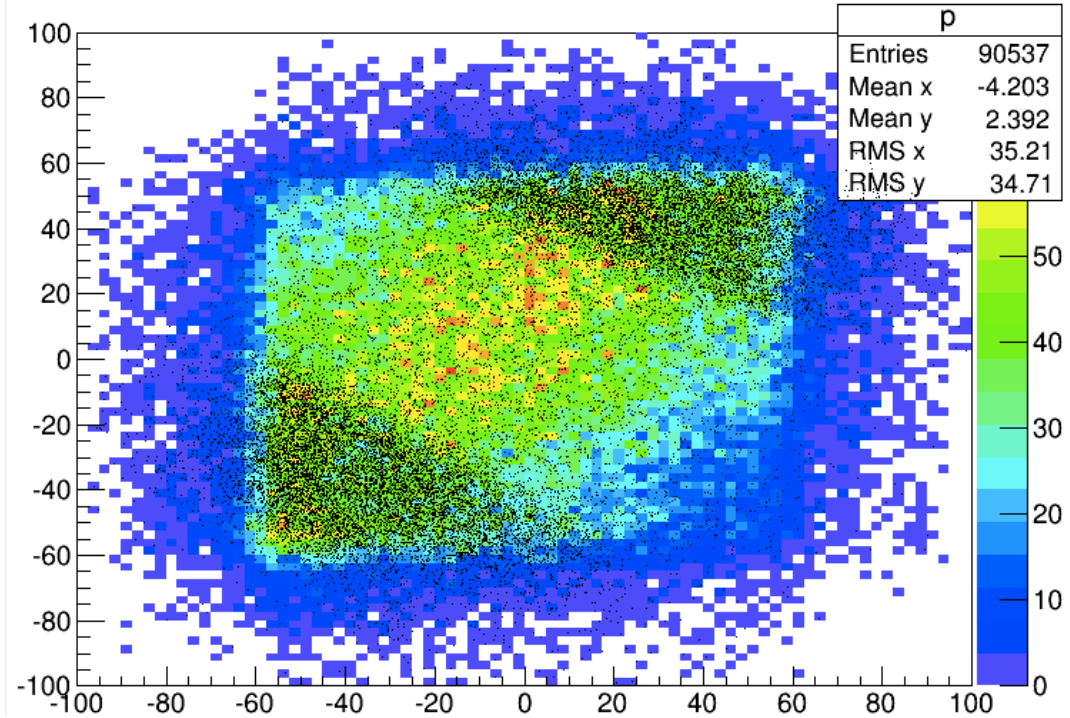
log(ADC2/ADC1) v.s. log(ADC4/ADC3) ?

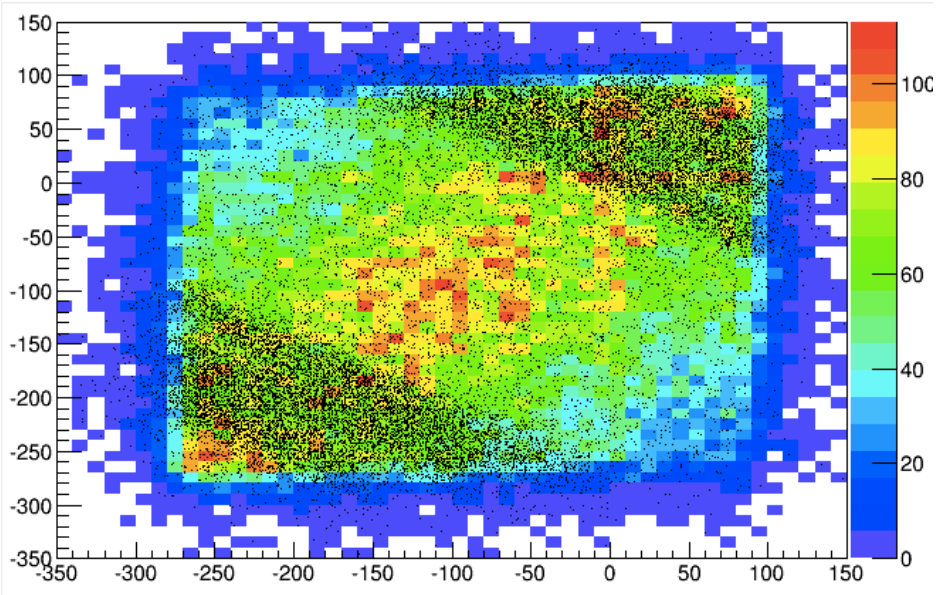
32


ADC[1]-135.563000)/(ADC[0]-153.114000))*30:log((ADC[3]-140.264000)/(ADC[2]-166.555000))*30
p
Entries
Mean x
Mean y
RMS x
RMS y


((TDC[0]-TDC[0])-(TDC[1]-TDC[0]))/2 : ((TDC[2]-TDC[0])-(TDC[3]-TDC[0]))/2
position
Entries 94434
Mean x -60.87
Mean y -122.9
RMS x 102.7
RMS y 105.2

