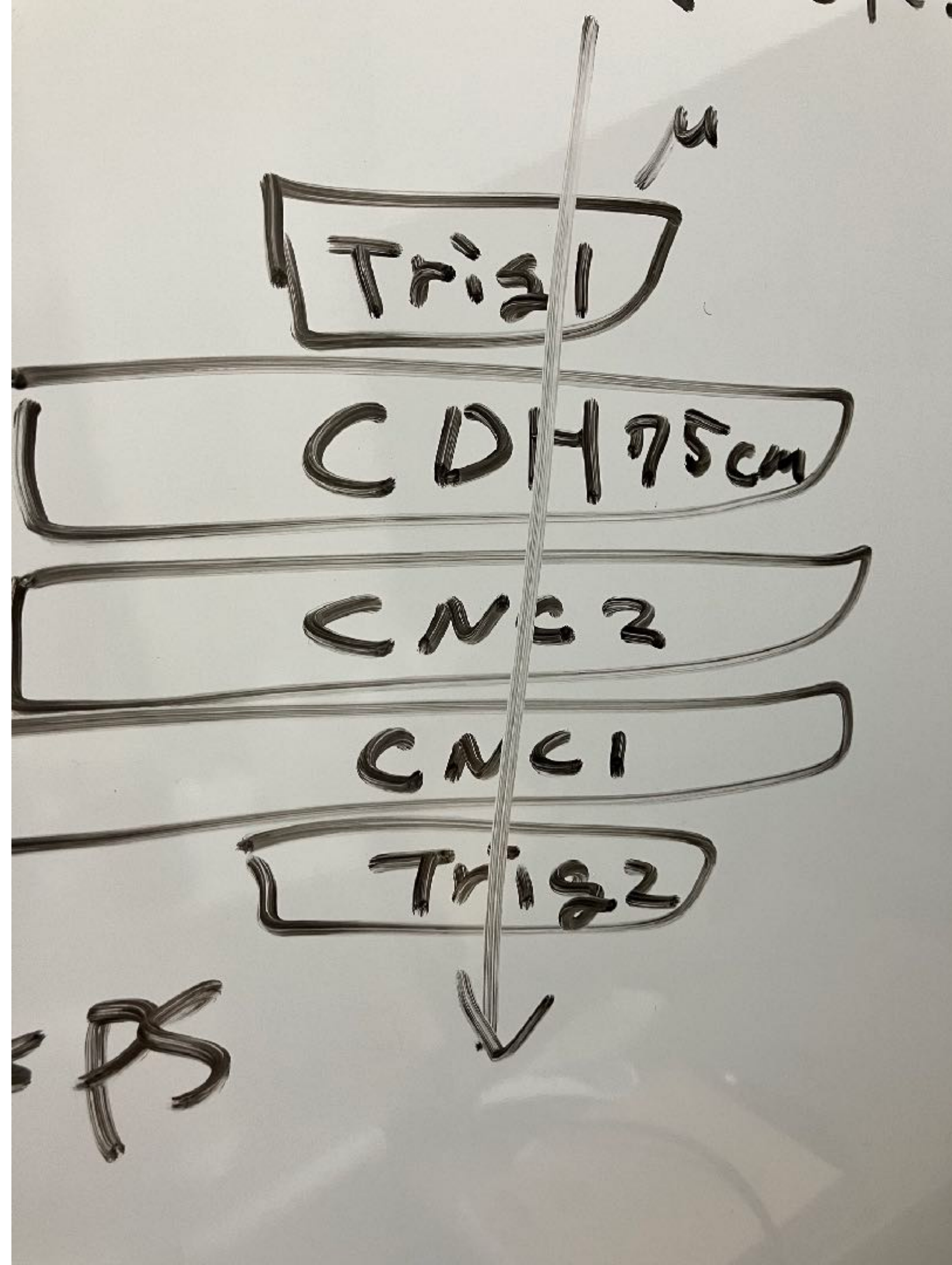
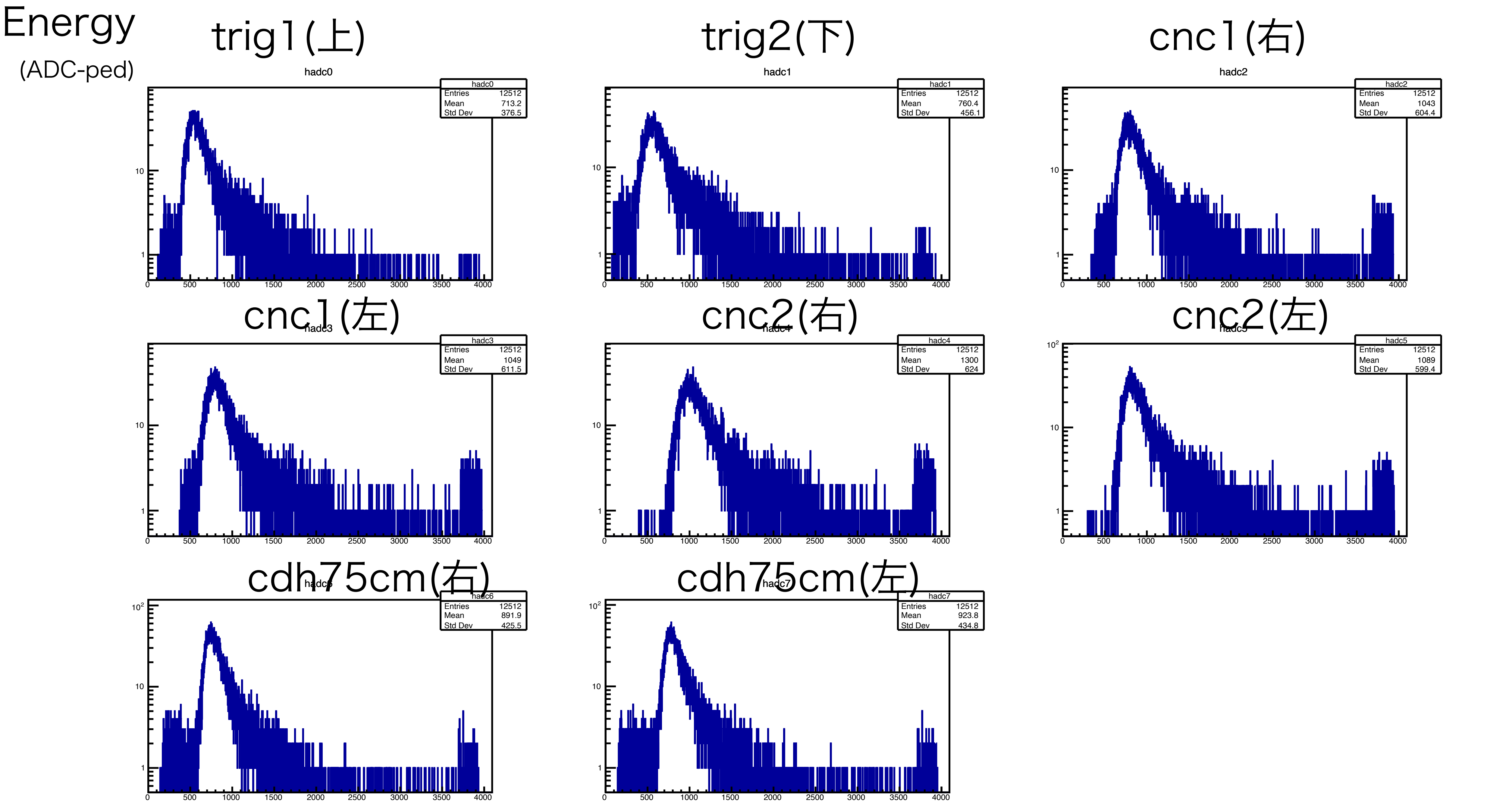


