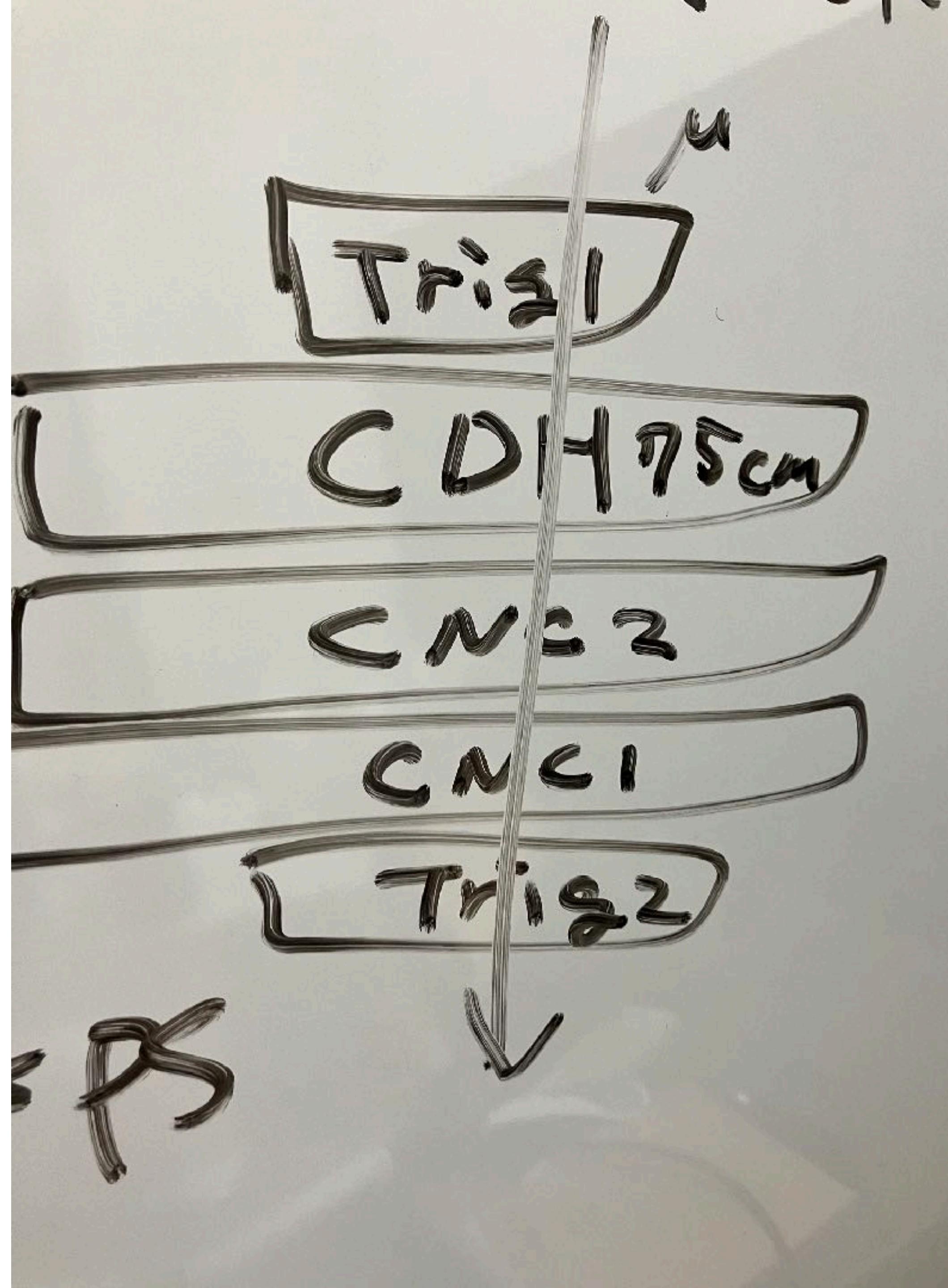


宇宙線測定2023/10/14

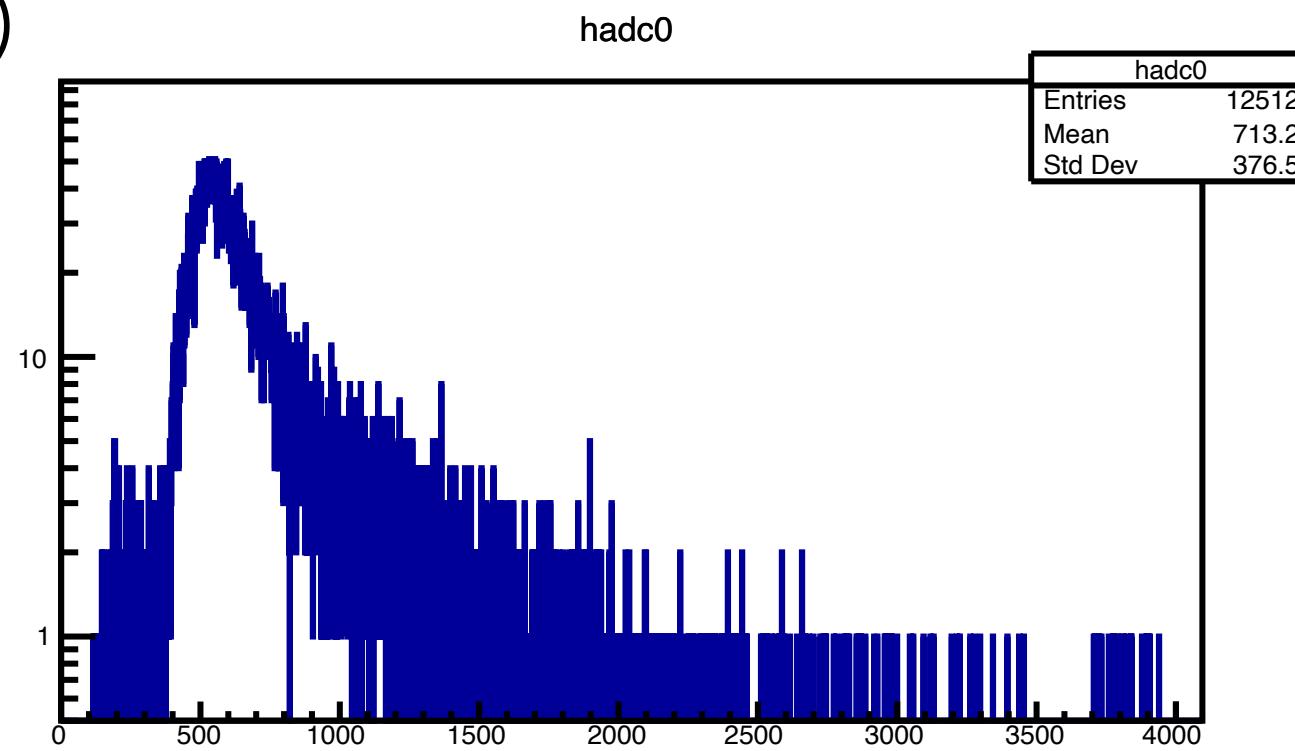
M1 木村

# Setup

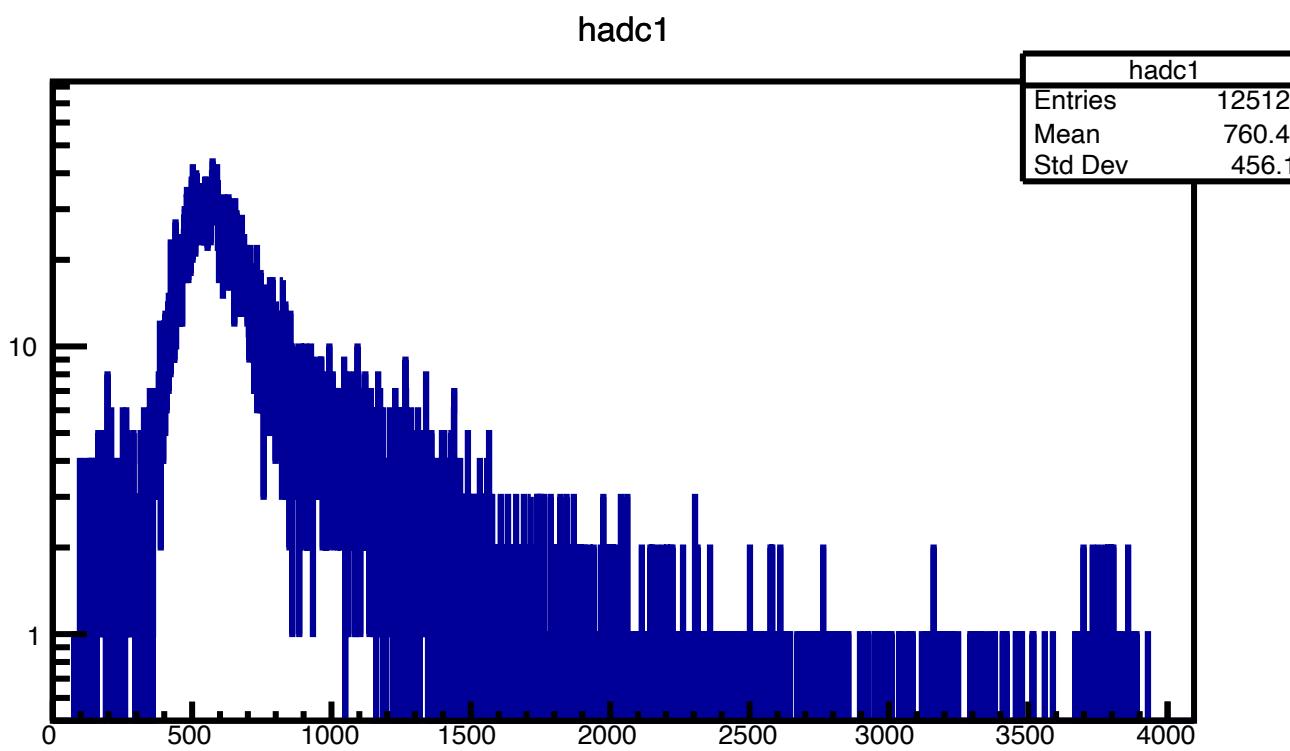


Energy  
(ADC-ped)

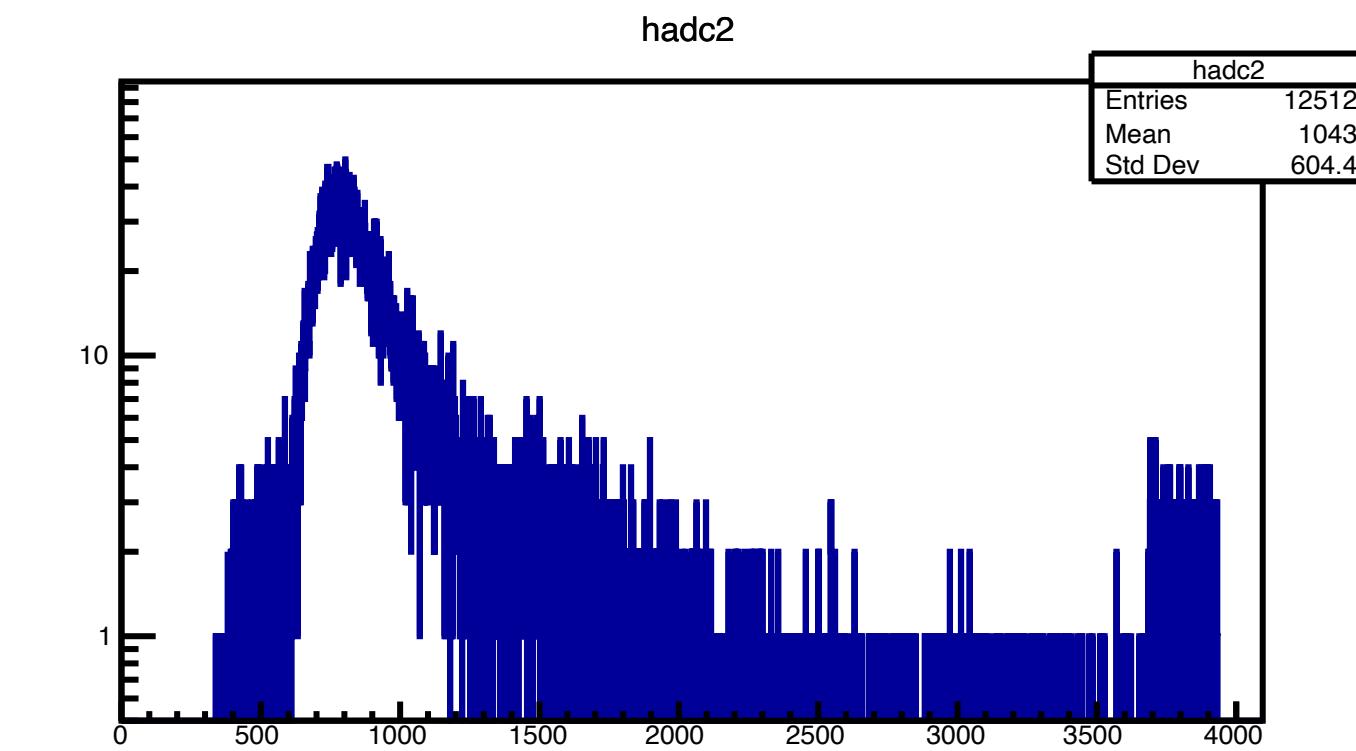
trig1(上)



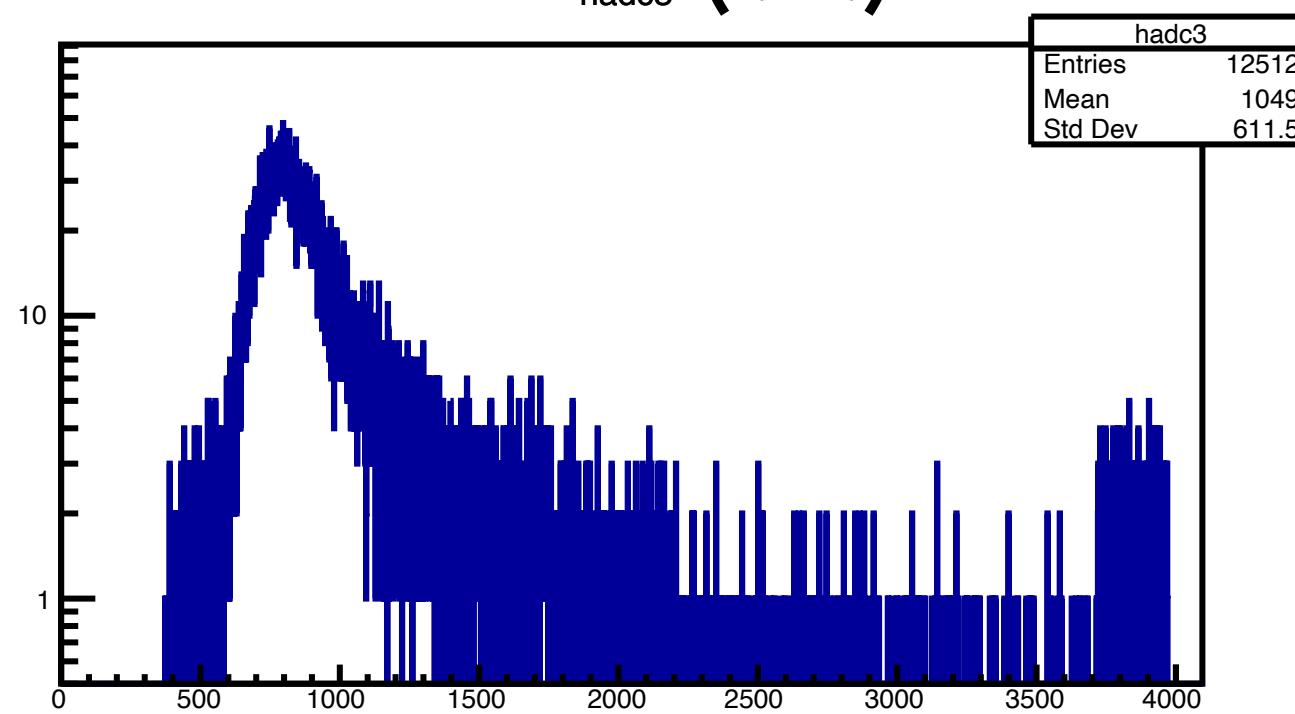
trig2(下)



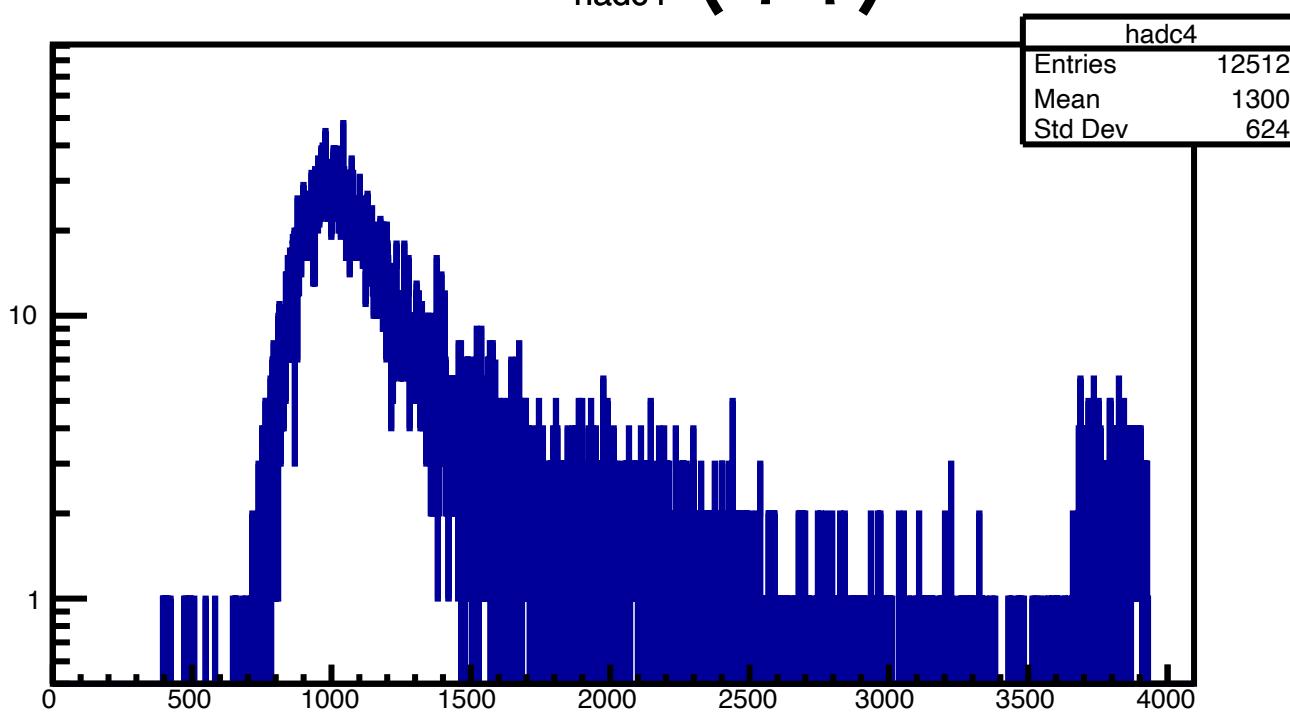
cnc1(右)