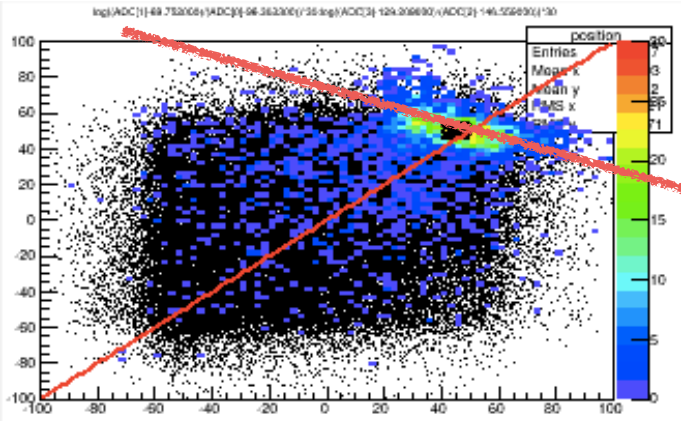
14

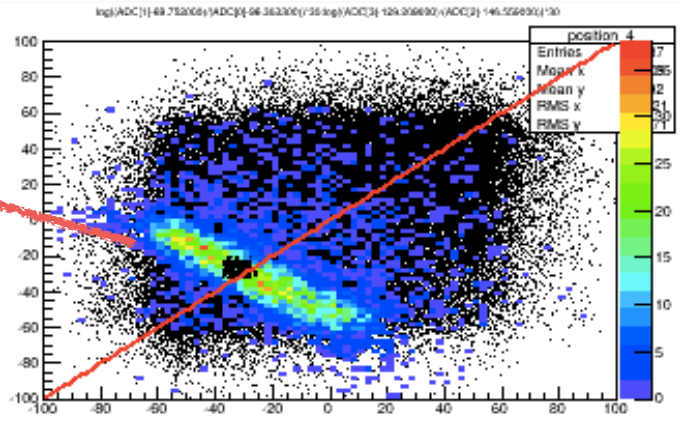

log((ADC[1]-69.752000)/(ADC[0]-96.303300))*30:log((ADC[3]-129.209000)/(ADC[2]-146.559000))*30
p
Entries 90537
Mean x -4.203
Mean y 2.392
RMS x 35.21
RMS y 34.71



log(ADC1/ADC0) v.s. log(ADC3/ADC2)