宇宙線測定2023/10/14

M1 木村

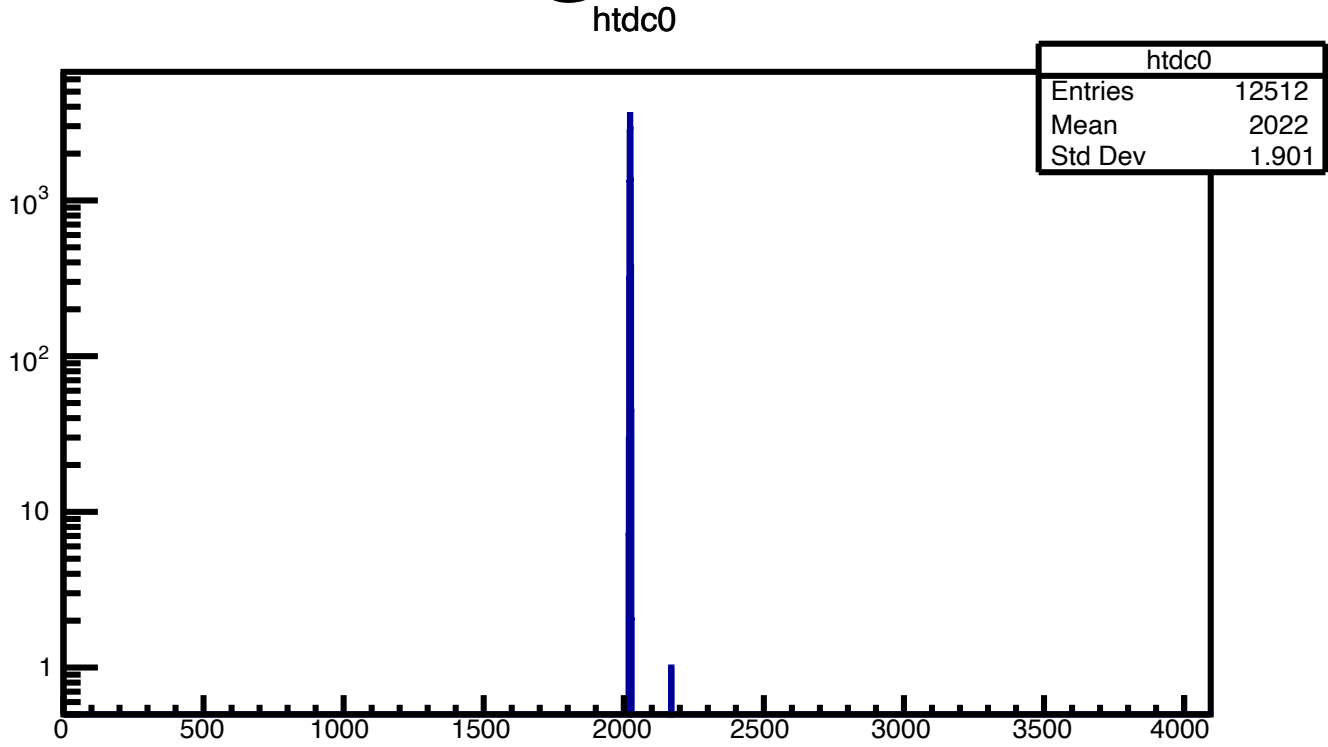
Setup



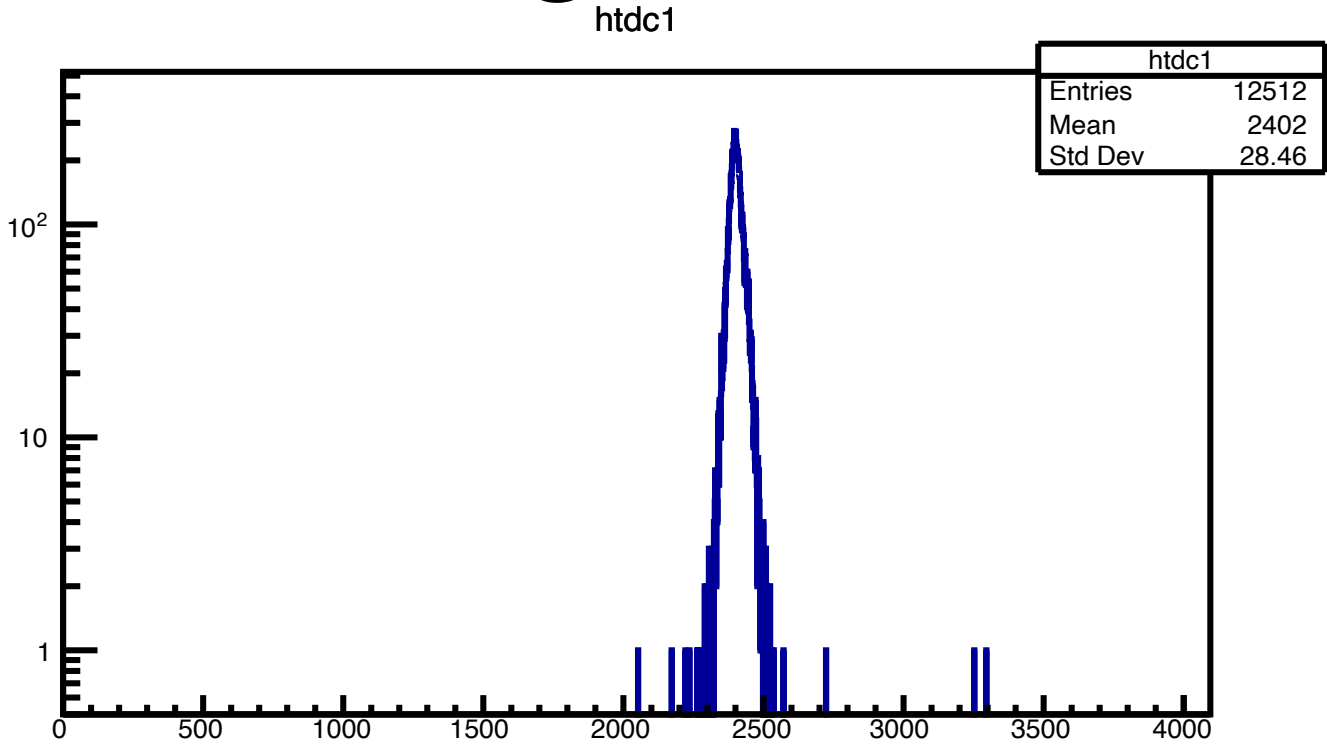