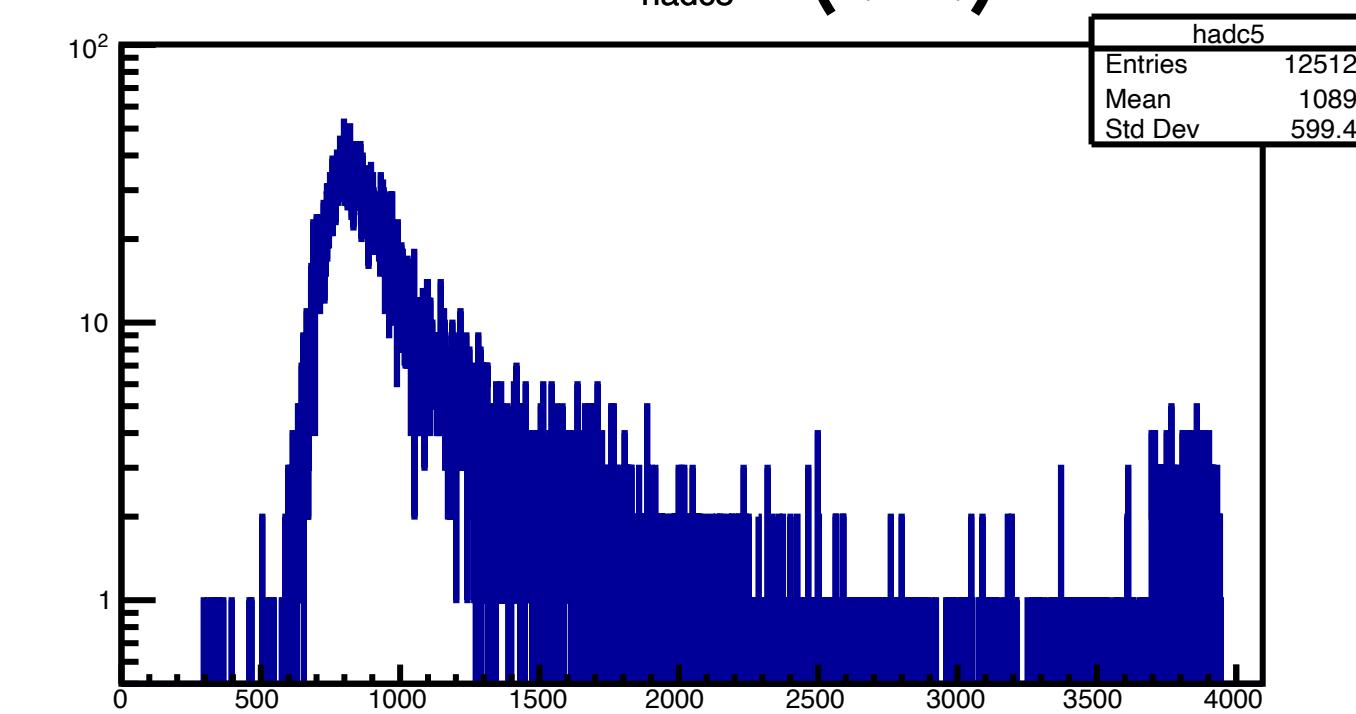
cnc1(左)



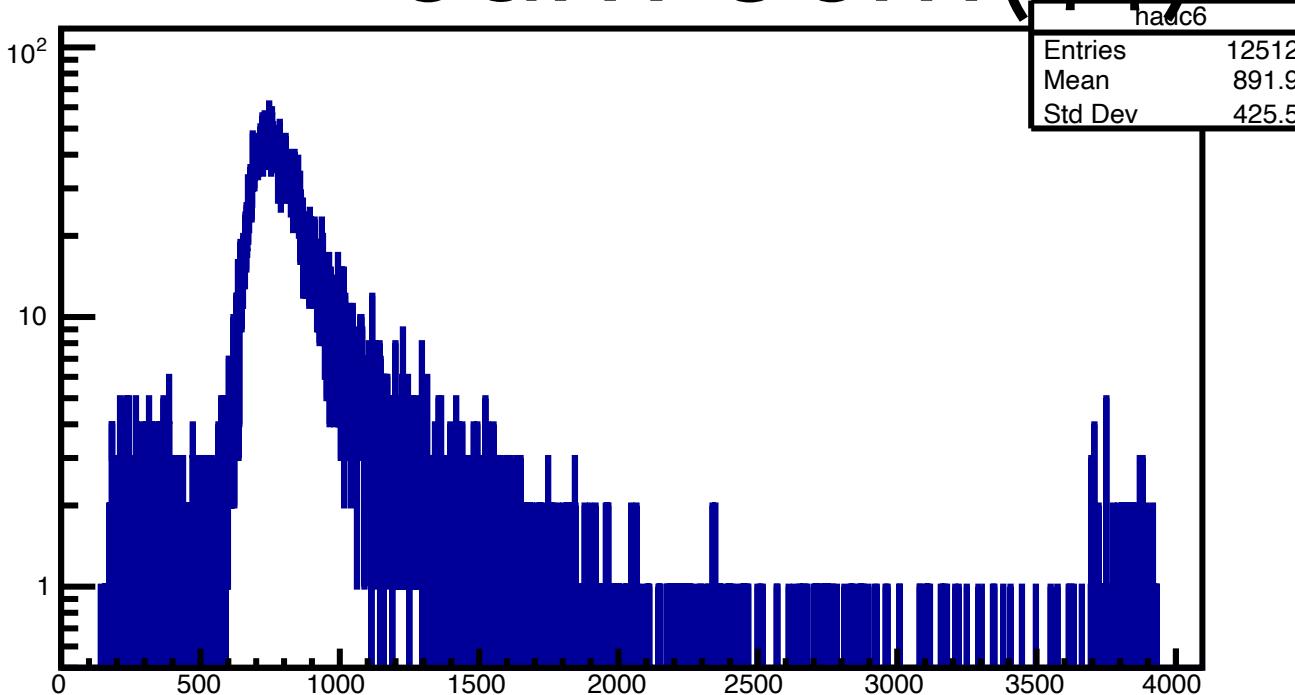
cnc2(右)



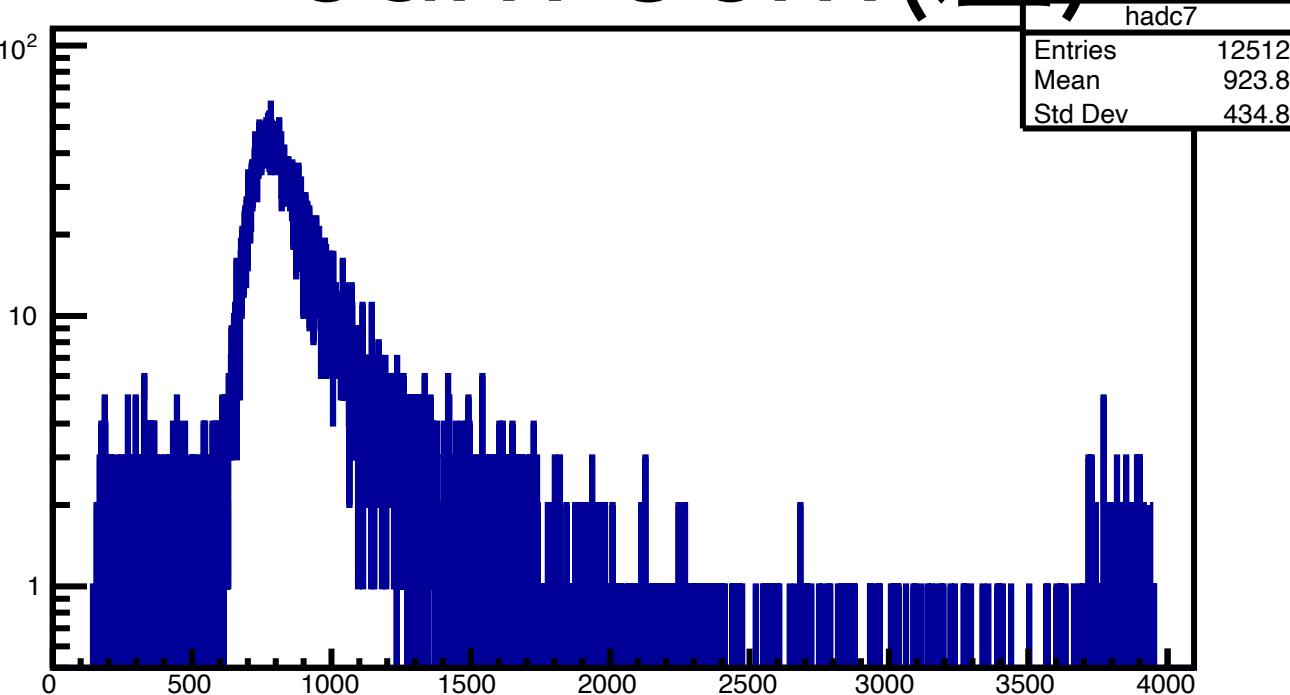
cnc2(左)



cdh75cm(右)

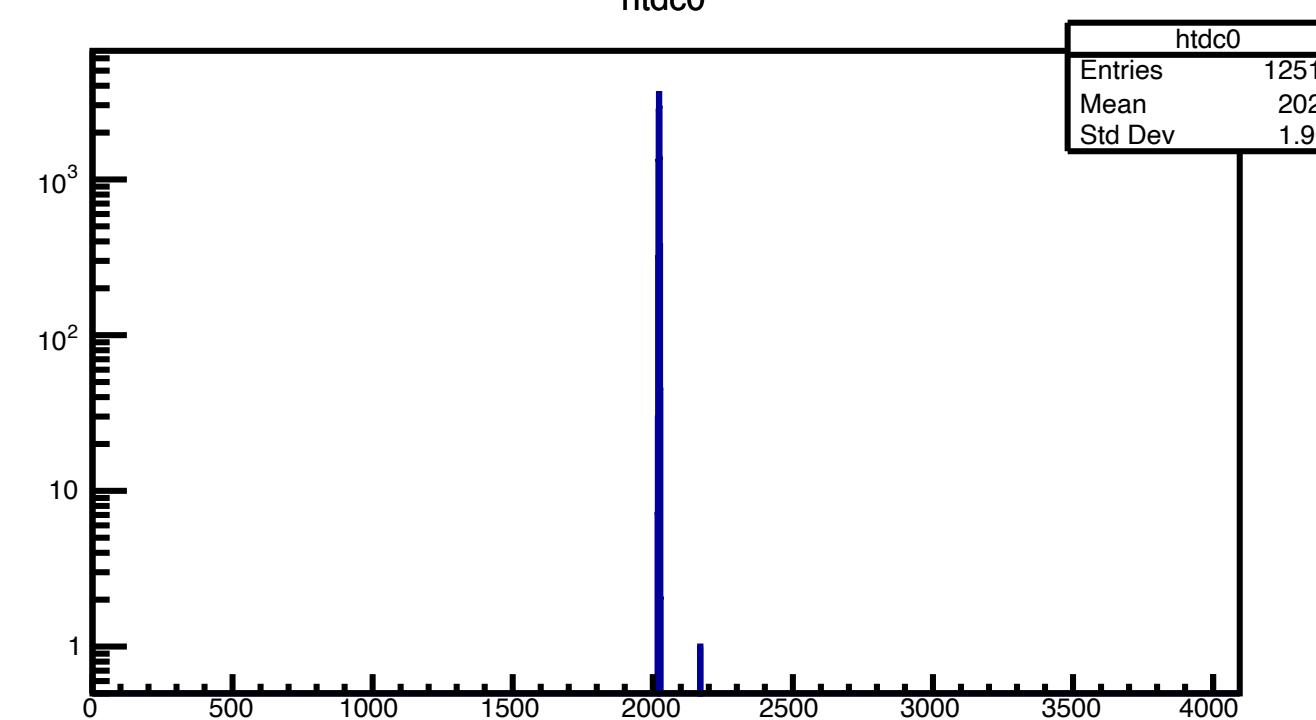


cdh75cm(左)

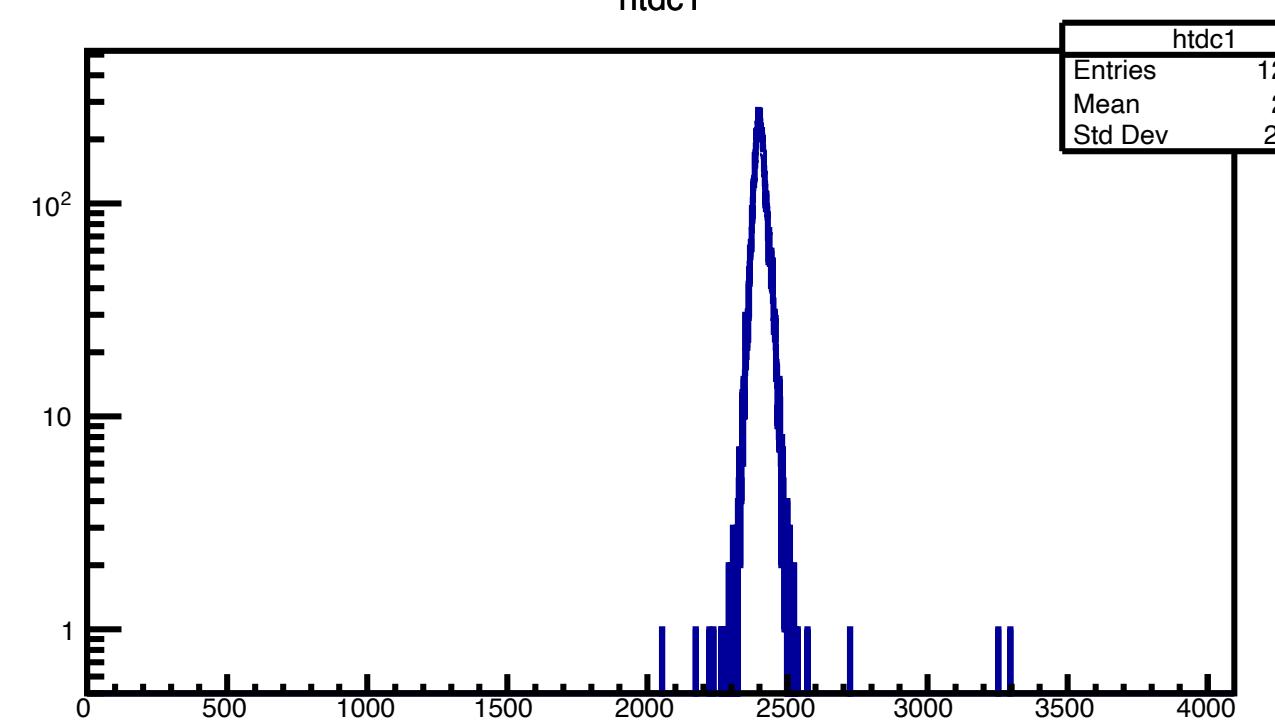


TDC

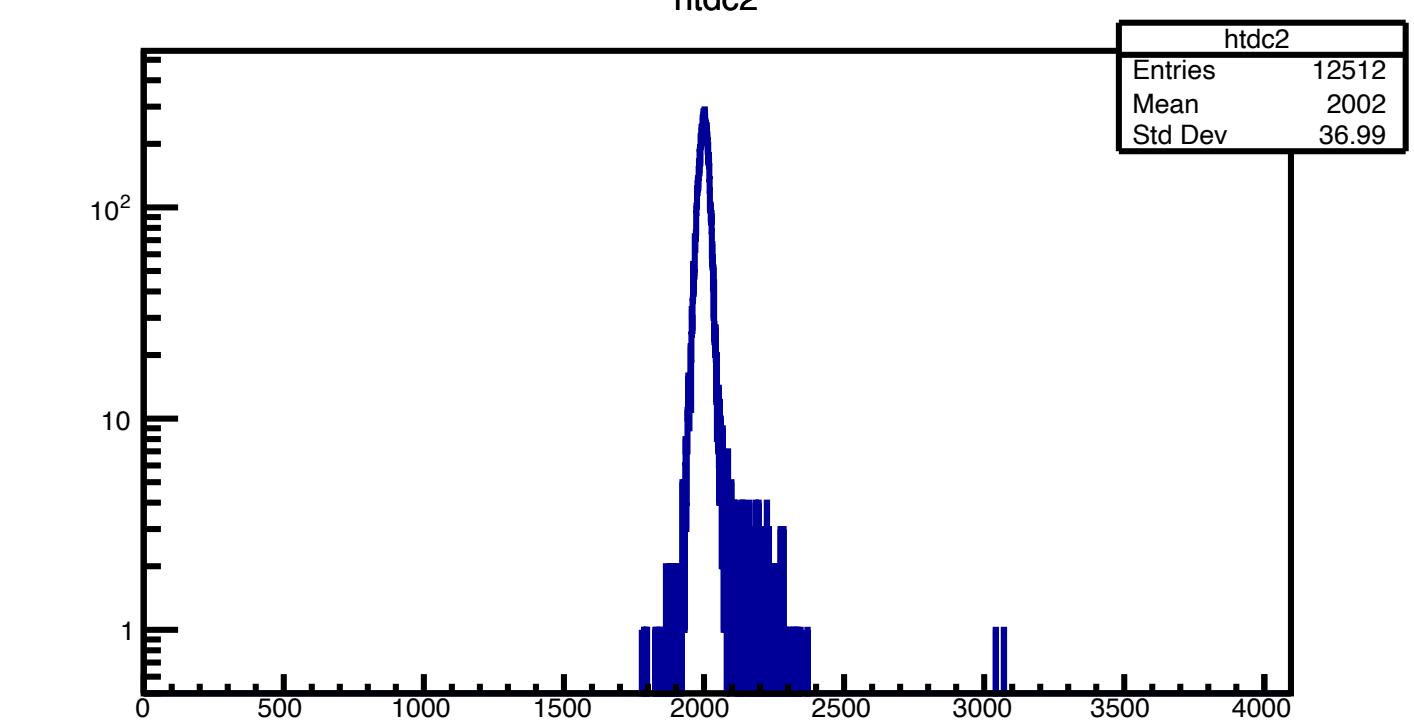
trig1(上)



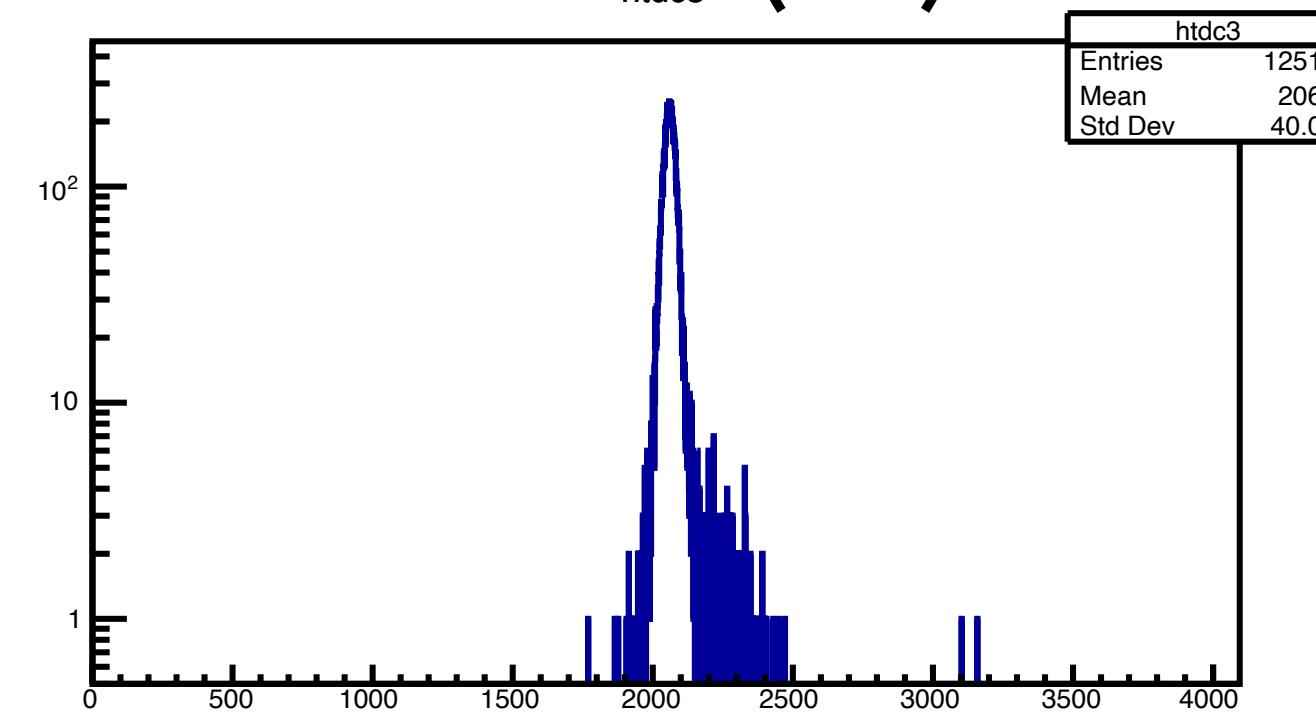
trig2(下)