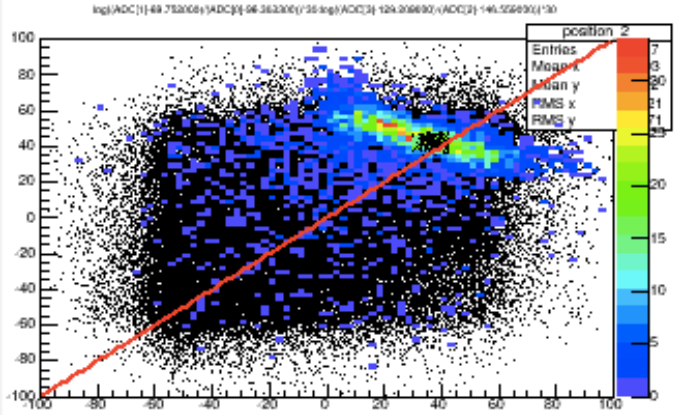
tof12

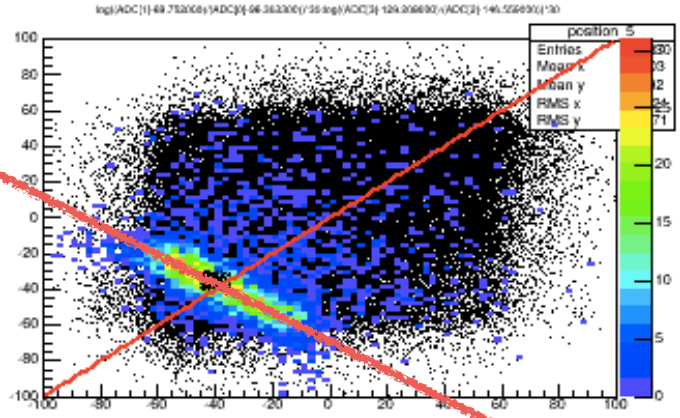




tof22

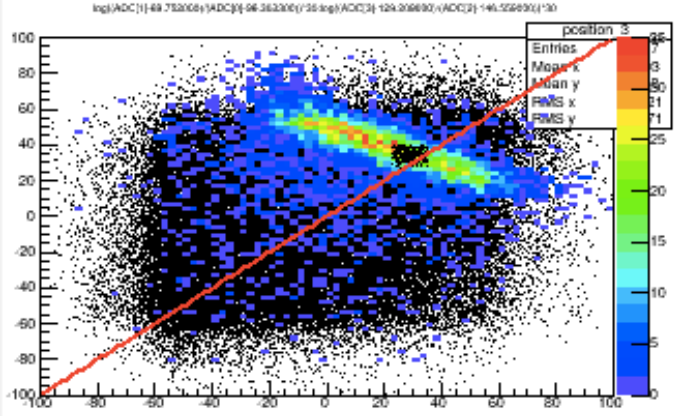
tof13

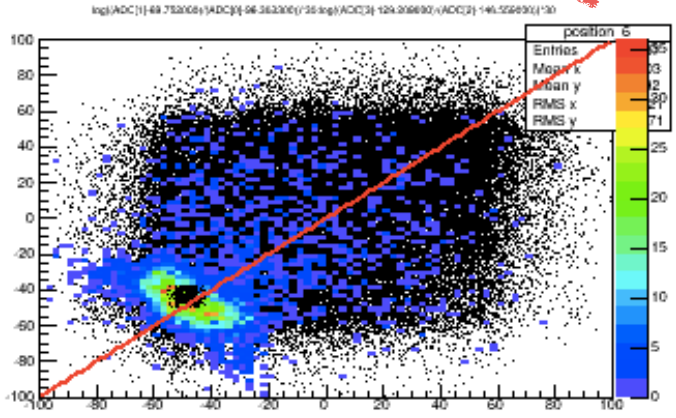




tof23