TDC

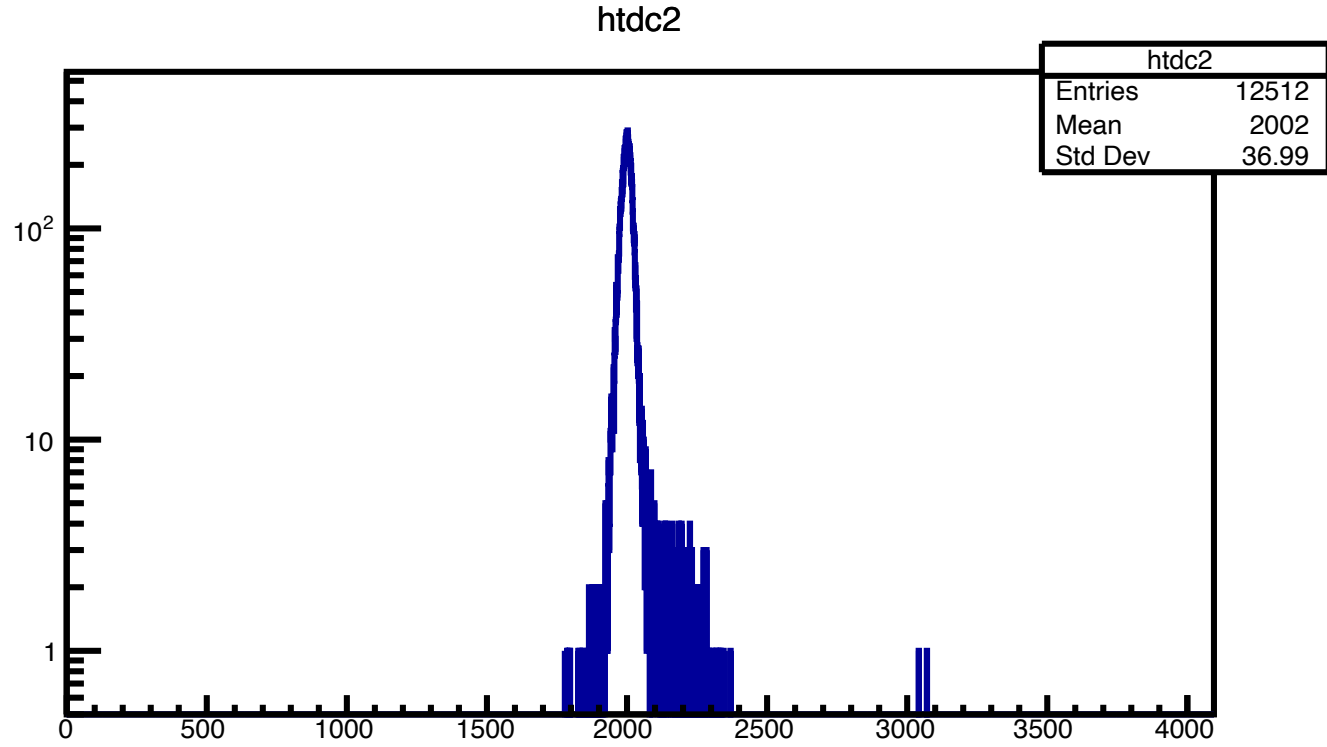