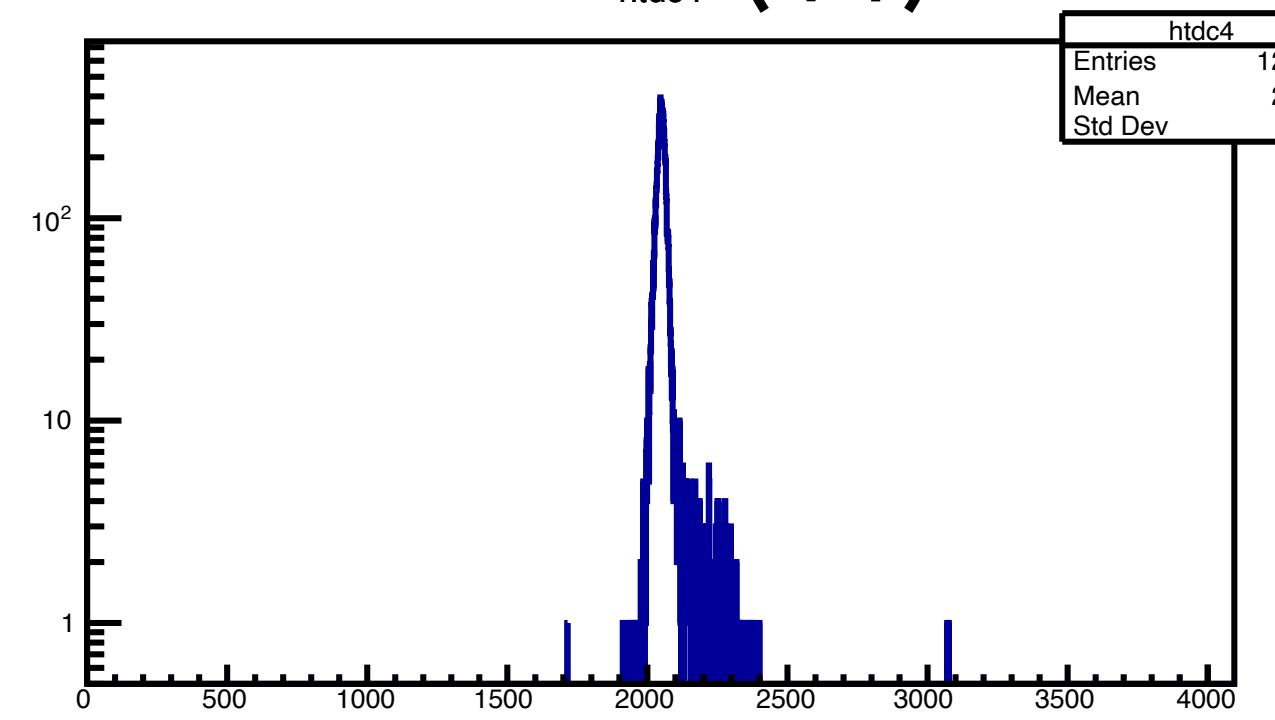
cnc1(右)



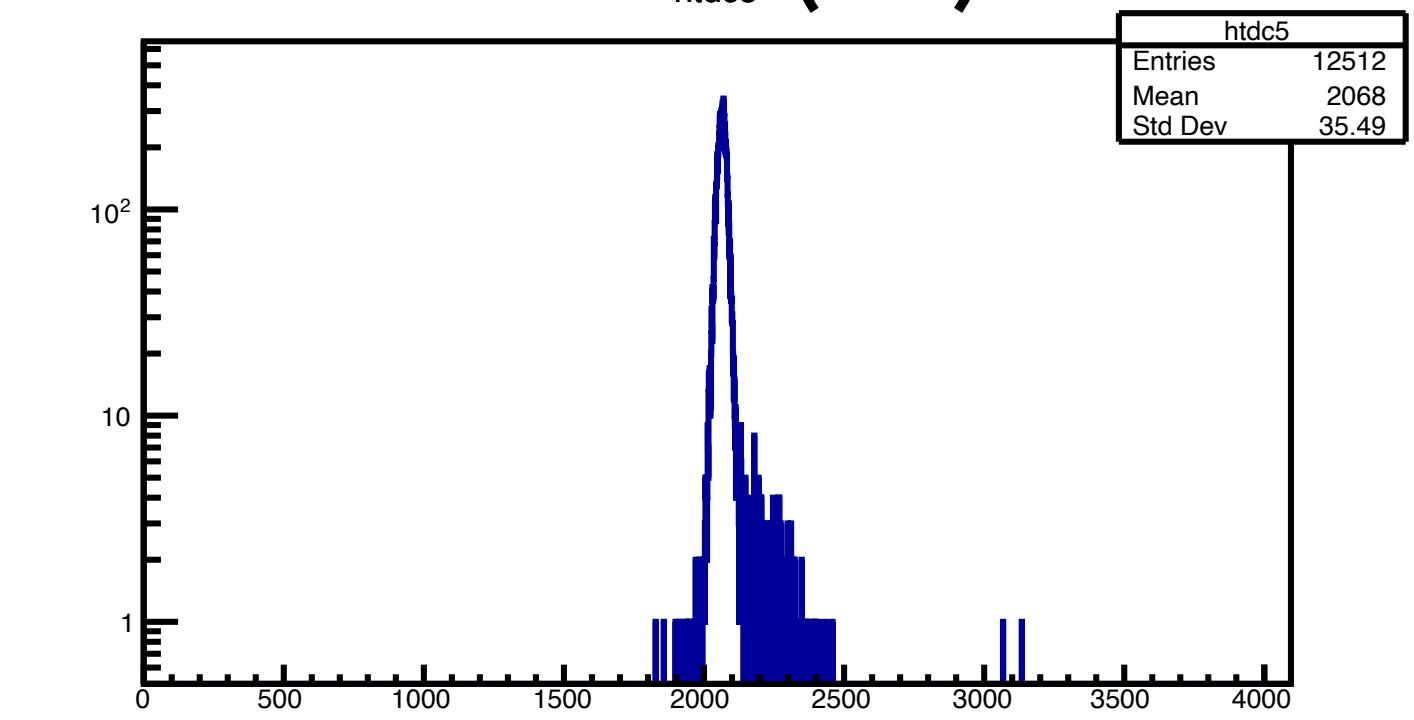
cnc1(左)



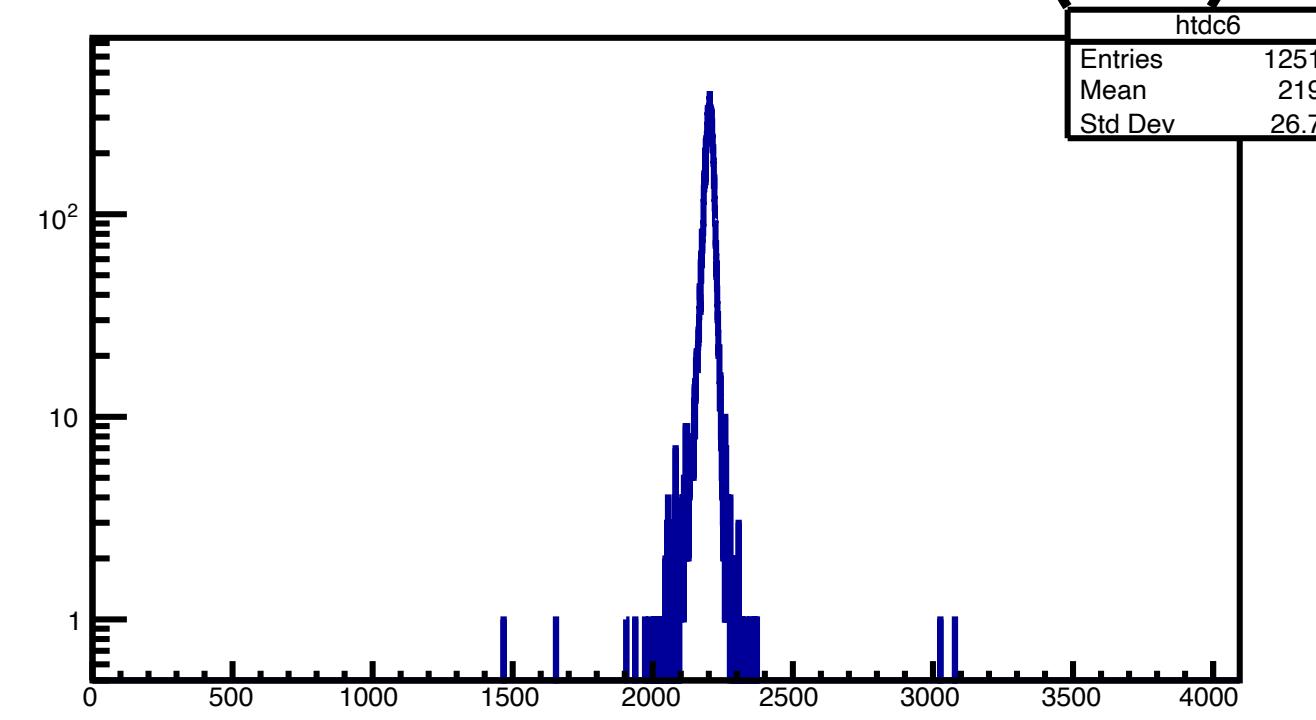
cnc2(右)



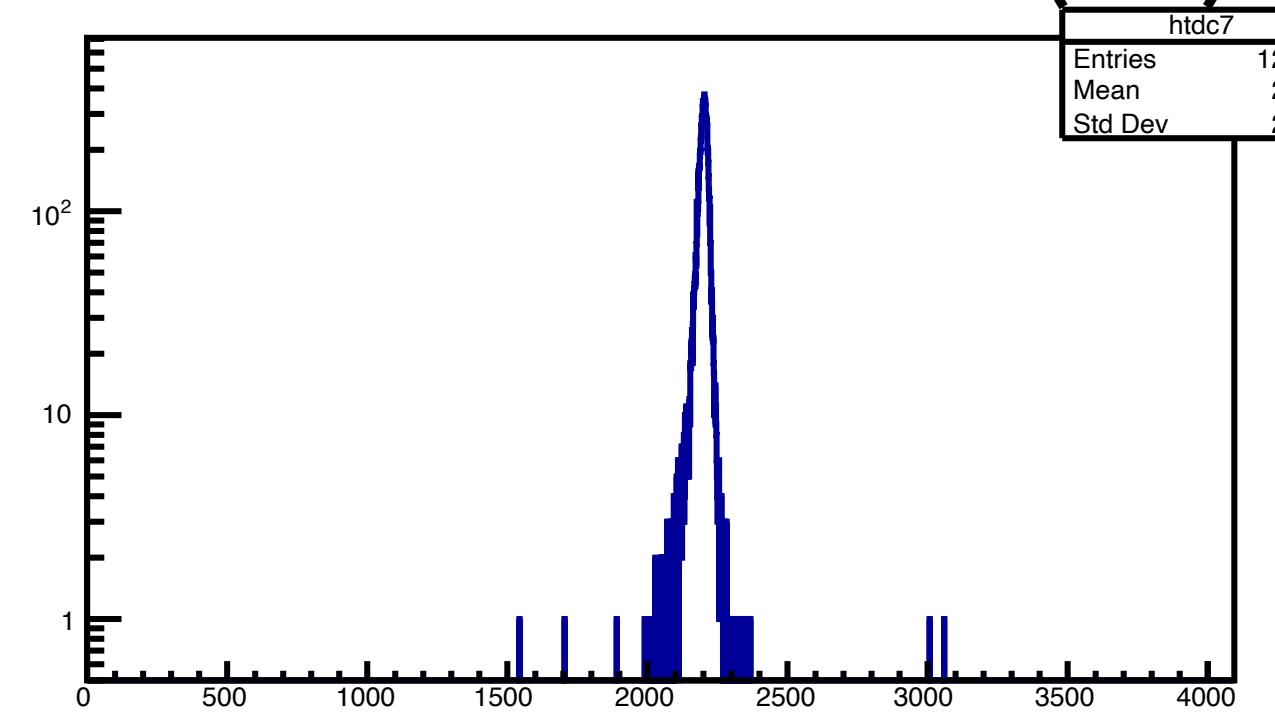
cnc2(左)