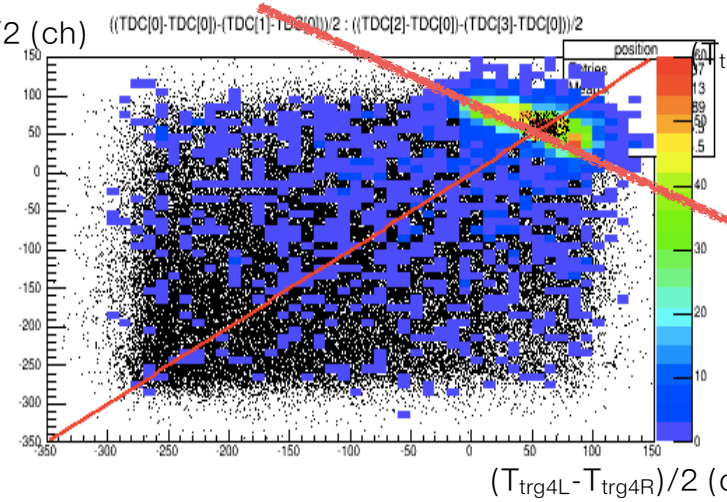
tof14

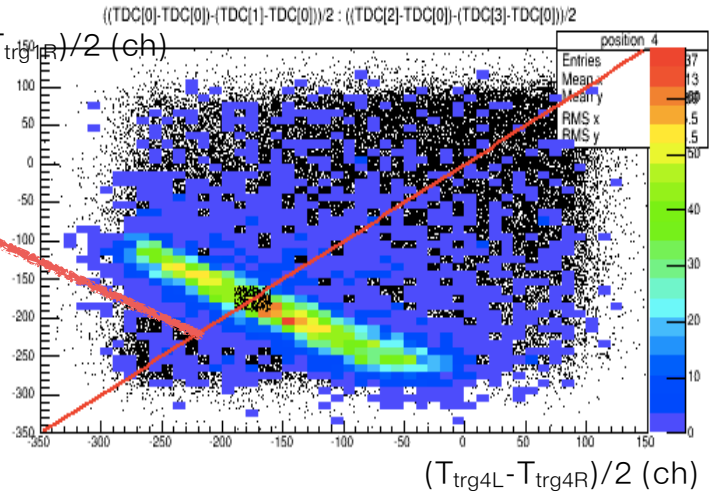




tof24

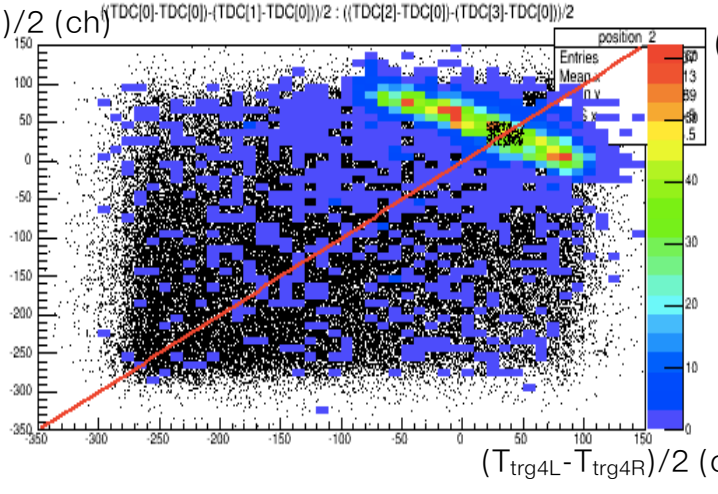
ToF12

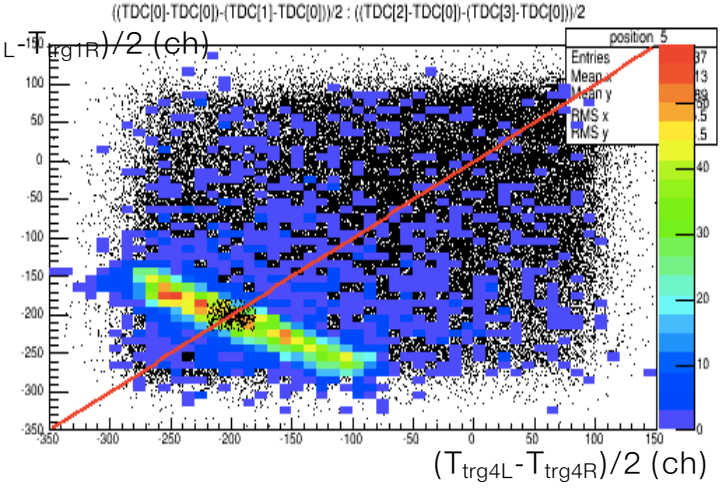




ToF22

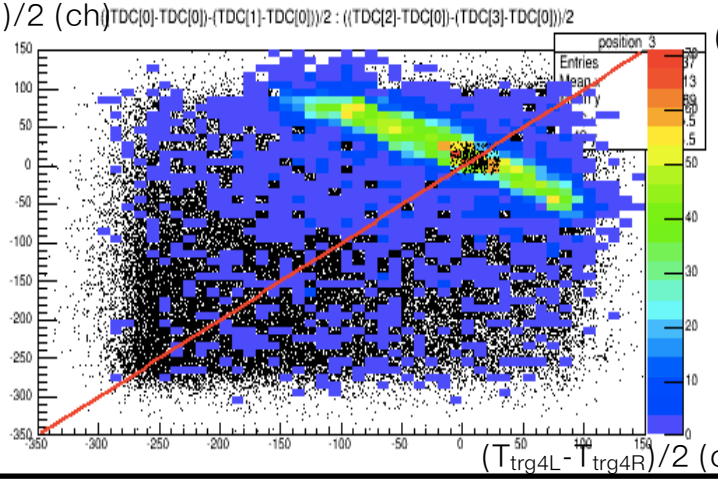
ToF13

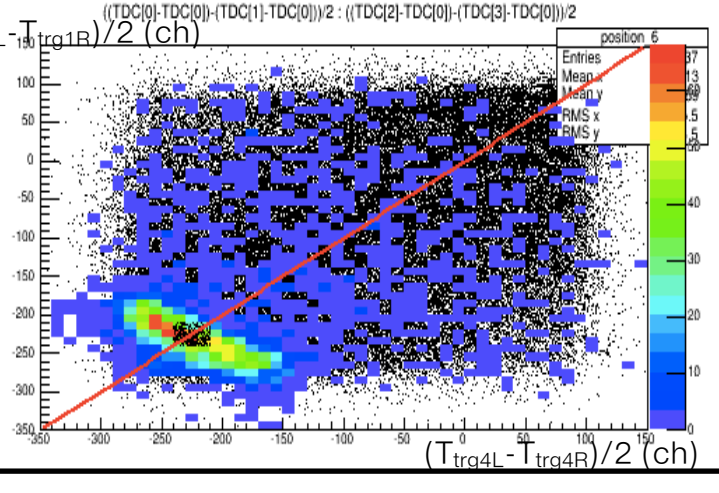




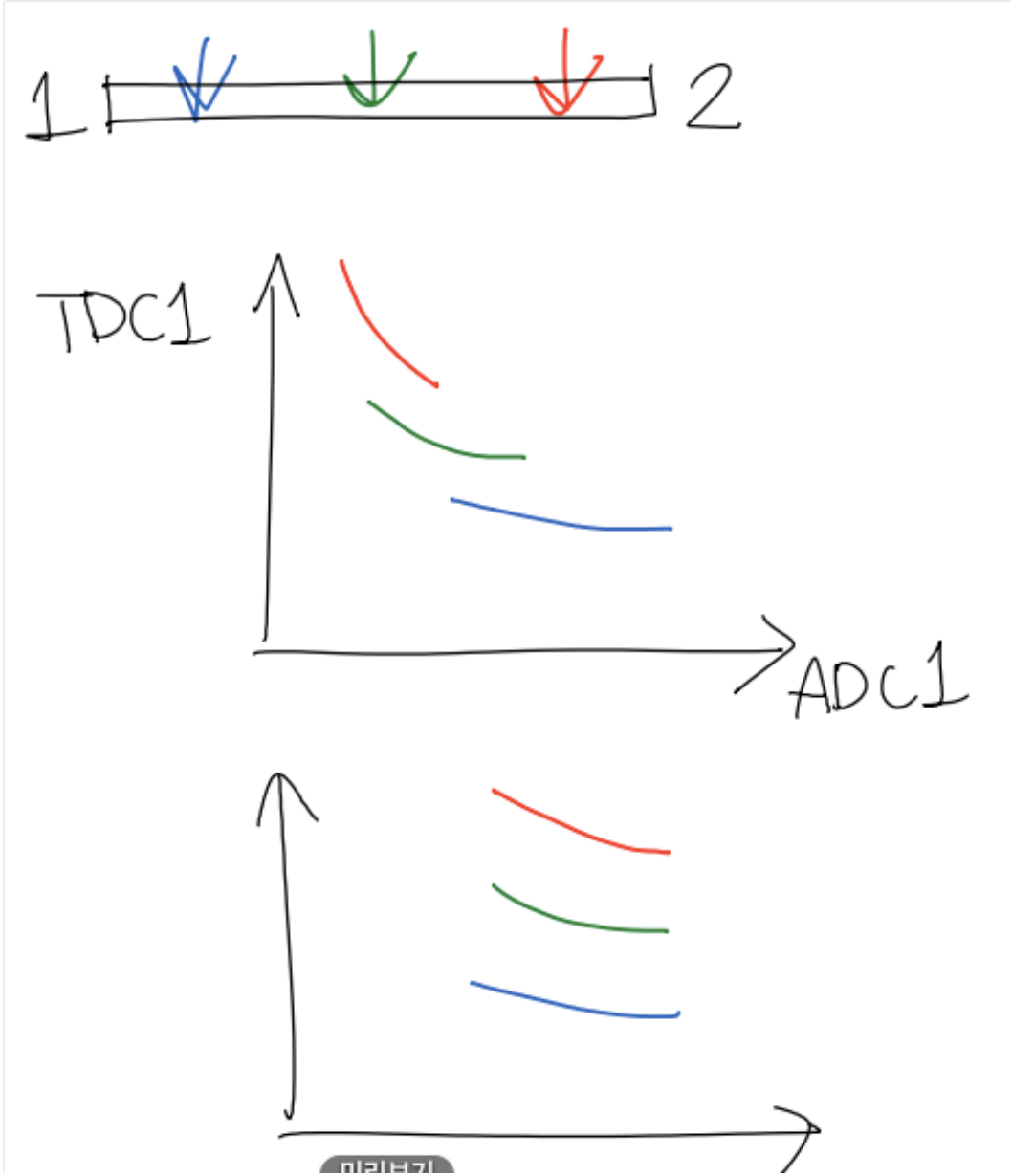
ToF23

ToF14



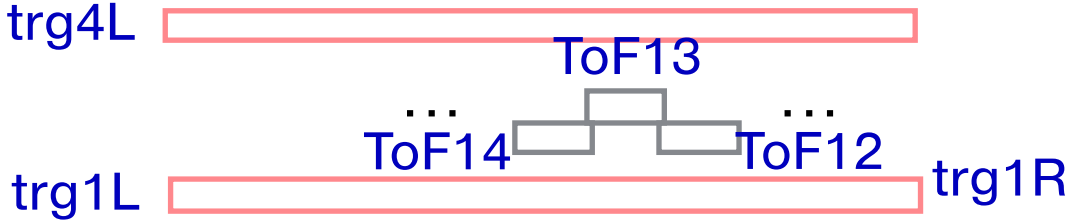


ToF24