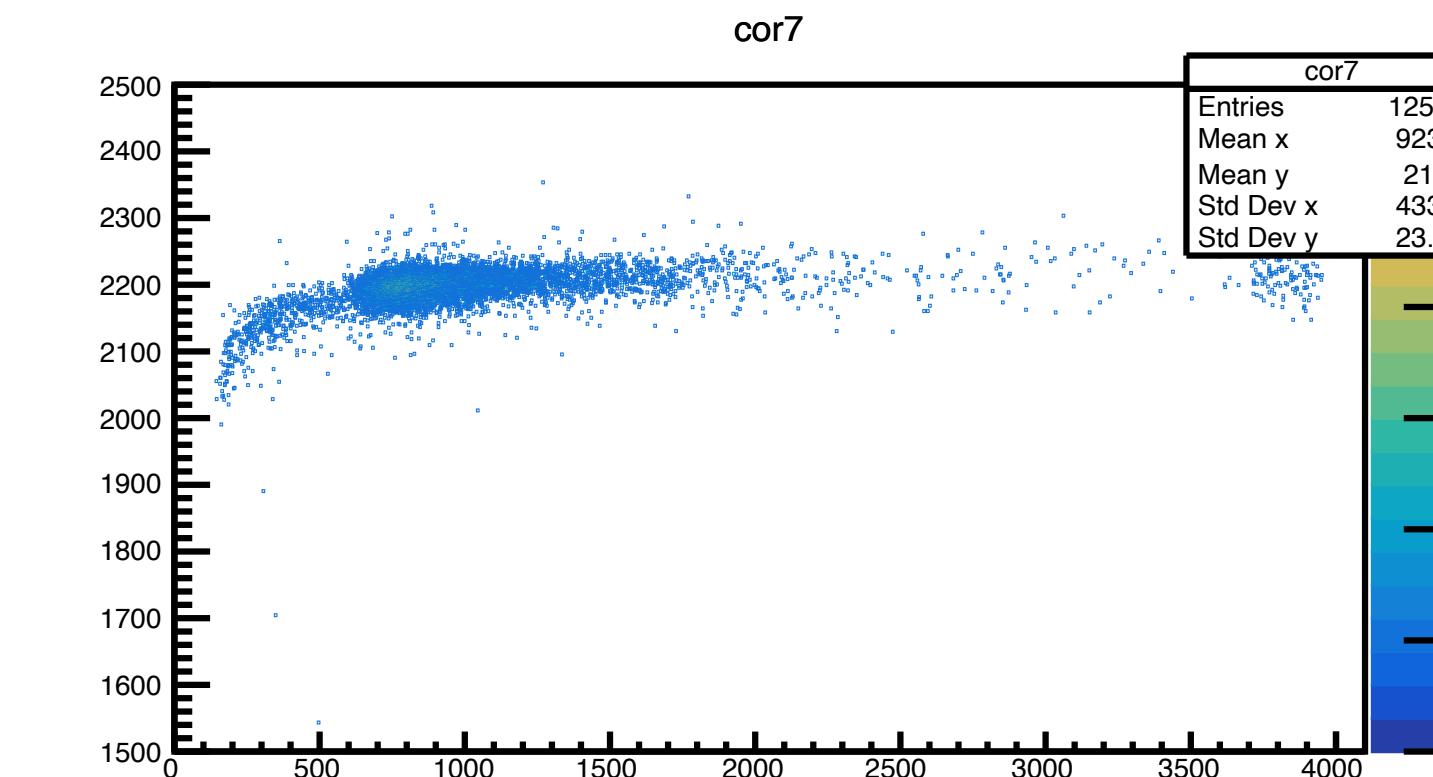
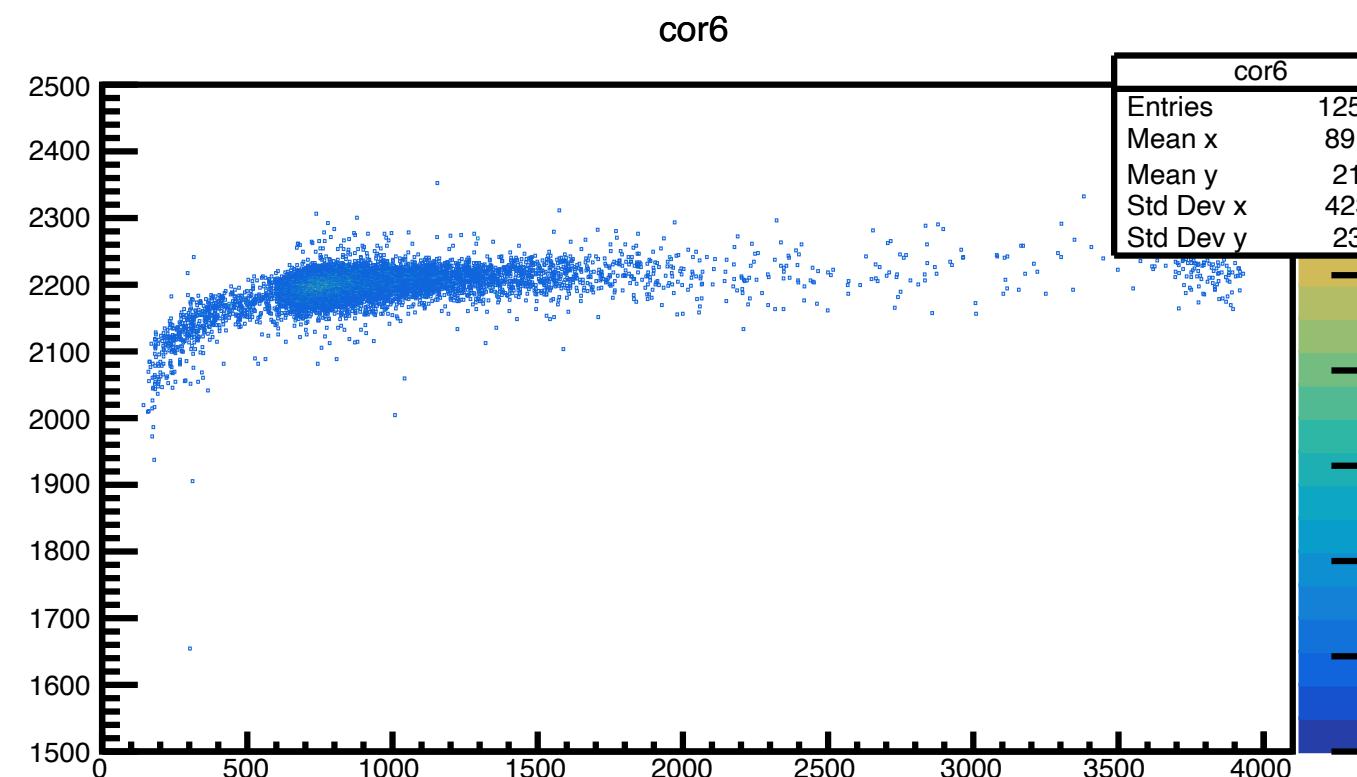
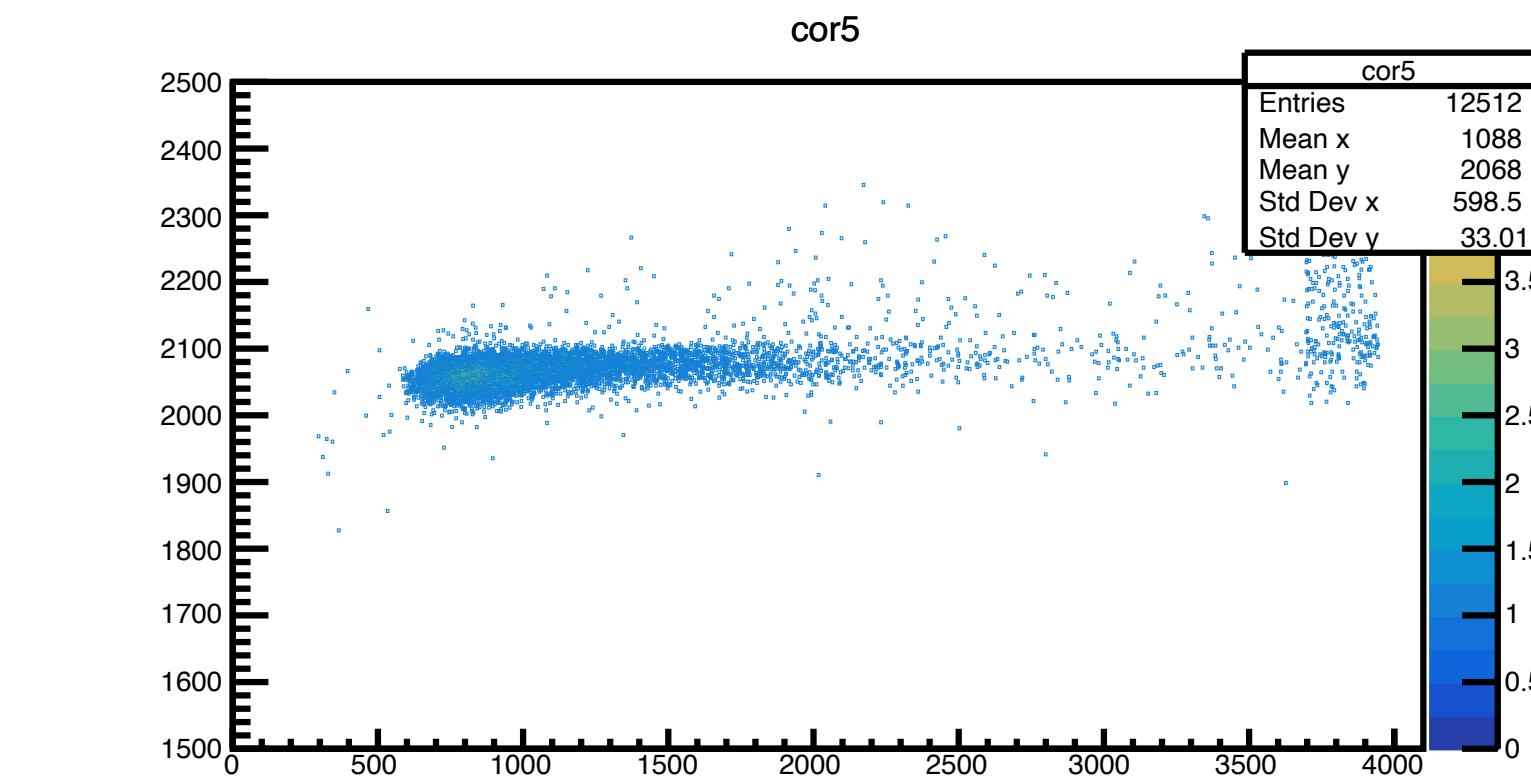
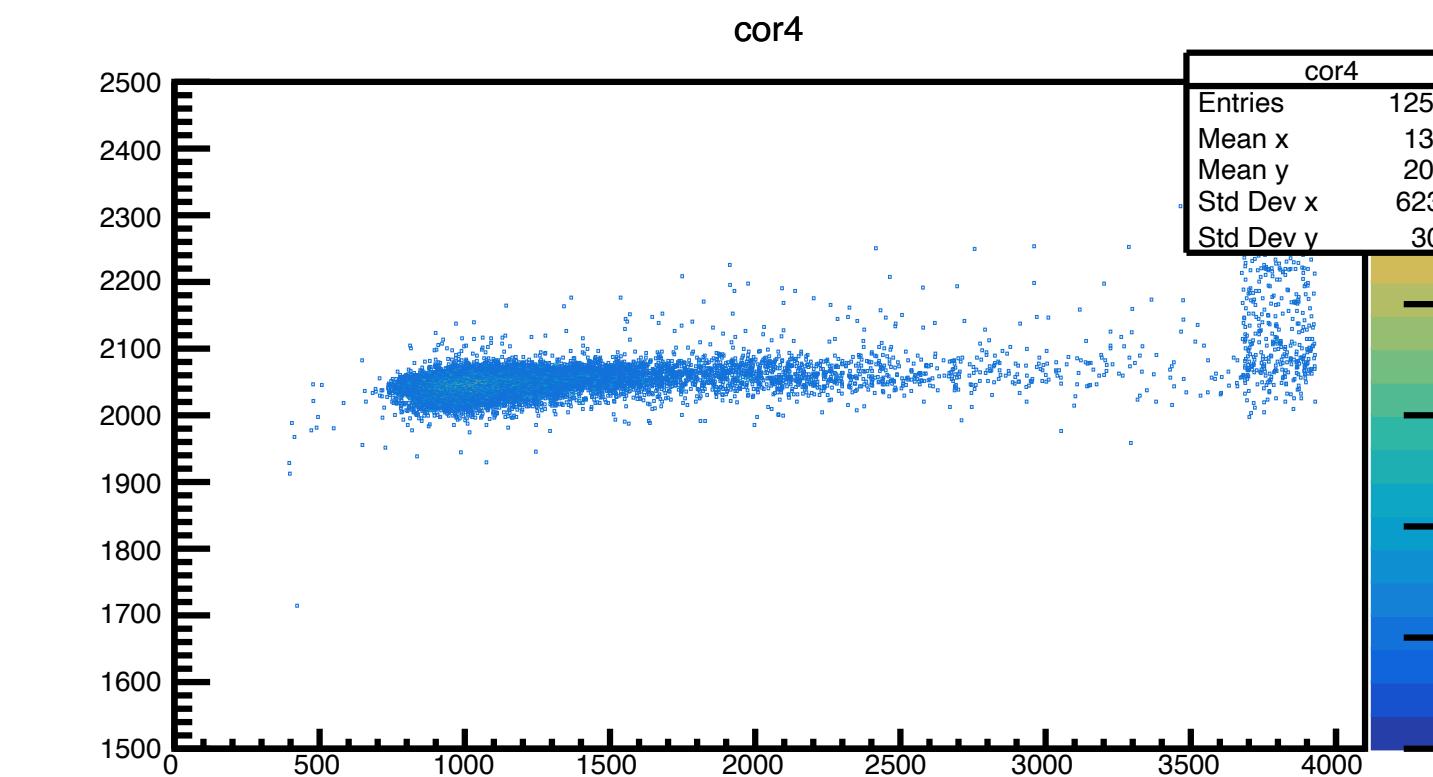
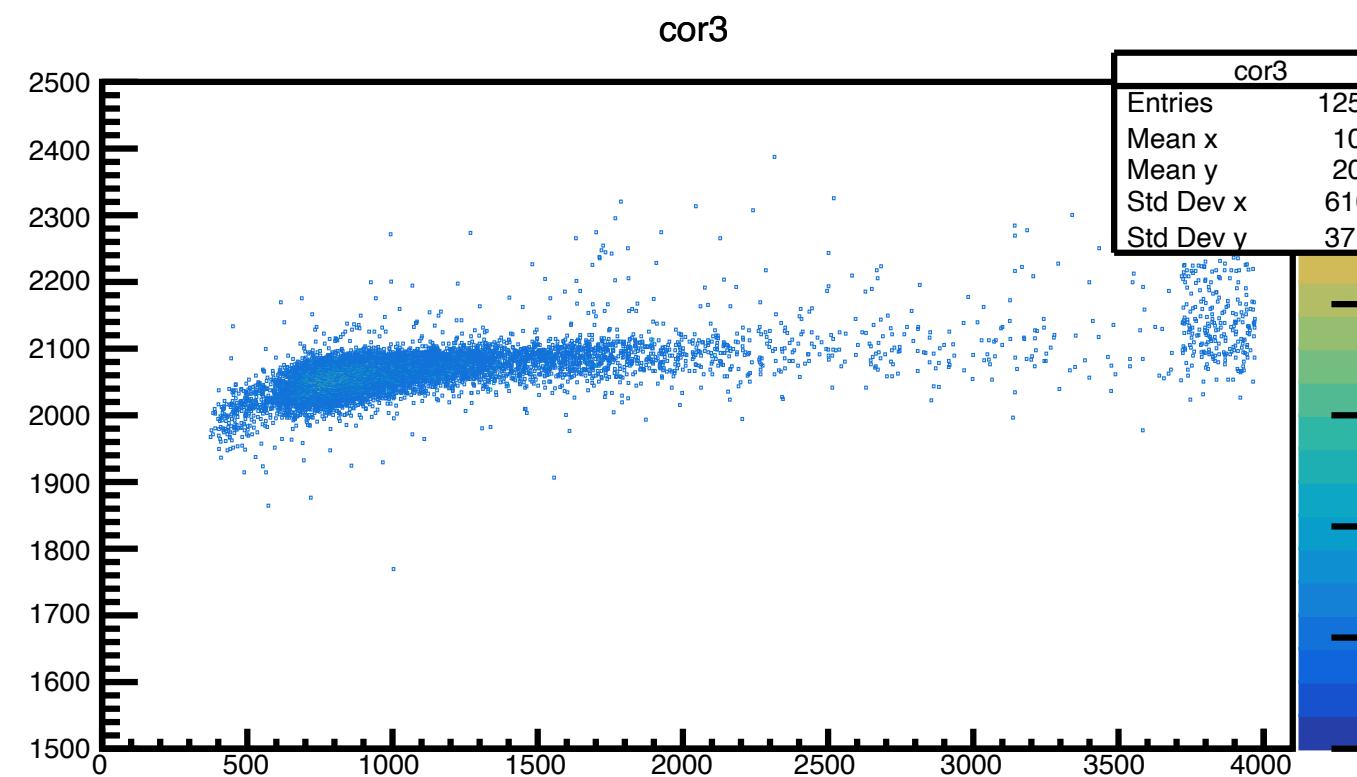
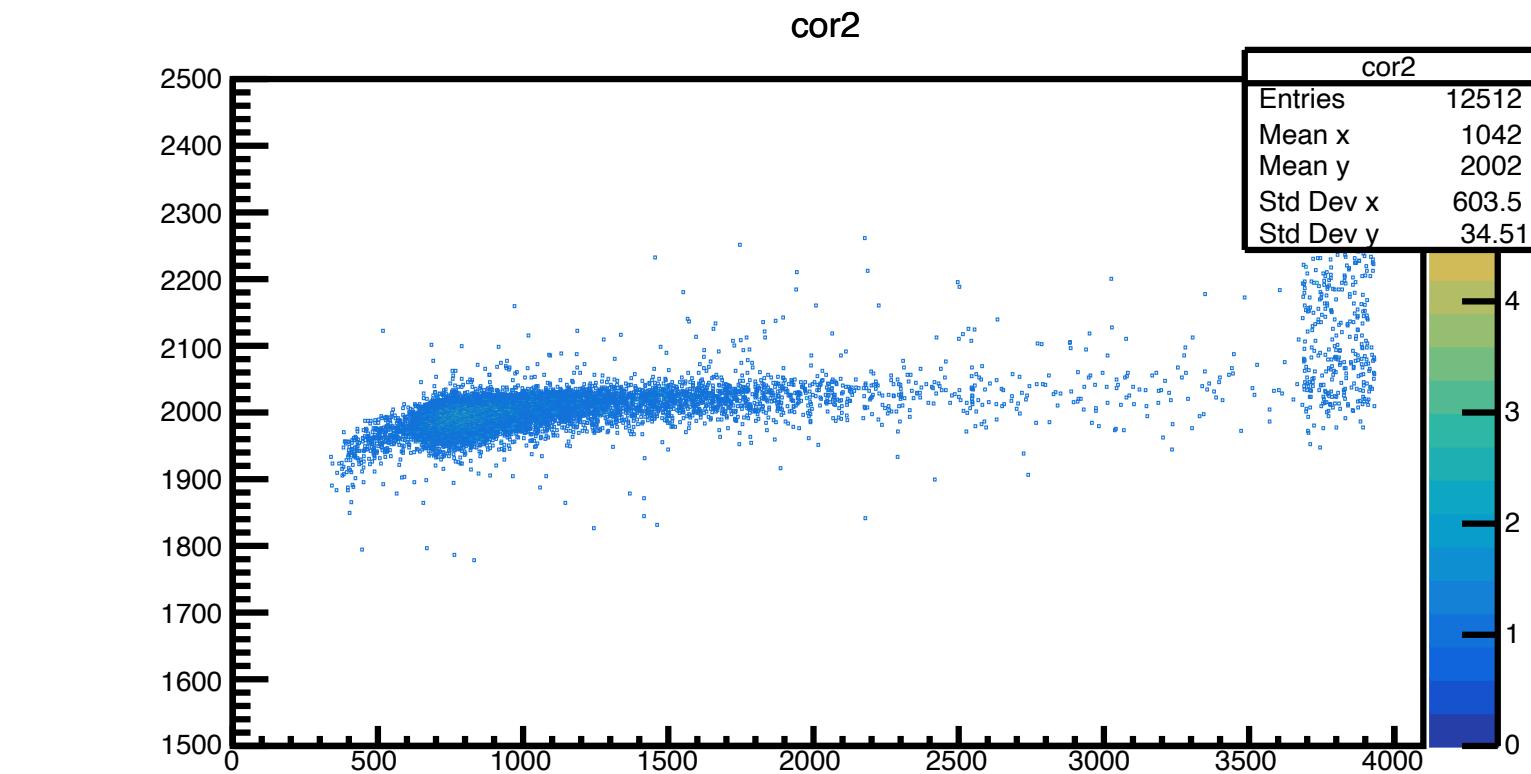
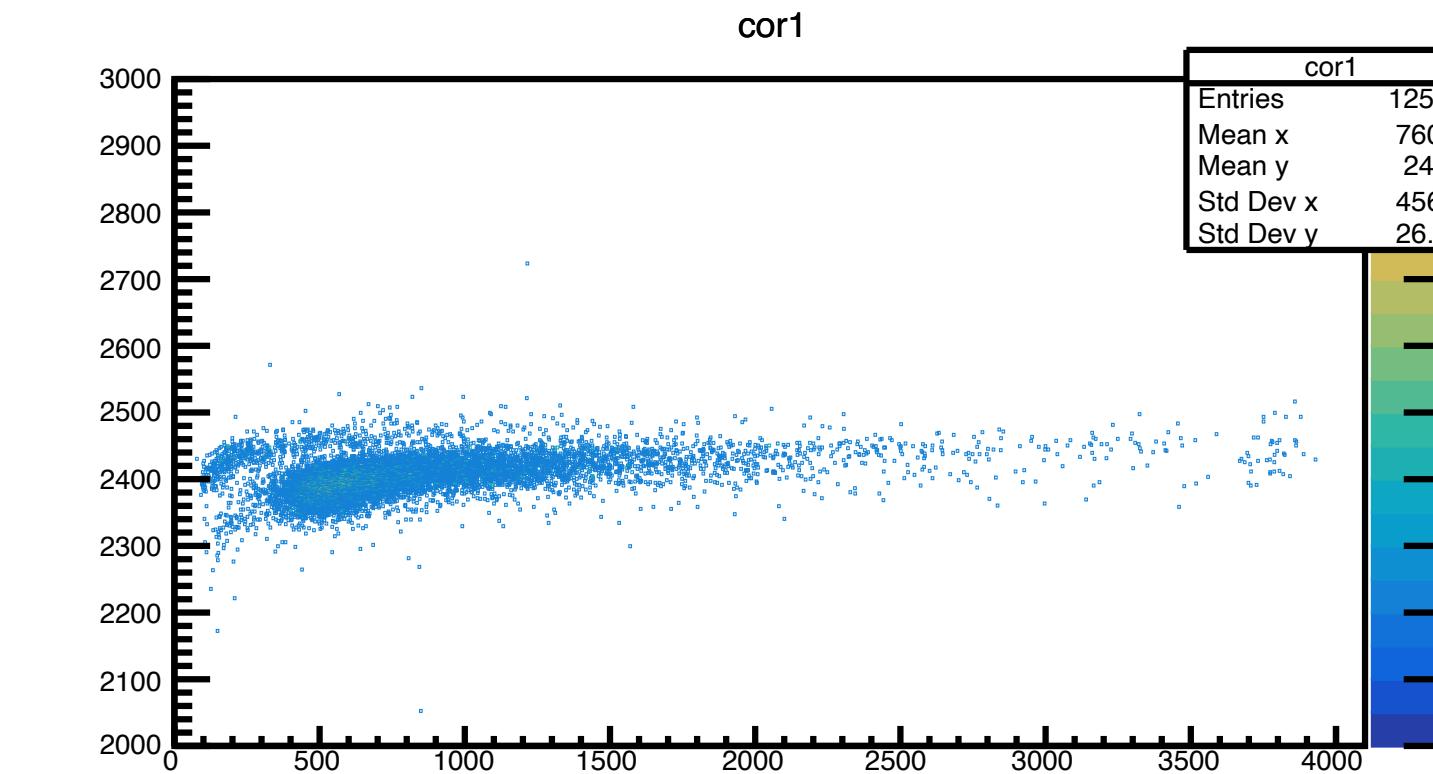
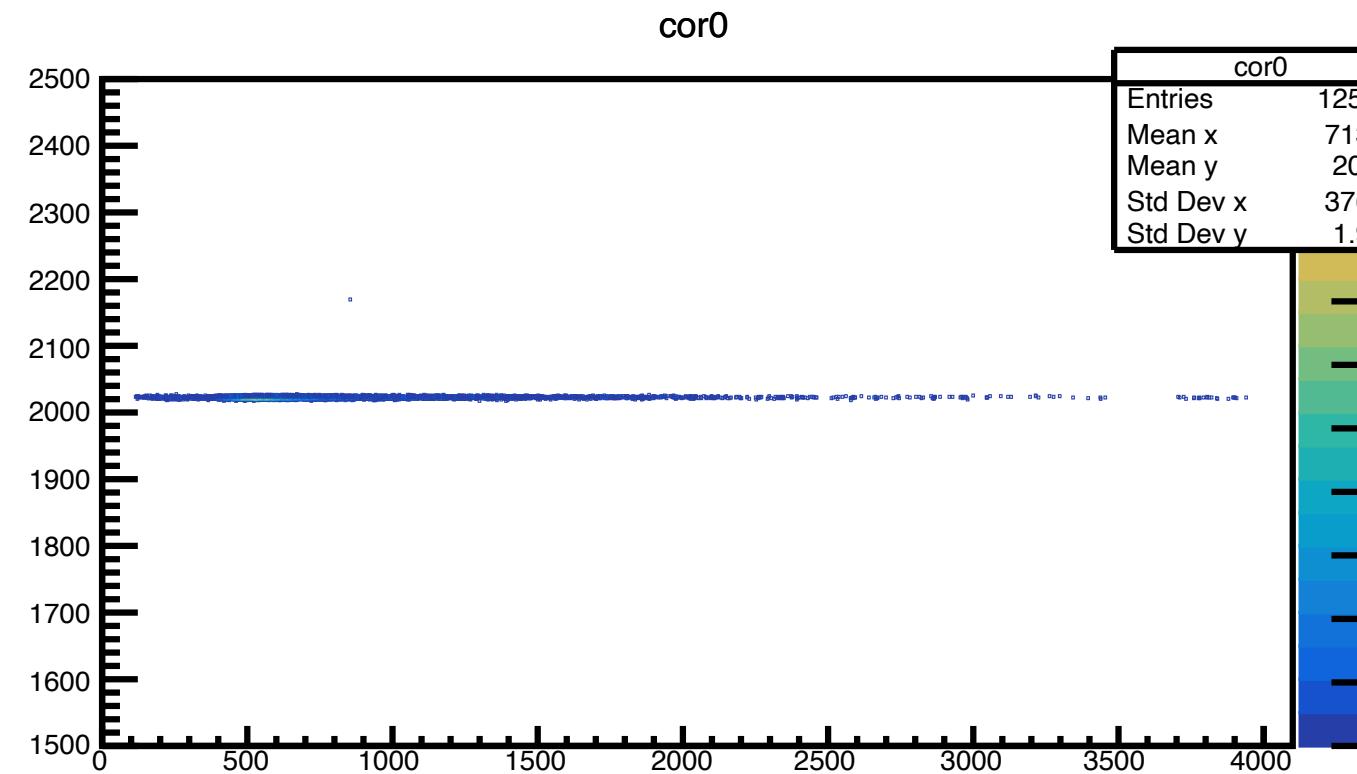
cdh75cm(右)



cdh75cm(左)

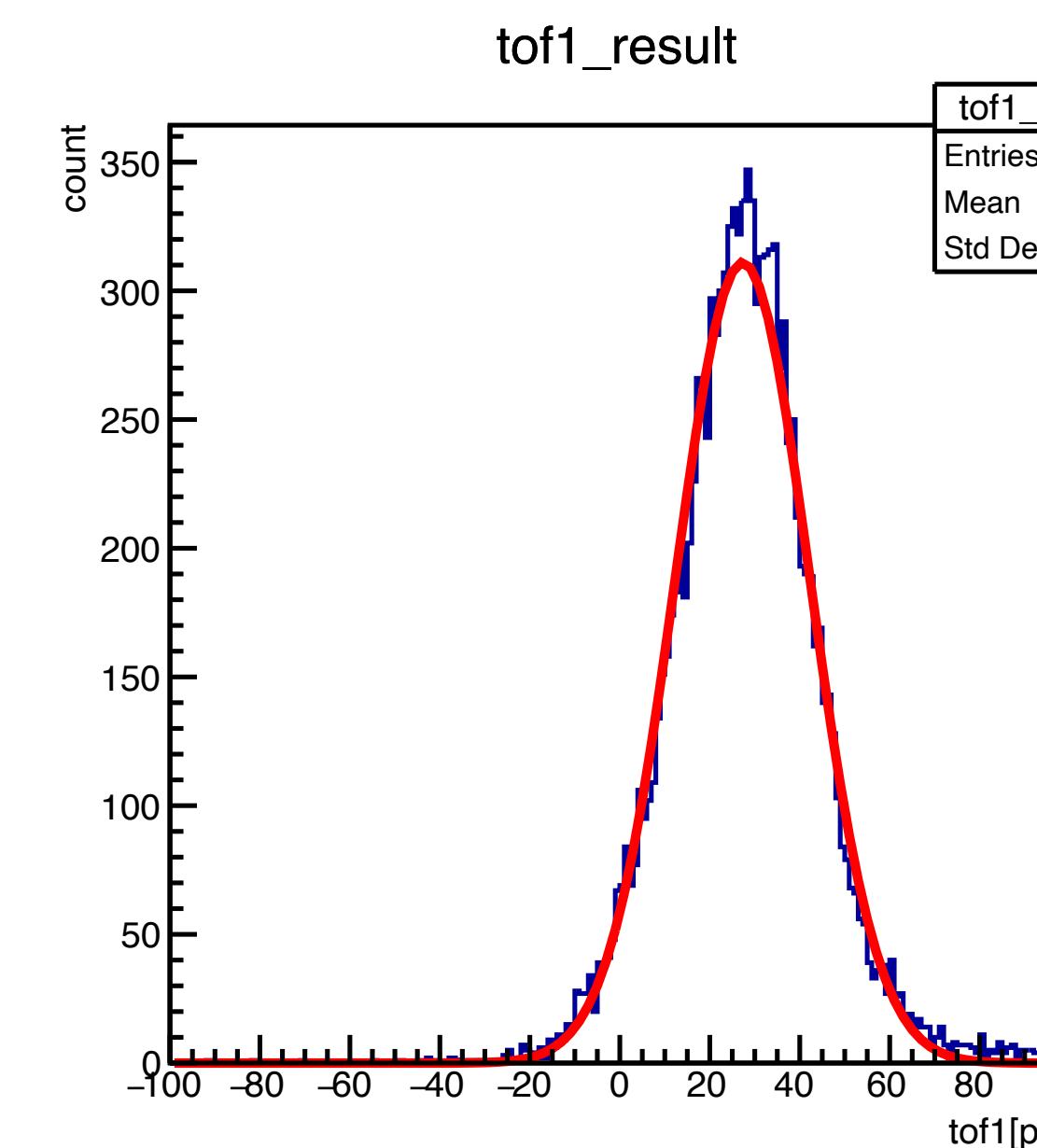
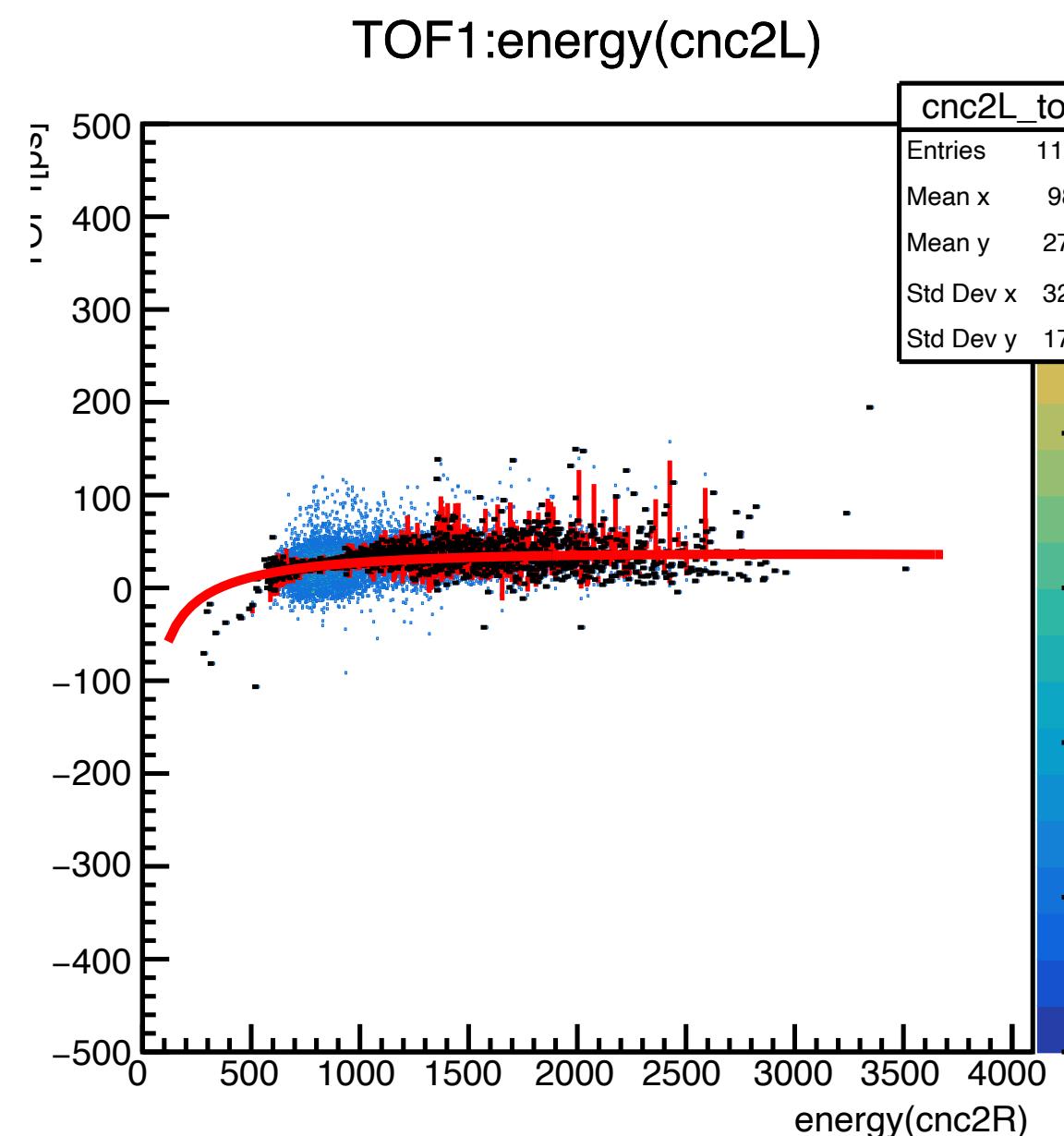
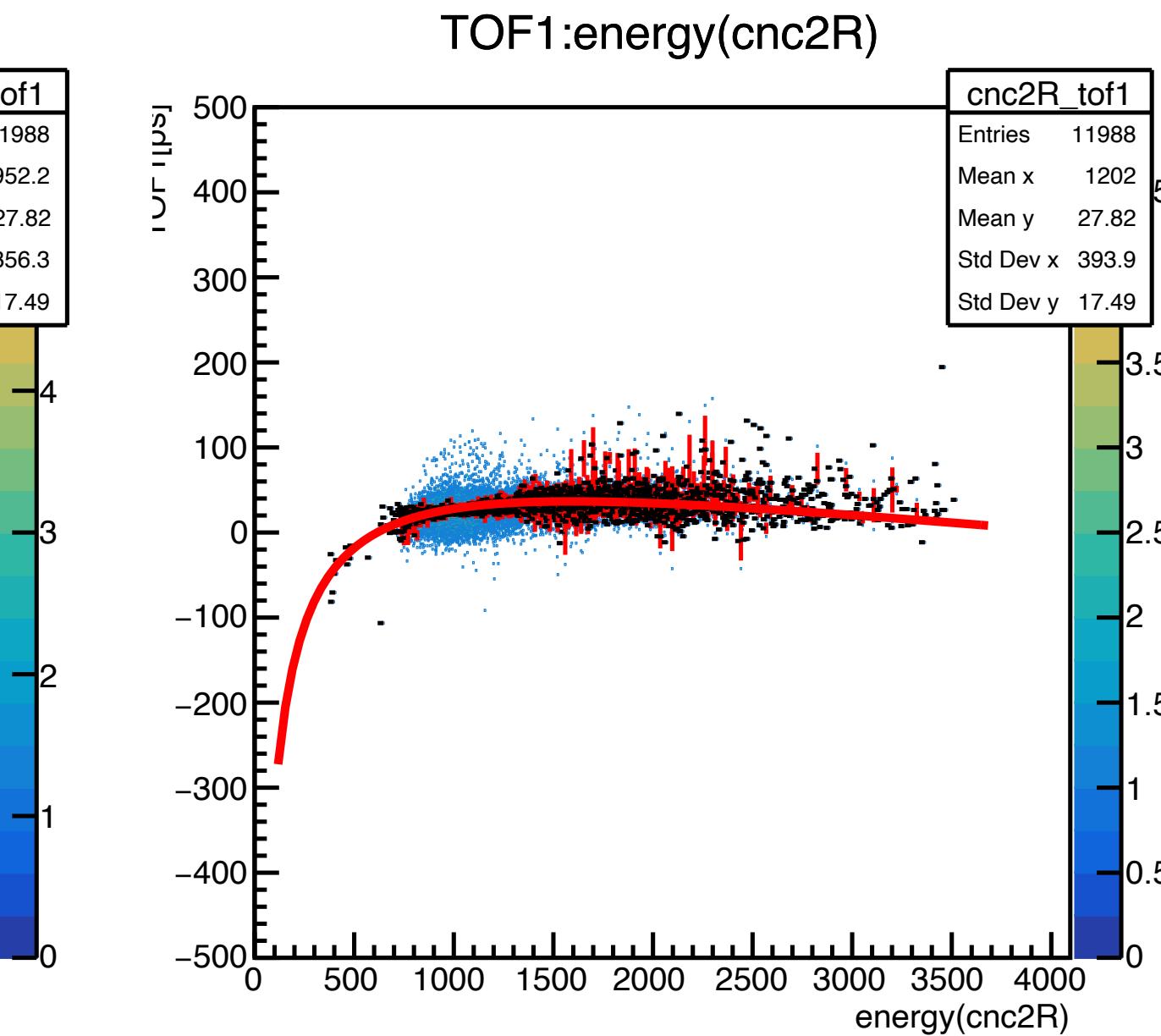
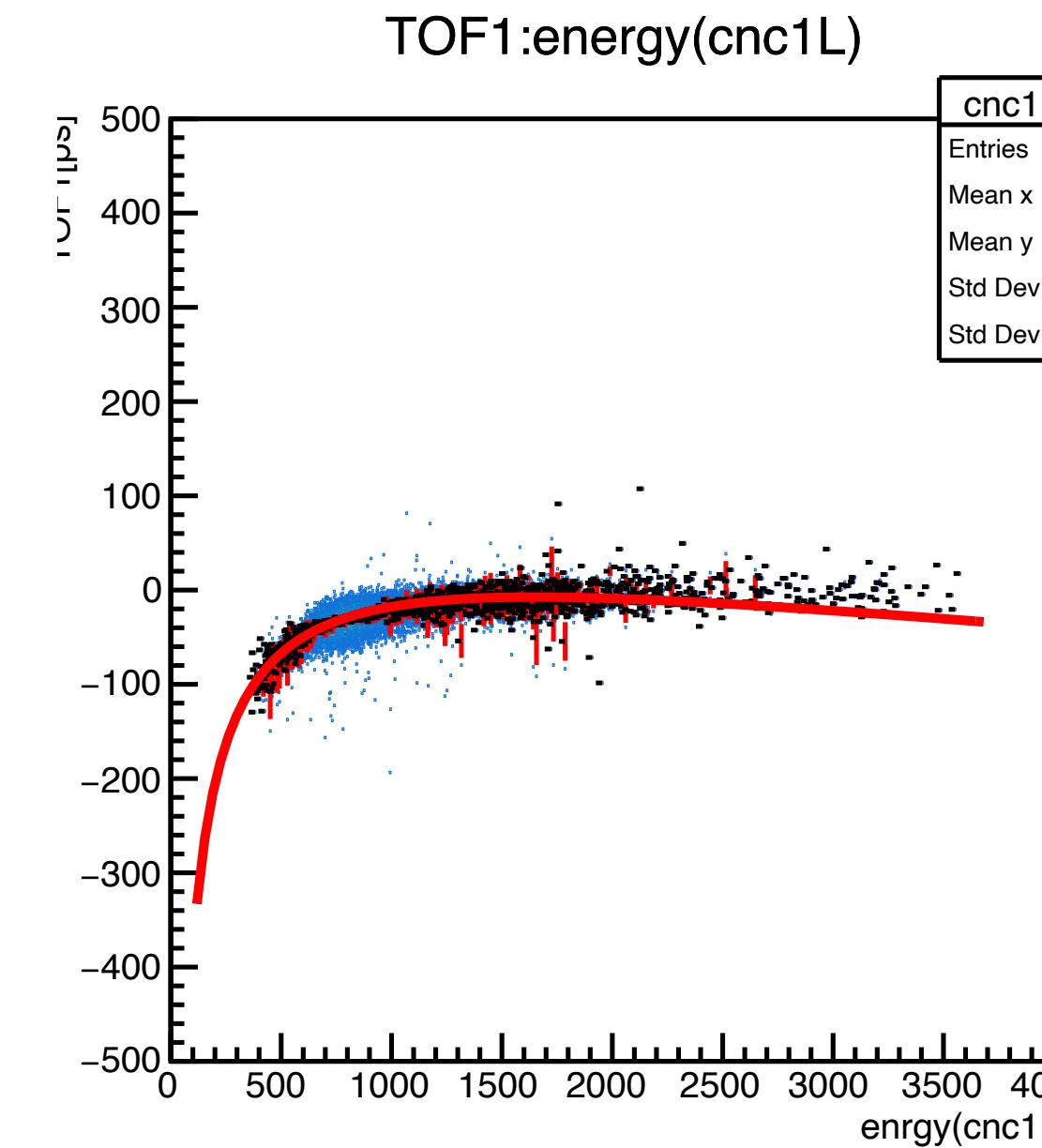
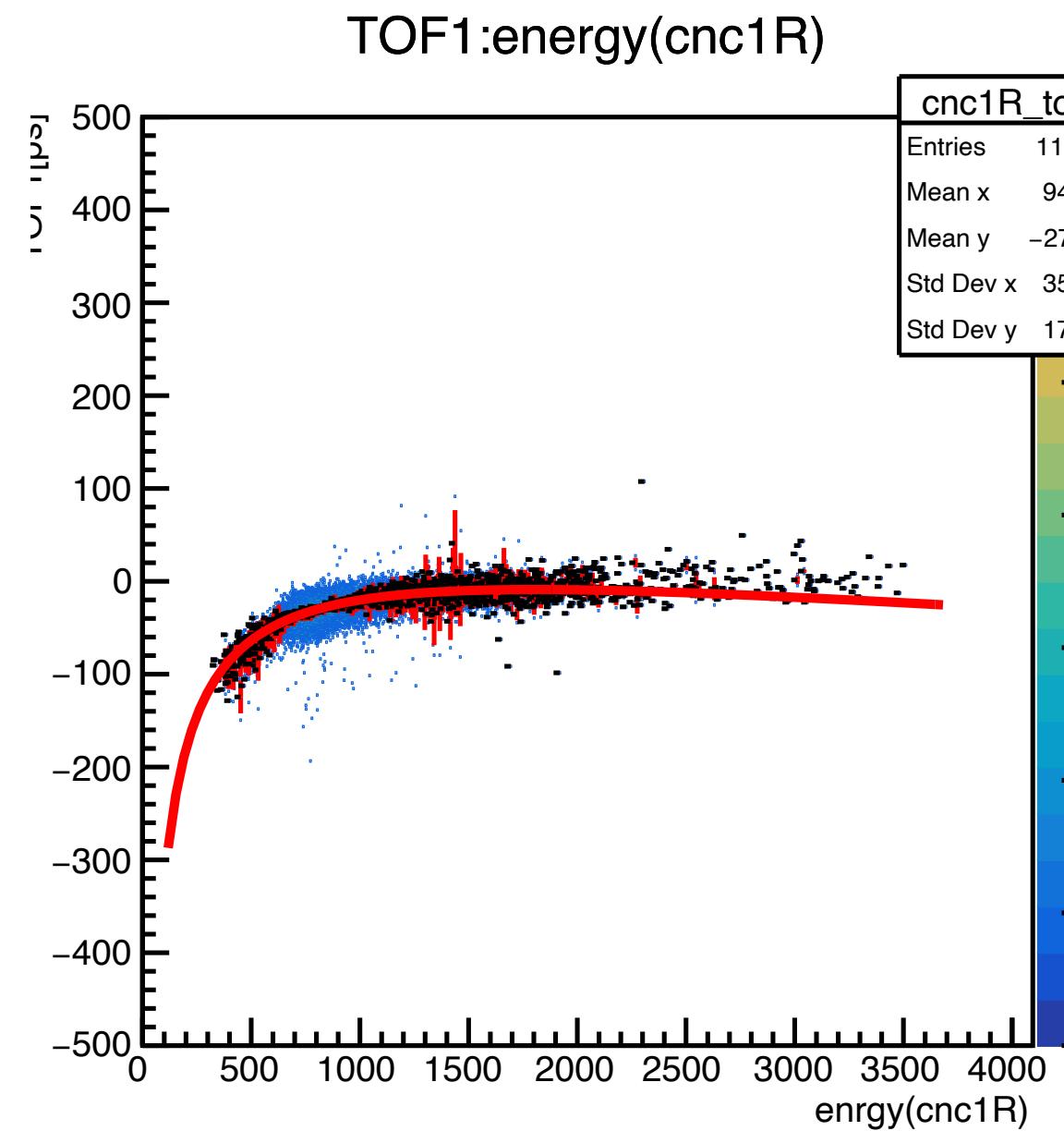