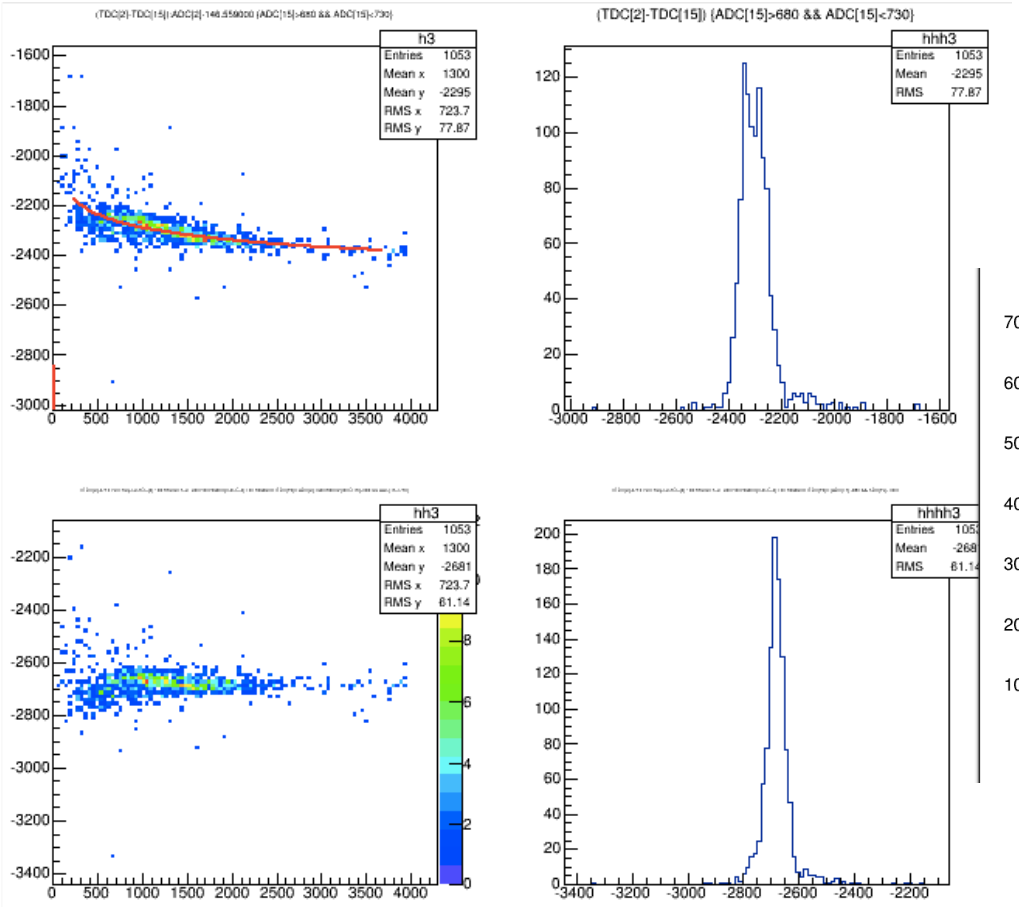
attenuation effect on

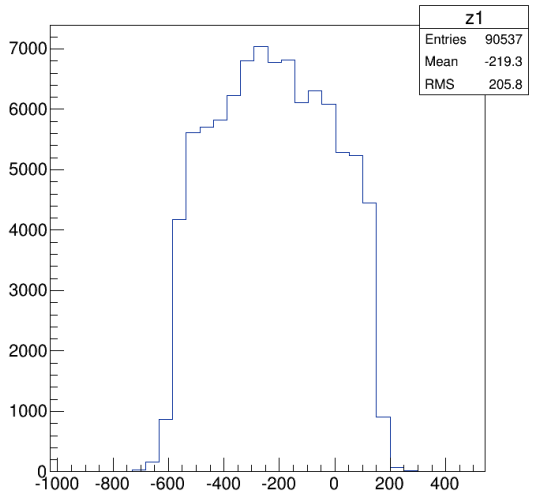
attenuation effect off

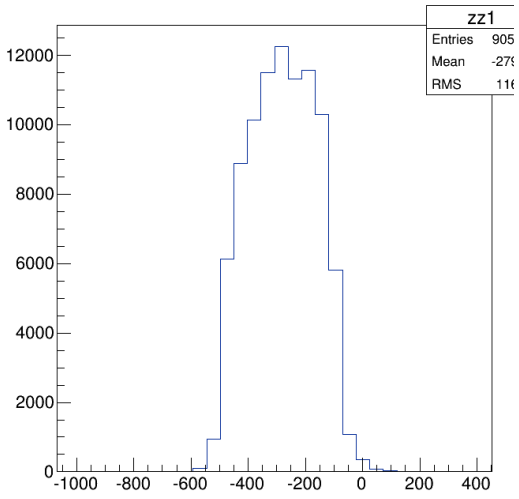


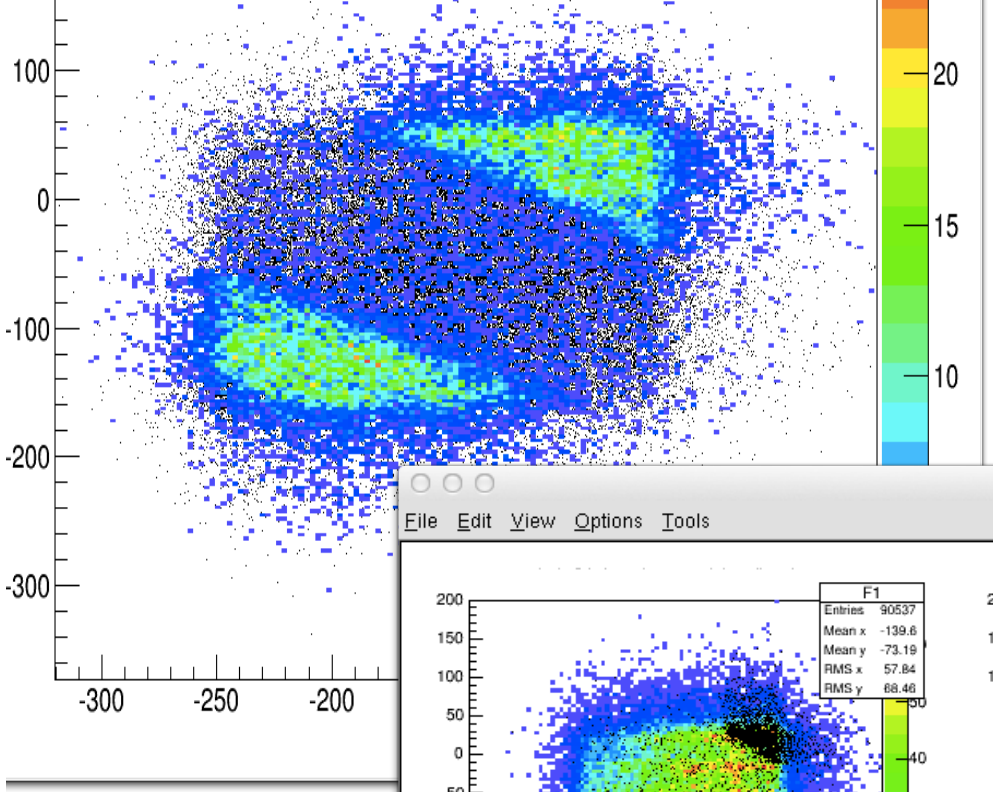
[top view]

TDC_trg4L - TDC_ToF24D v.s. ADC_trg4L w/ ADC_ToF24D fixed

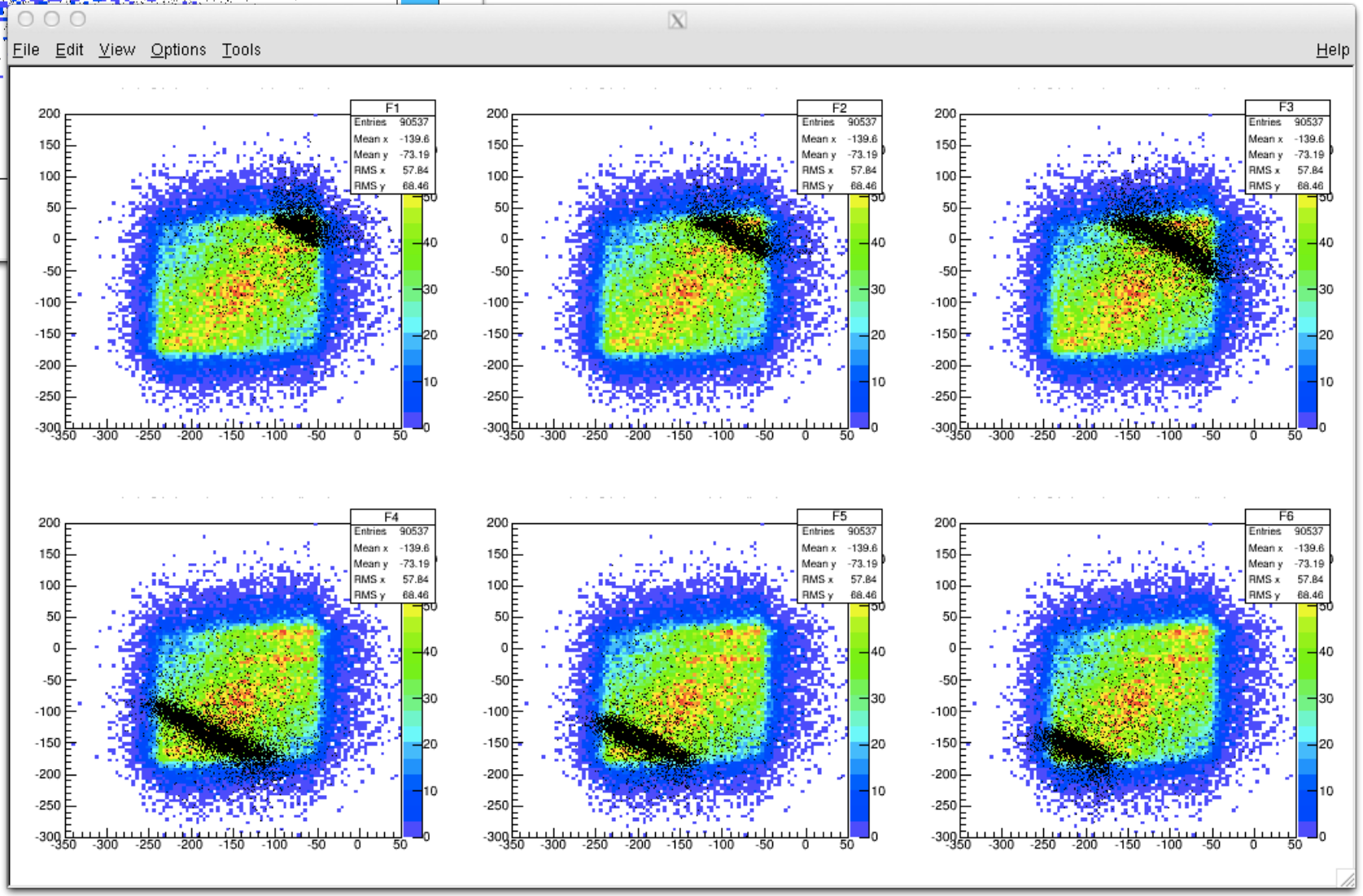






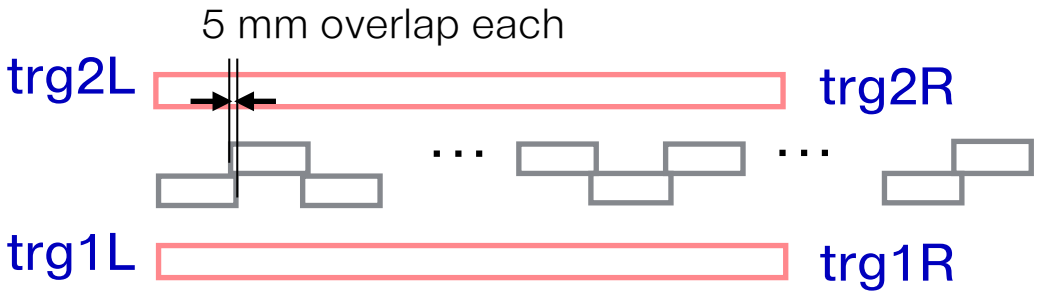


File Edit View Options Tools Help



- DAQ system
  - CsI energy Calibration
- TPC test @ J-PARC (1/22-2/4, 2/14-)