# Energy:TDC



$\text{TOF\_1} = (\text{cnc2R} + \text{cnc2L} - \text{cnc1R} - \text{cnc1L})/2$

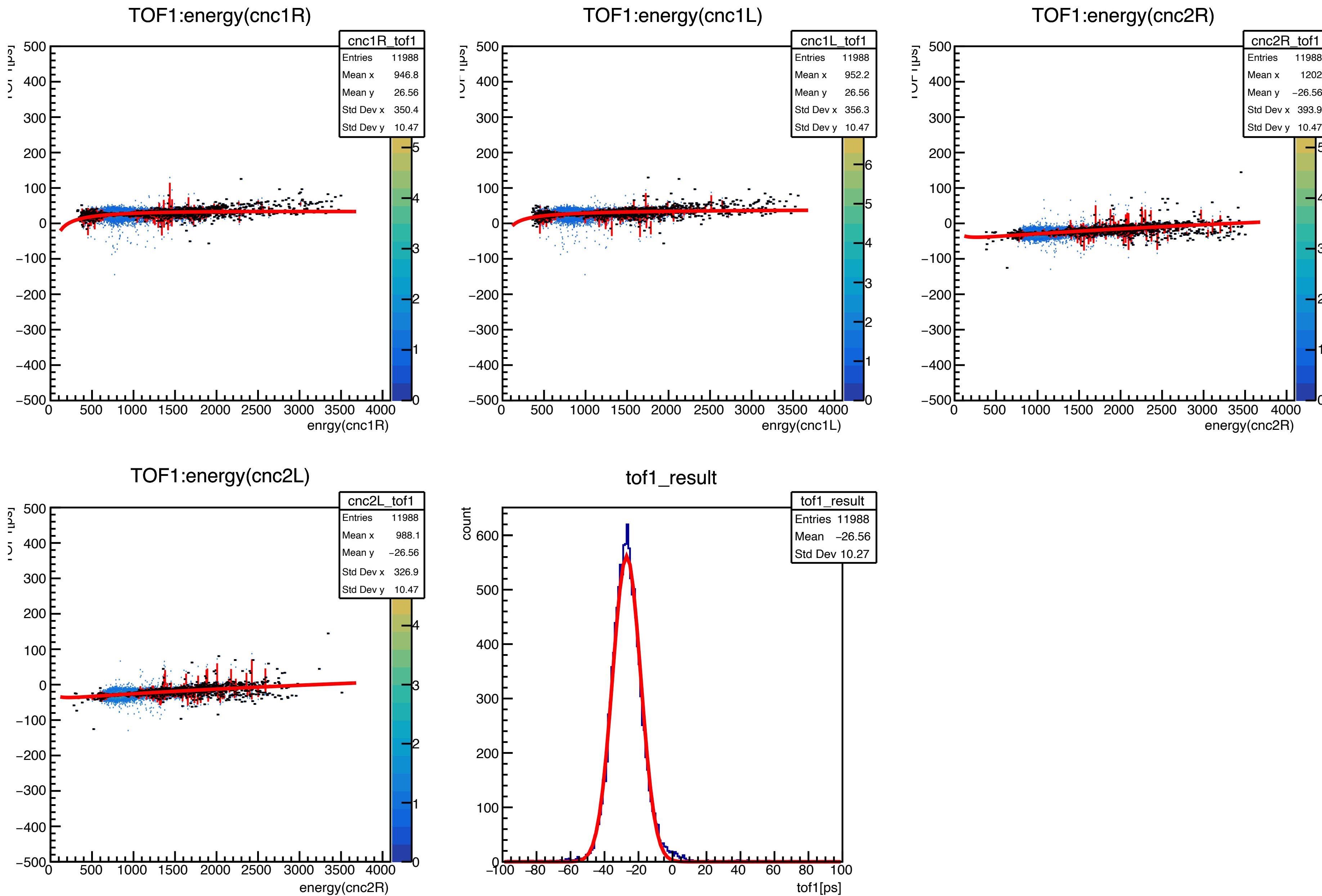
Slew 0回目



Slewing correctionの1例です  
全chのTDC!=0とADC<3700を  
要求しています

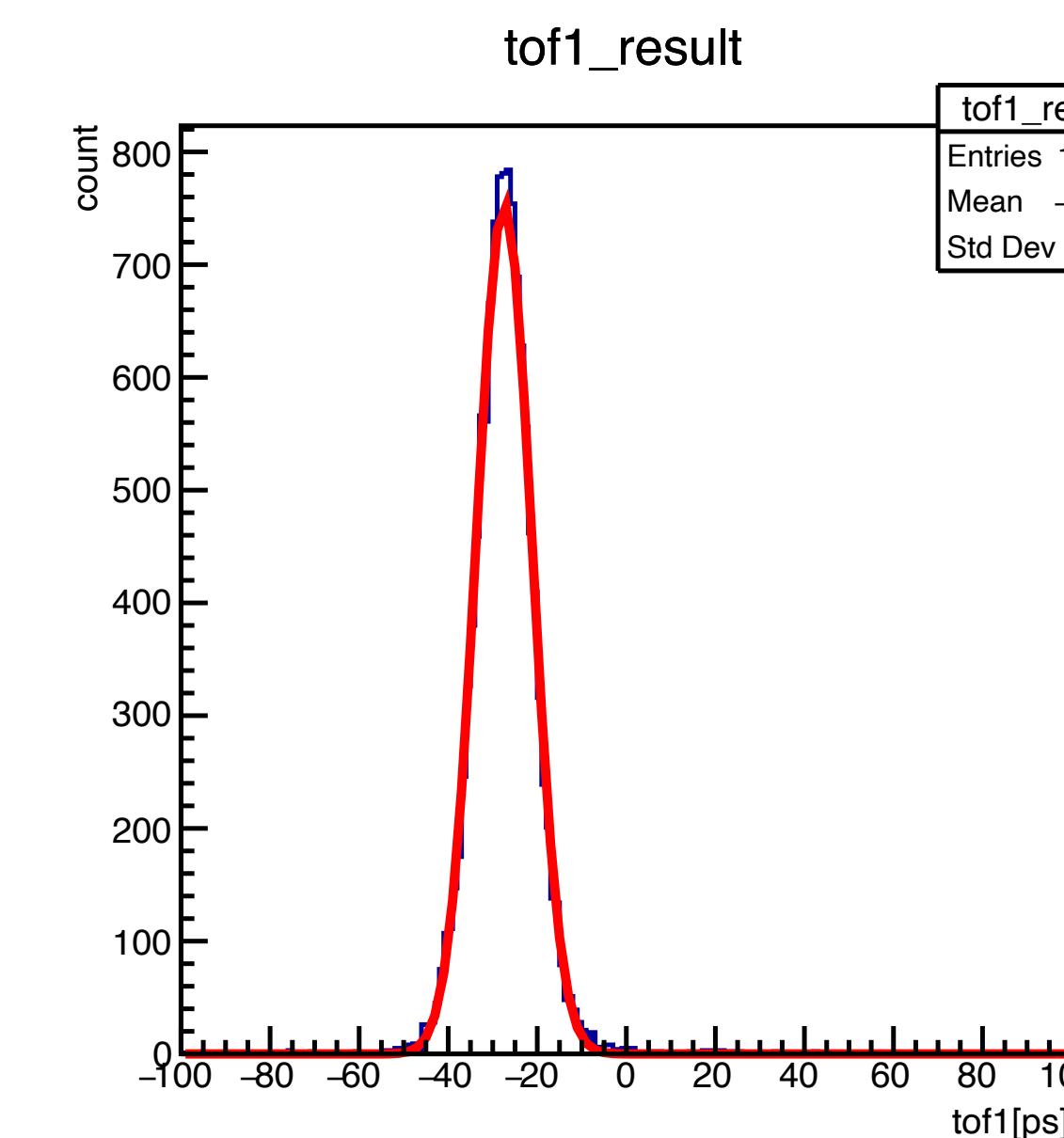
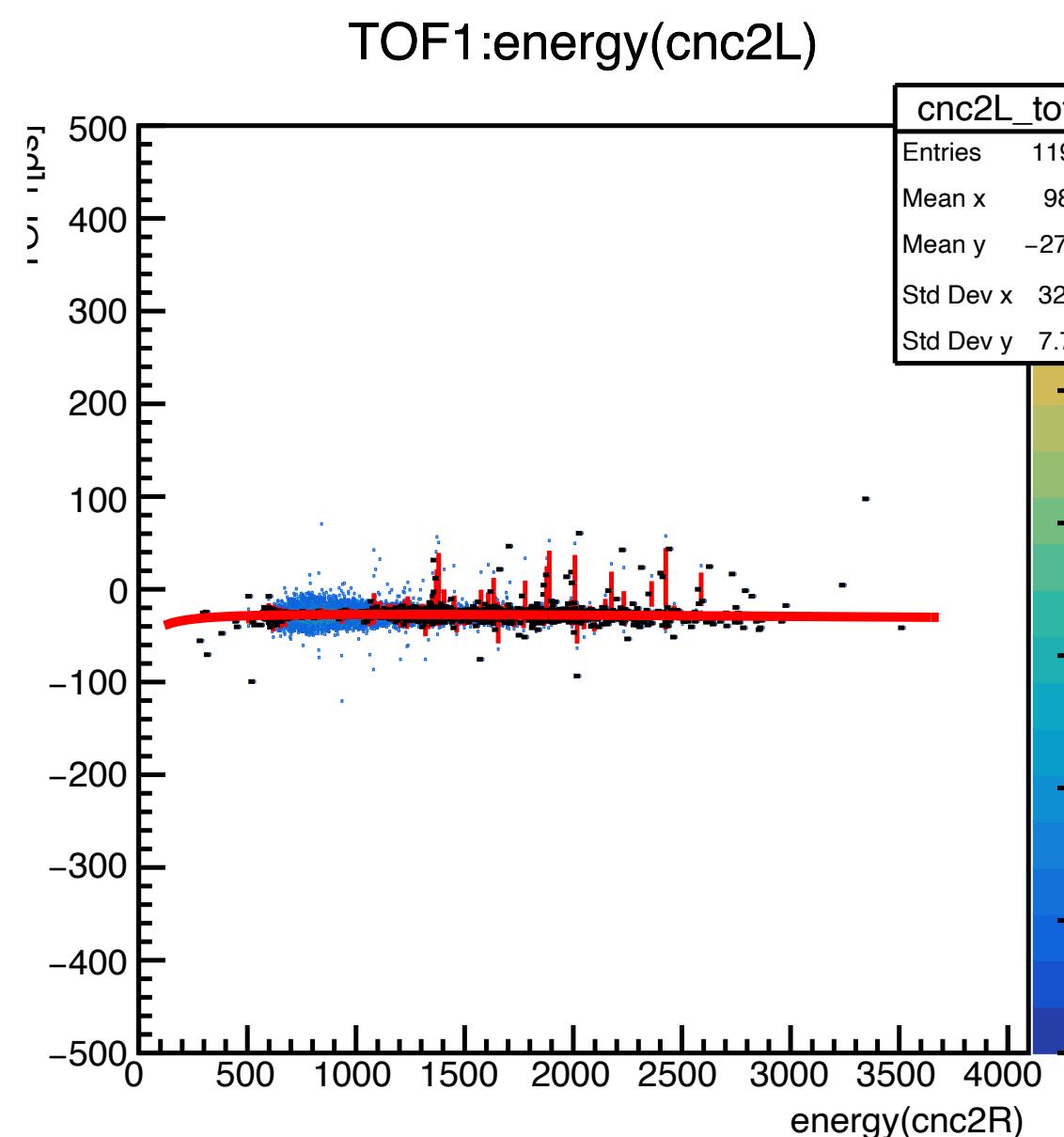
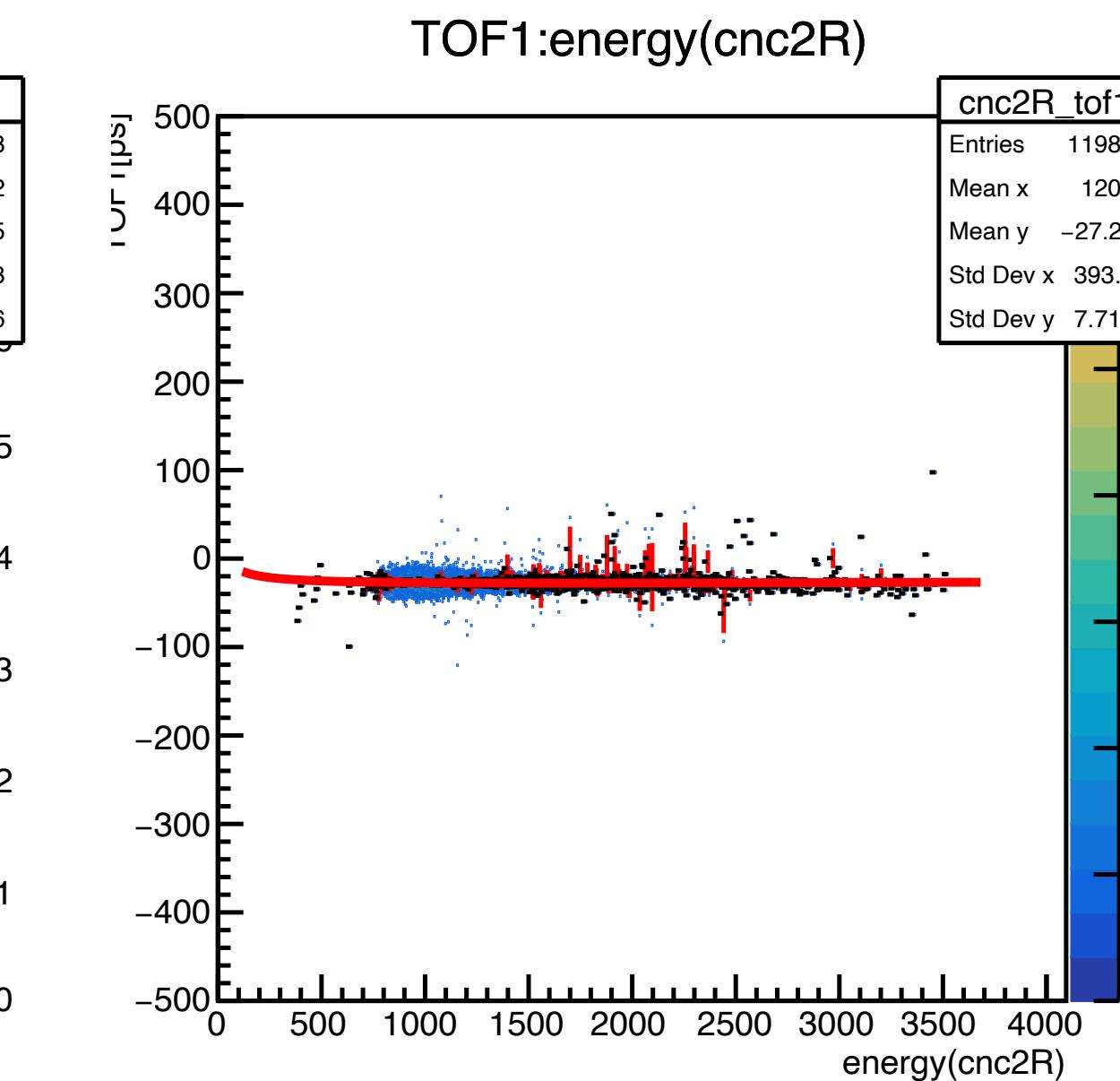
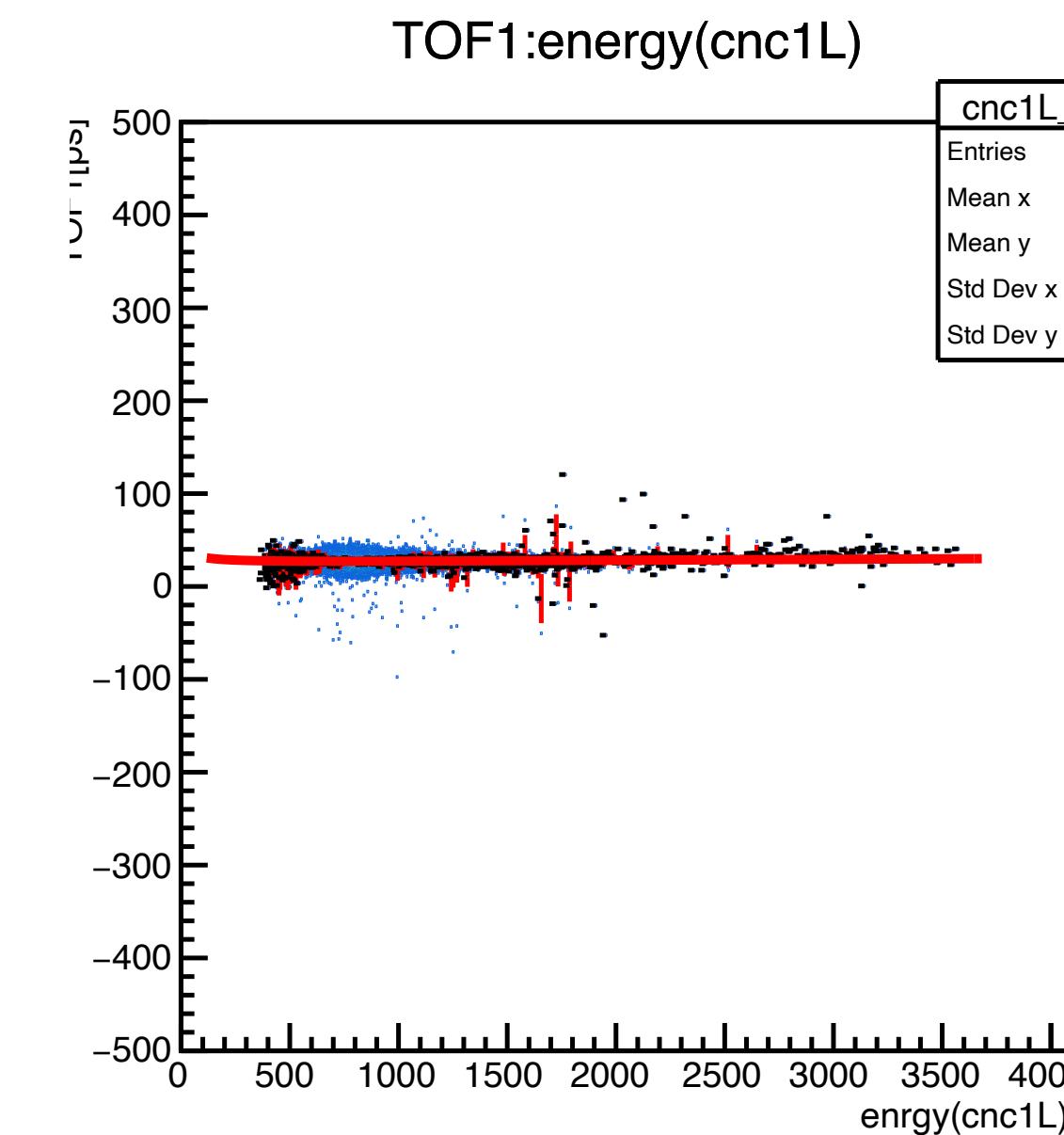
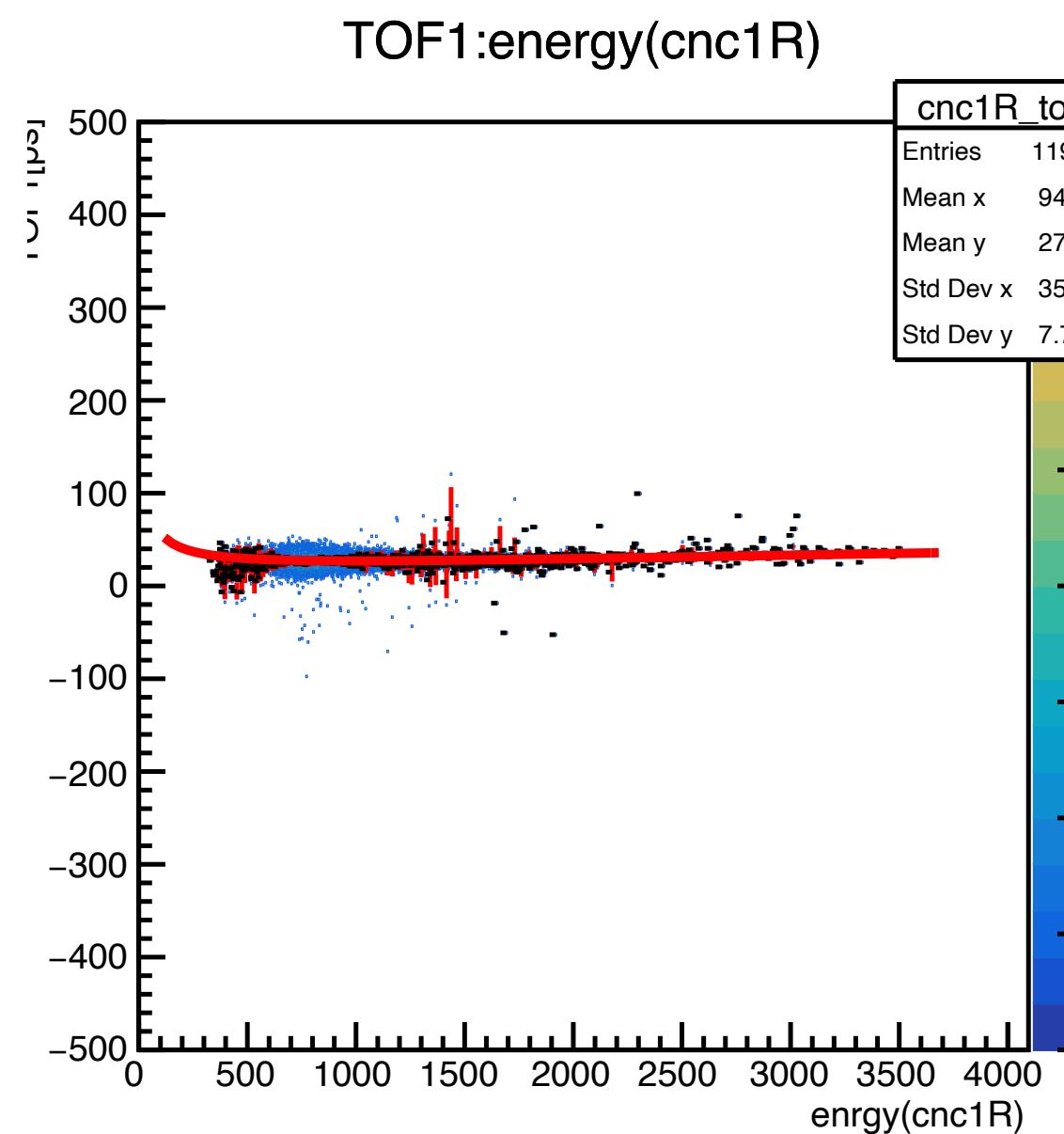
TOF\_1