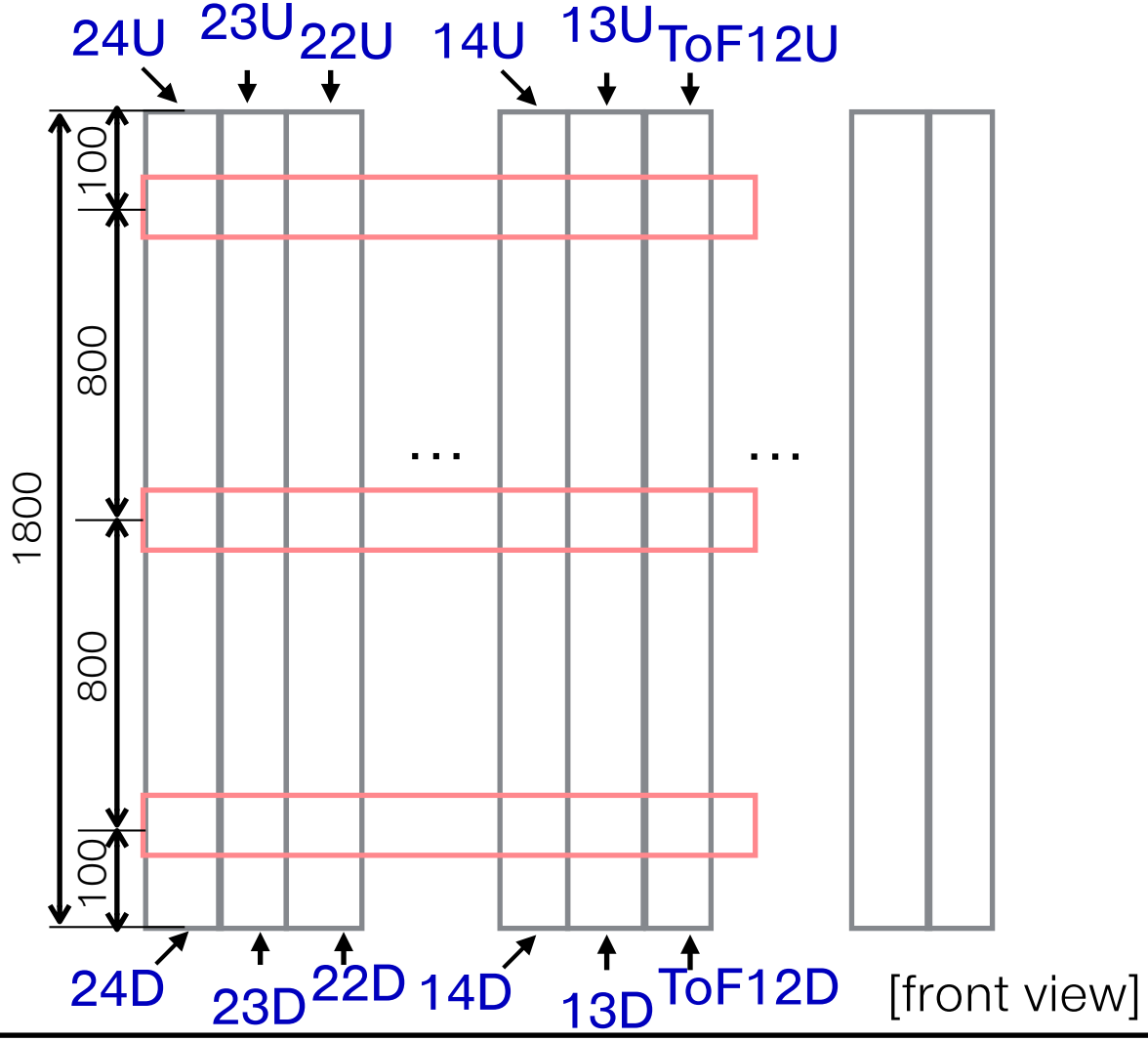
Back-up



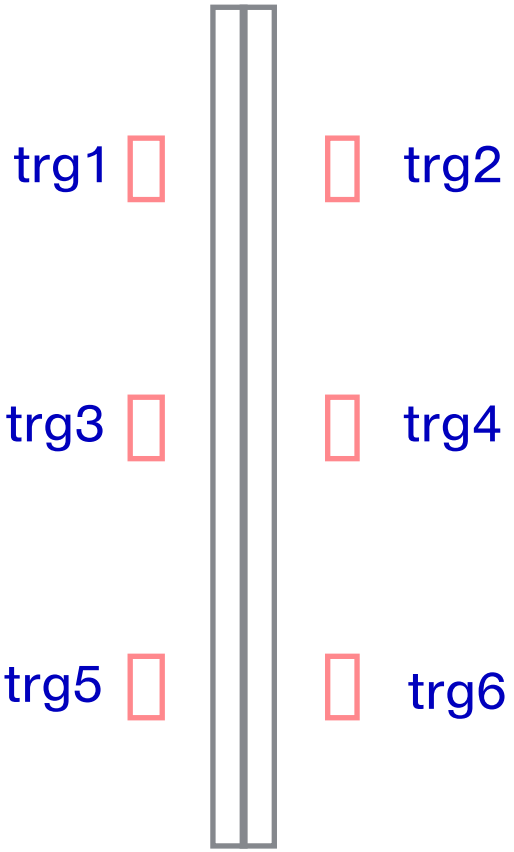
[top view]

24 ToF counters
30 x 80 x 1800 mm^3

6 trigger counters
30 x 80 x 1200 mm^3



[front view]



[side view]

Trigger Condition

- ~1 Hz trigger rate
- # of triggered events : ~0.6M