# Slew 1 回目



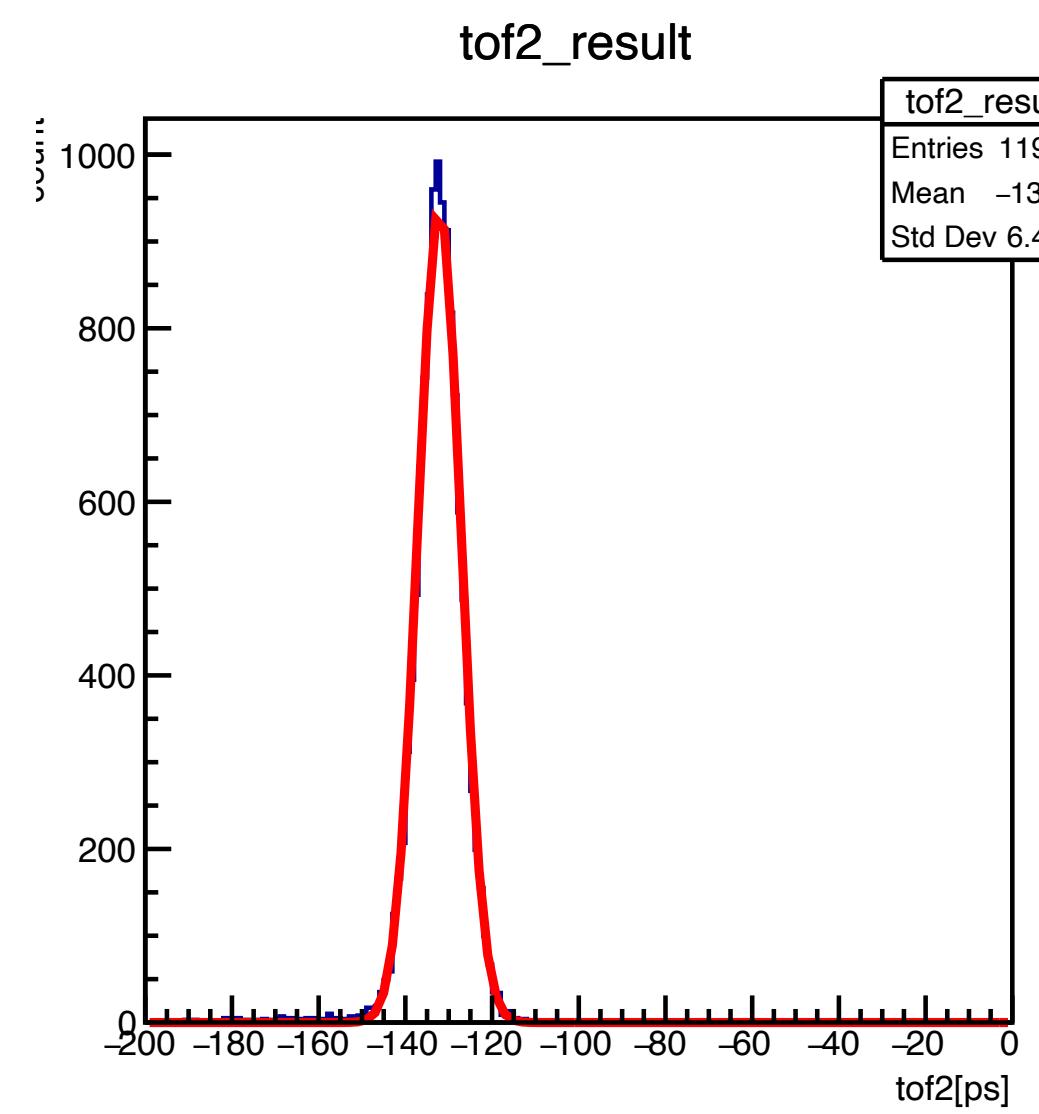
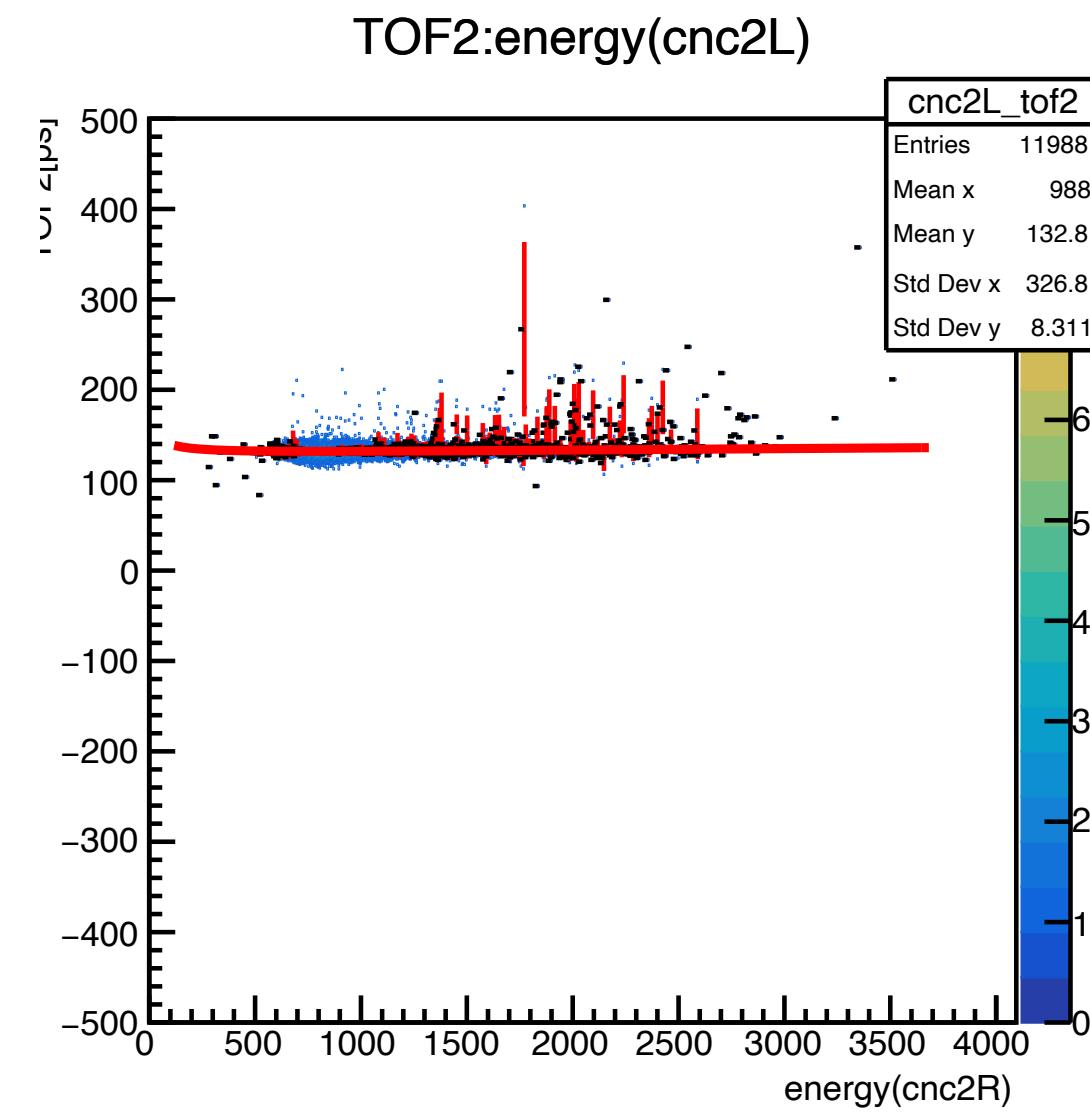
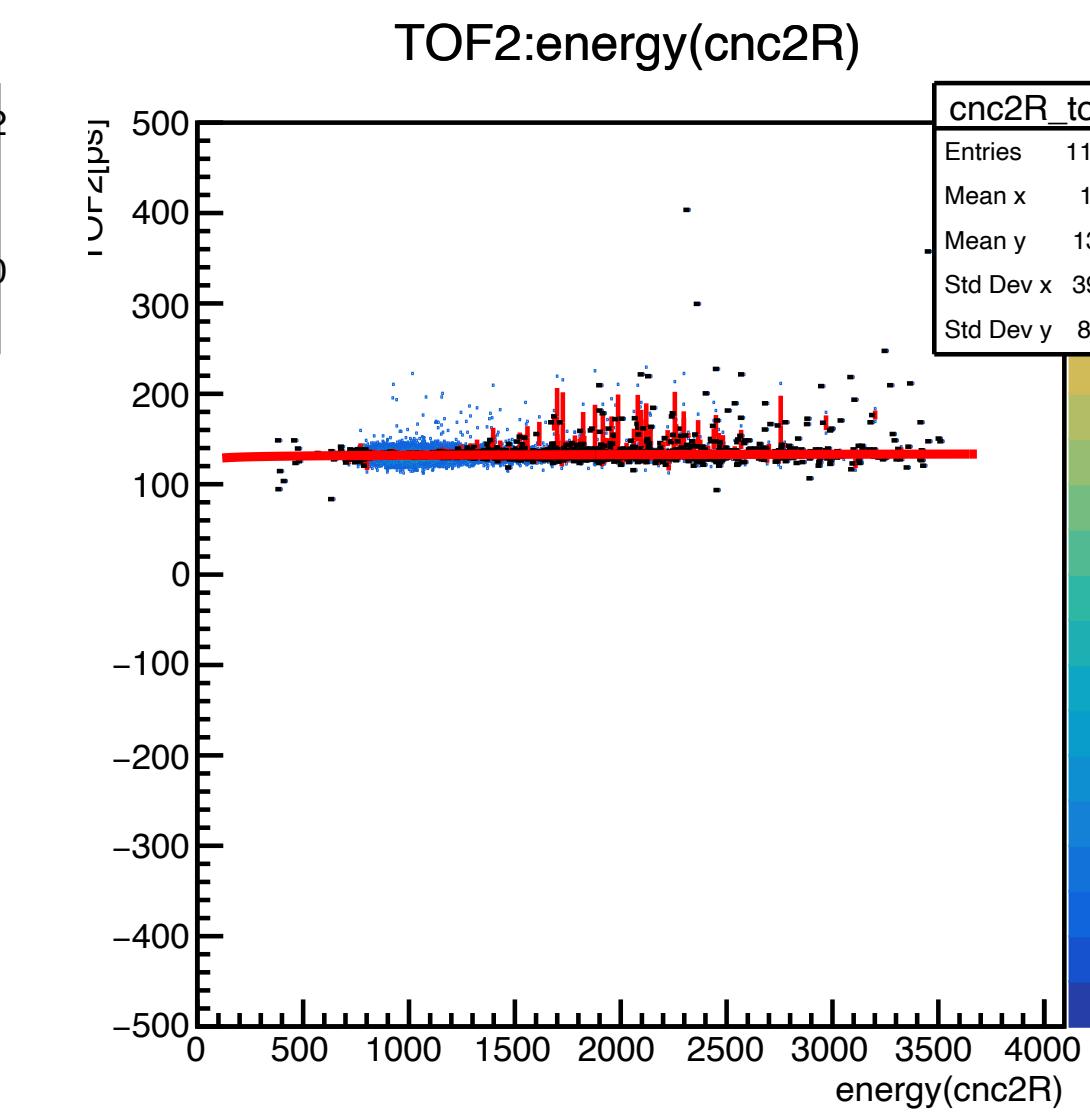
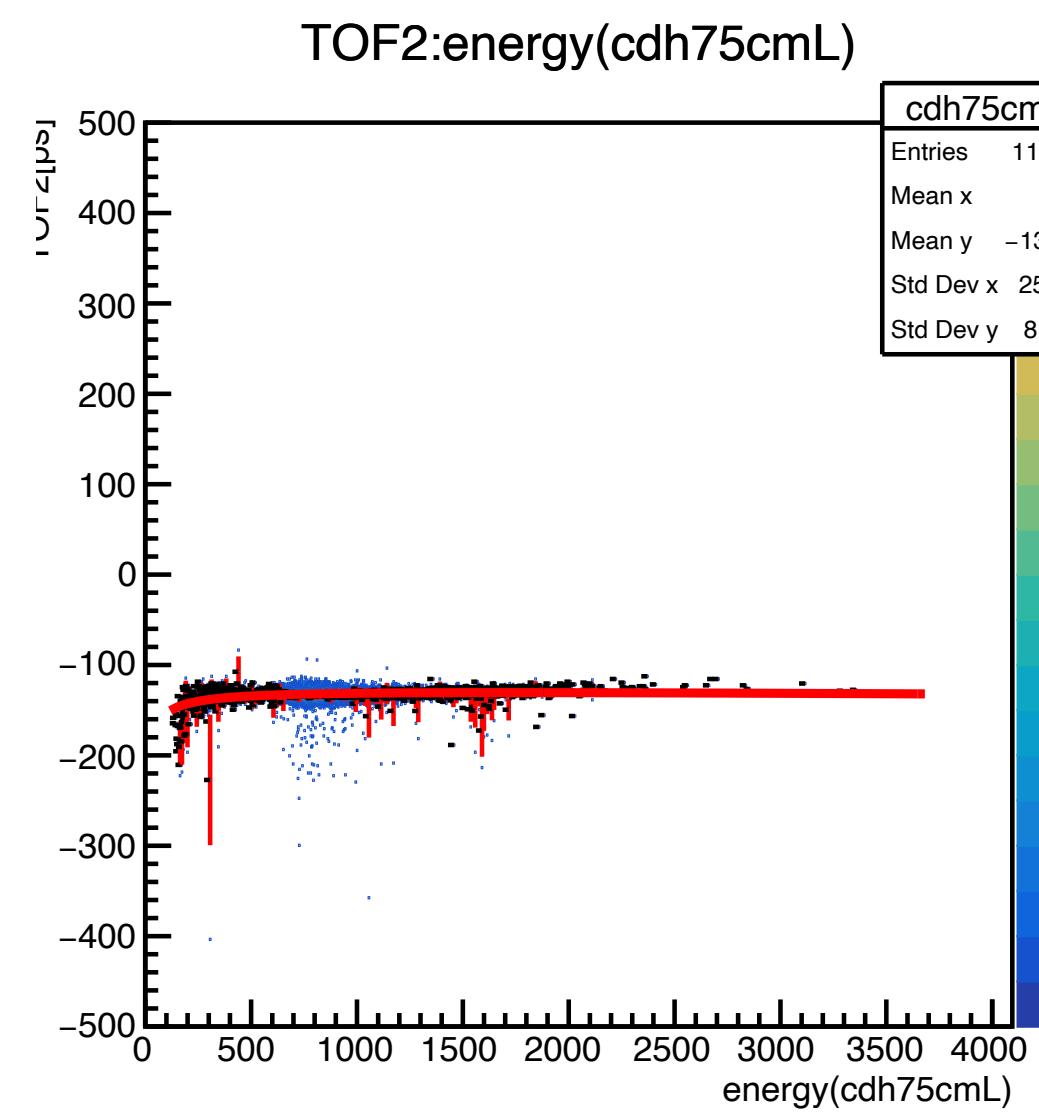
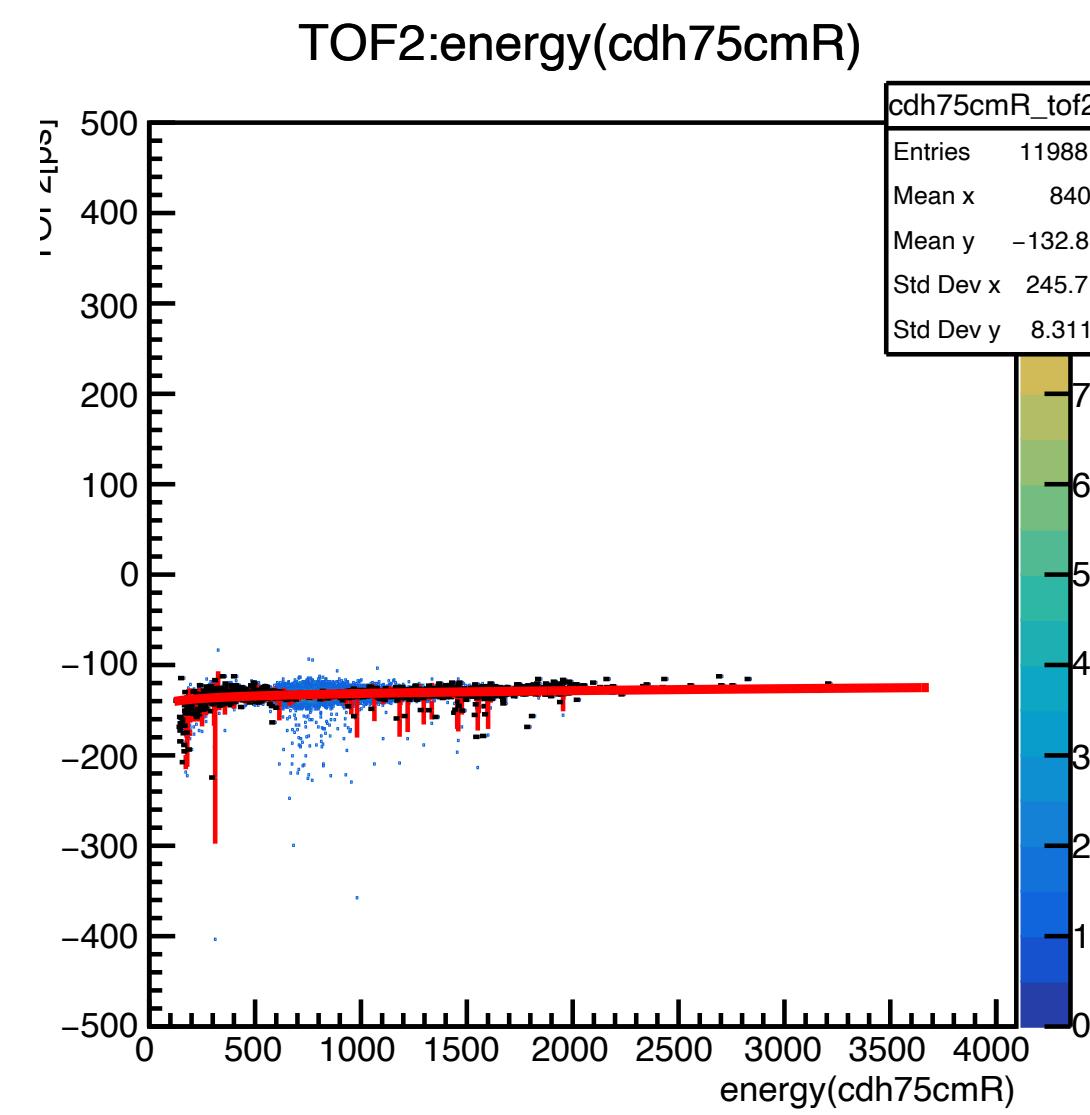
TOF\_1

Slew 4回目



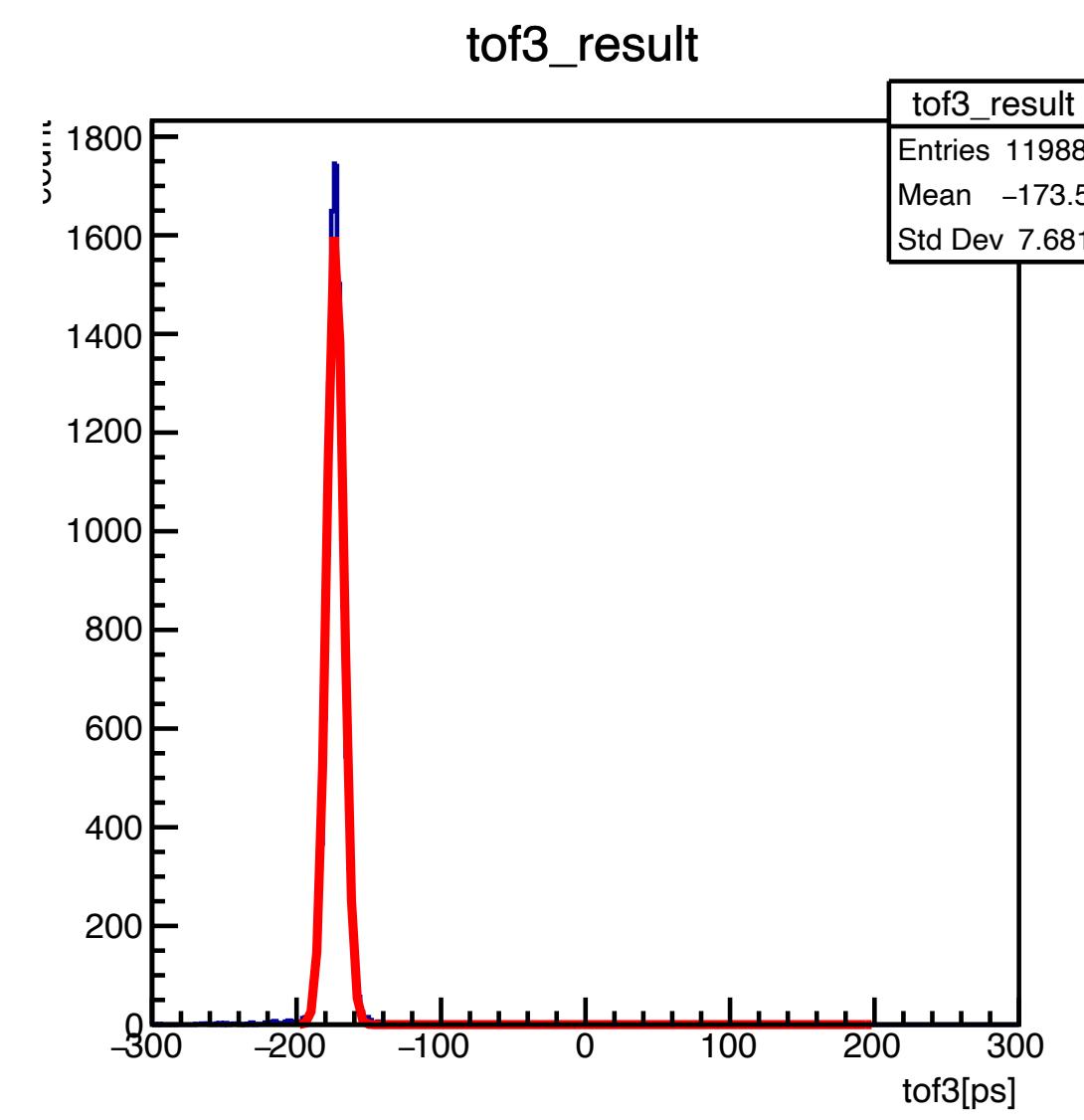
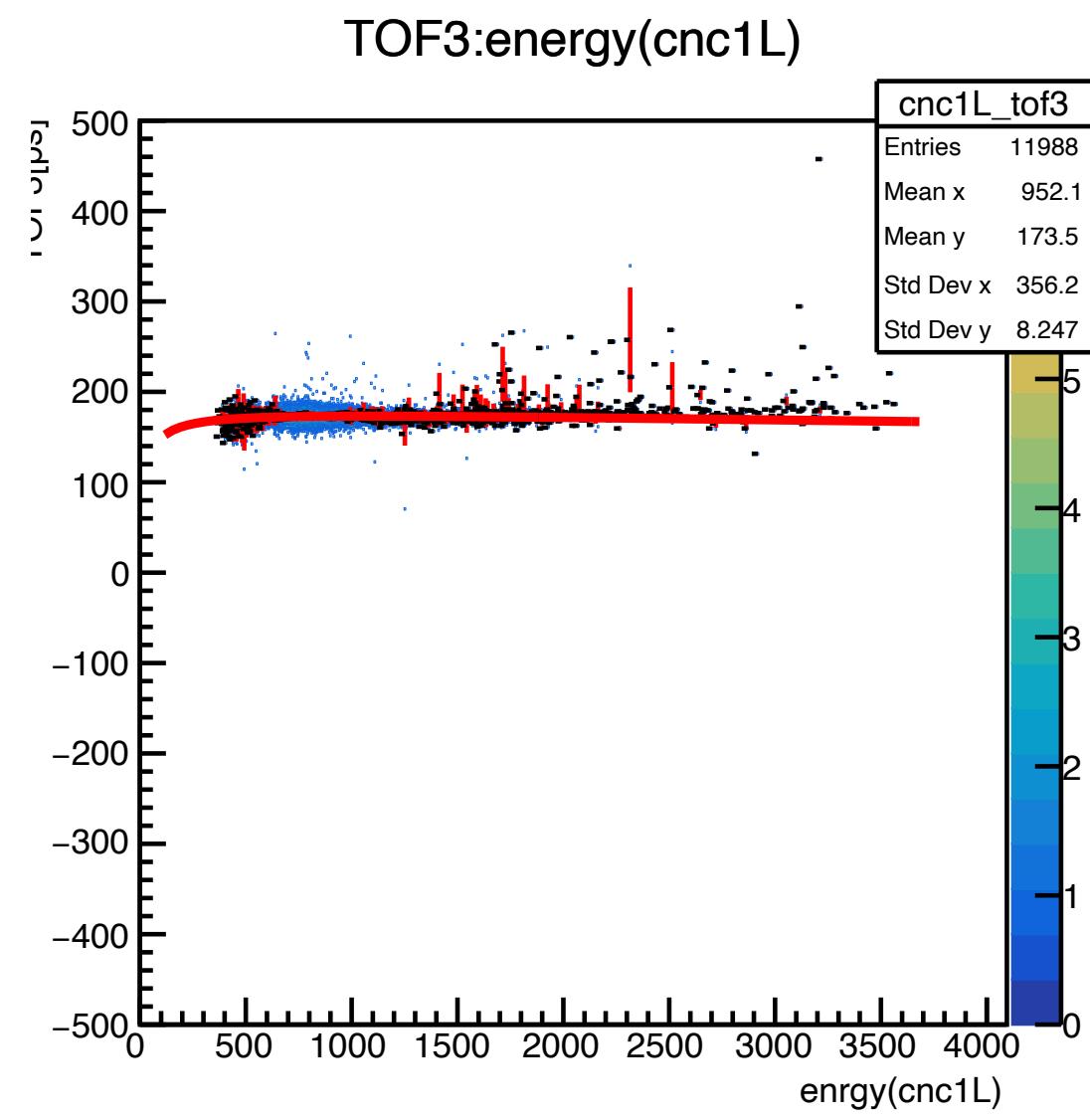
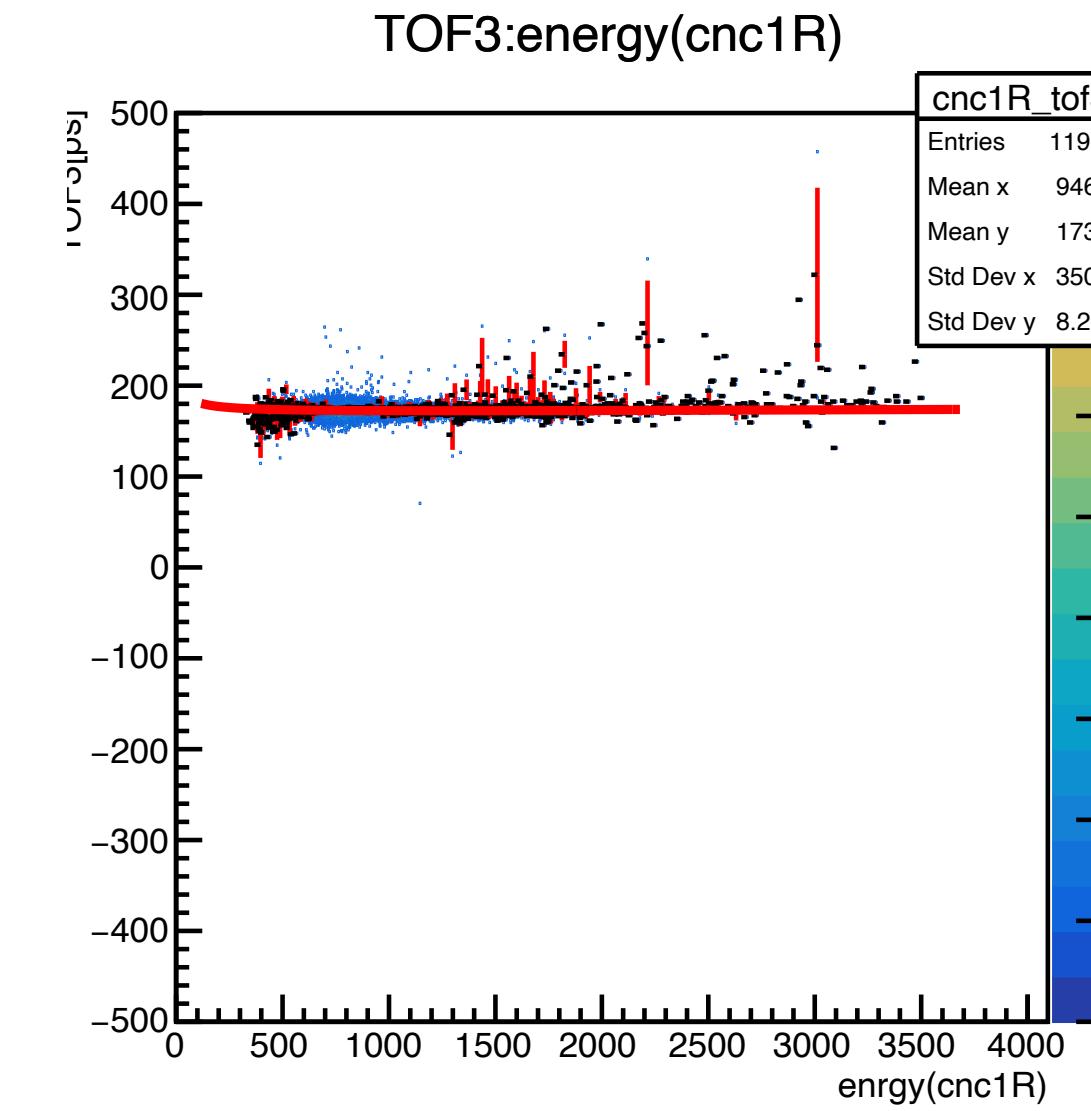
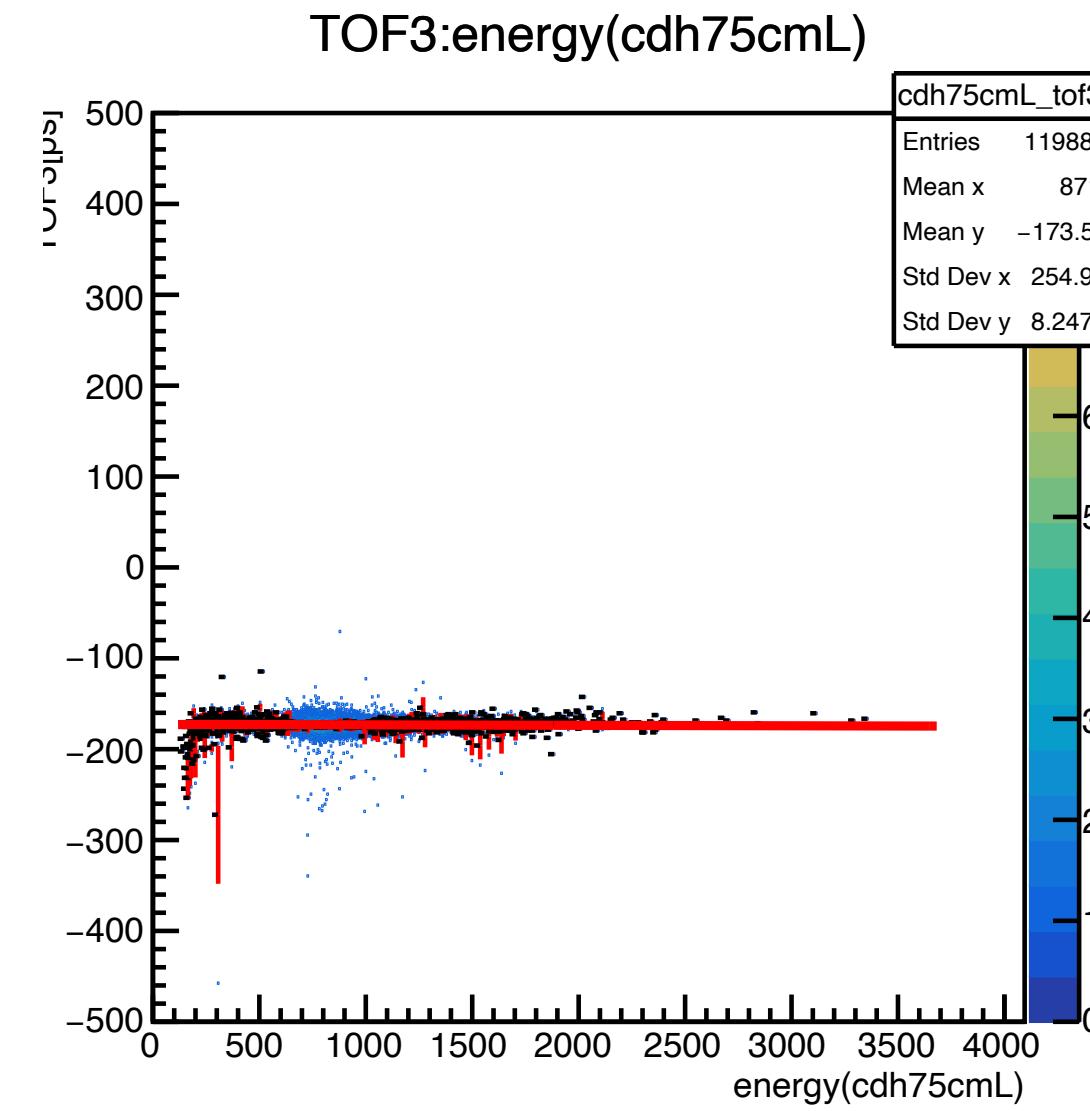
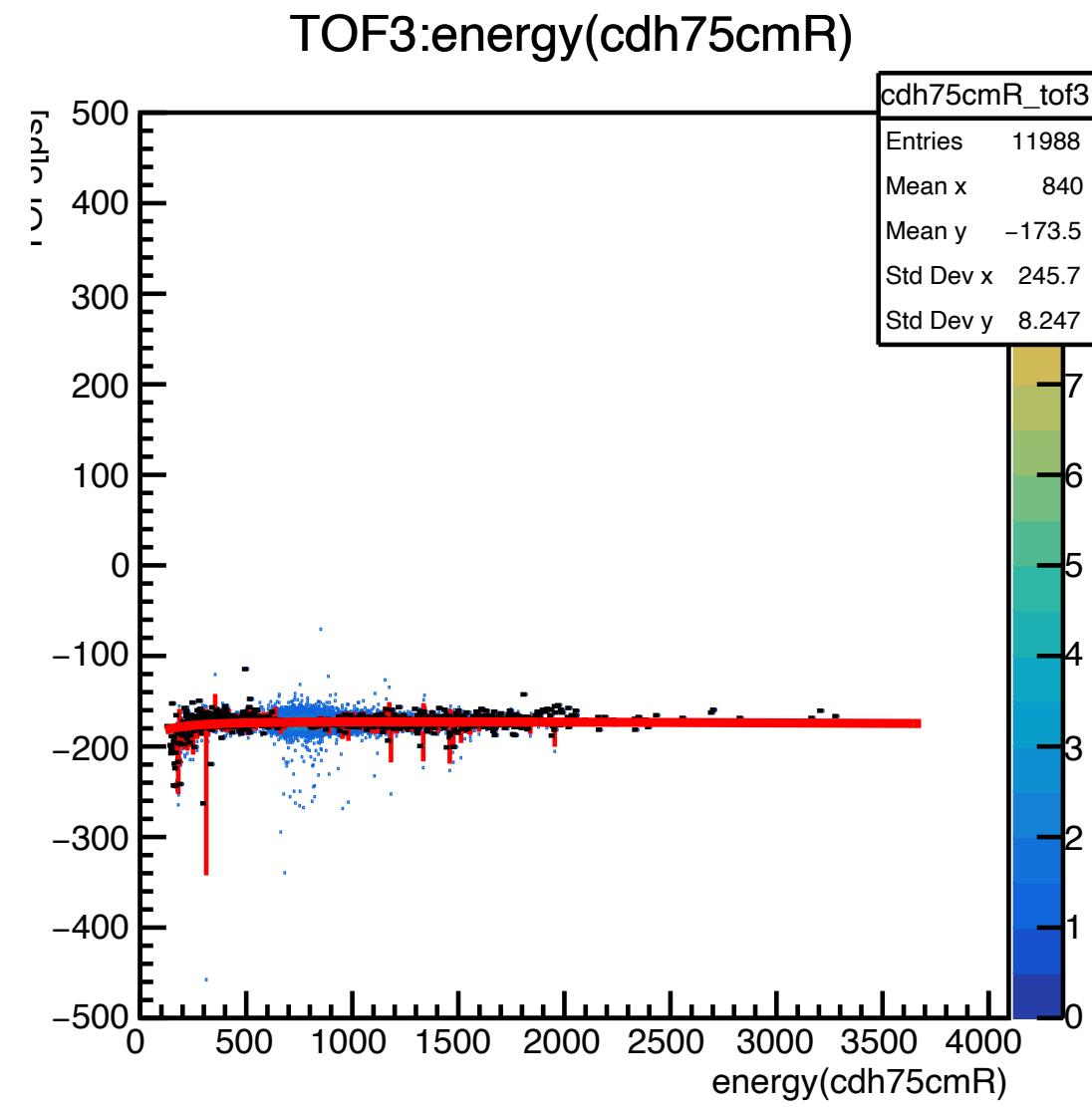
TOF\_2=(cdh75cm-cnc2)/2

Slew 4回目



TOF\_3=(cdh75cm-cnc1)/2

Slew 4回目



← →

cnc\_2023

slew.cxx 9+ slewparam.txt × loop.cxx 9+

```
slew → param > slewparam.txt
1 46.7444 -2193.09 0.902245 6
2 262.872 -5784.64 -2.18051 6
3 169.993 -4232.31 -1.19828 6
4 -44.1868 -461.856 1.90481 6
5 -29.7455 -1167.48 3.70164 6
6 227.815 -4593.94 -1.01991 6
7 108.943 -3174.67 -0.034171 6
8 271.949 -5994.72 -2.38364 6
9 -61.3735 -827.375 1.46951 6
10 159.777 -4215.16 -1.84118 6
11 135.161 -3133.39 -0.907677 6
12 88.9318 -2371.91 -0.362527 6
13
```

よって、

$$\sigma_{cnc1} = 168[ps]$$

問題 24 出力 デバッグ コンソール ターミナル ポート

```
EXT PARAMETER EDM=4.36702e-09 STRATEGY= 1 ERROR MATRIX ACCURATE
NO. NAME VALUE ERROR STEP FIRST
1 Constant 7.53480e+02 8.90612e+00 4.74560e-02 1.10734e-05
2 Mean -2.74526e+01 5.75084e-02 3.93307e-04 -8.10907e-04
3 Sigma 6.24353e+00 4.62739e-02 1.17560e-05 1.62842e-02
Warning in <TCanvas::Constructor>: Deleting canvas with same name: c2
FCN=205.177 FROM MIGRAD STATUS=CONVERGED 74 CALLS 75 TOTAL
EXT PARAMETER EDM=4.08348e-07 STRATEGY= 1 ERROR MATRIX ACCURATE
NO. NAME VALUE ERROR STEP FIRST
1 Constant 9.38667e+02 1.10146e+01 6.07513e-02 1.03295e-04
2 Mean -1.32152e+02 4.61163e-02 3.23687e-04 -1.27258e-03
3 Sigma 4.99606e+00 3.62526e-02 1.15636e-05 2.79562e-01
Warning in <TCanvas::Constructor>: Deleting canvas with same name: c3
FCN=131.43 FROM MIGRAD STATUS=CONVERGED 63 CALLS 64 TOTAL
EXT PARAMETER EDM=1.22271e-09 STRATEGY= 1 ERROR MATRIX ACCURATE
NO. NAME VALUE ERROR STEP FIRST
1 Constant 1.61018e+03 1.93018e+01 8.33844e-02 -1.32575e-06
2 Mean -1.73231e+02 5.38880e-02 3.02131e-04 8.15879e-04
3 Sigma 5.83410e+00 4.47166e-02 1.05800e-05 -1.25826e-02
```

$$\sigma_{cnc2} = 137[ps]$$

$$\sigma_{cdh75cm} = 110[ps]$$