trig1 (上)



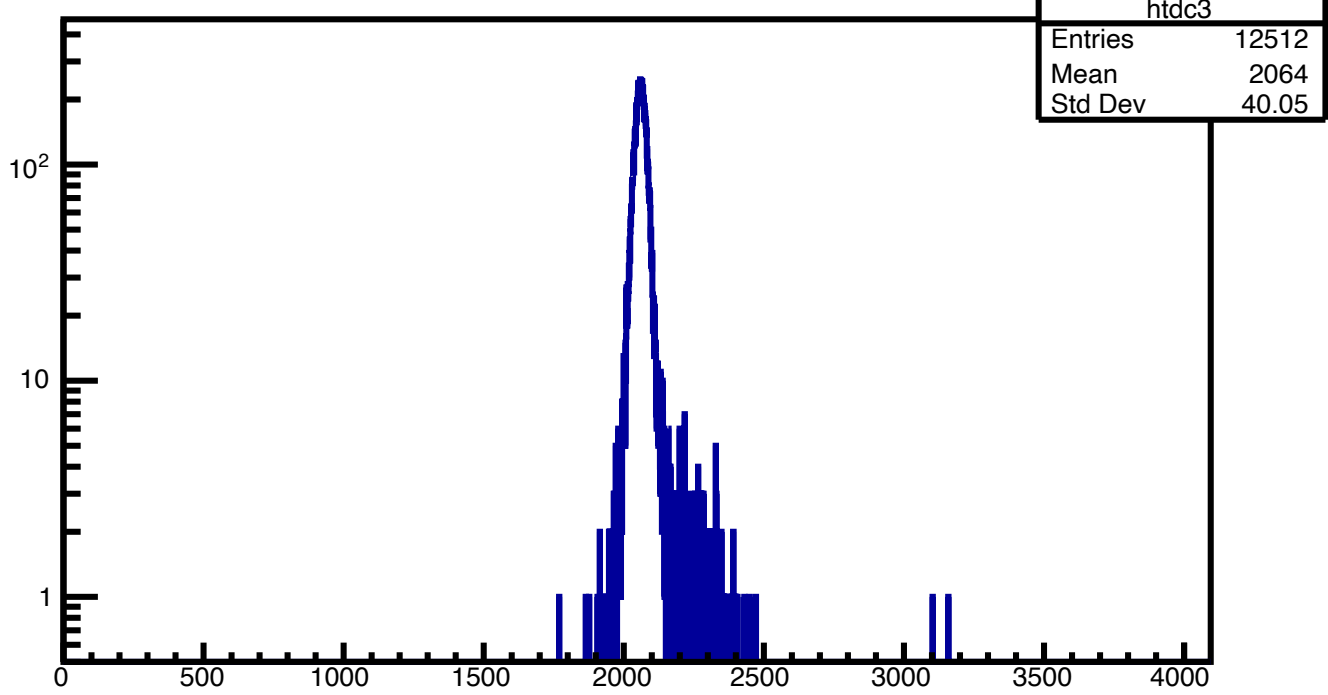
trig2(下)



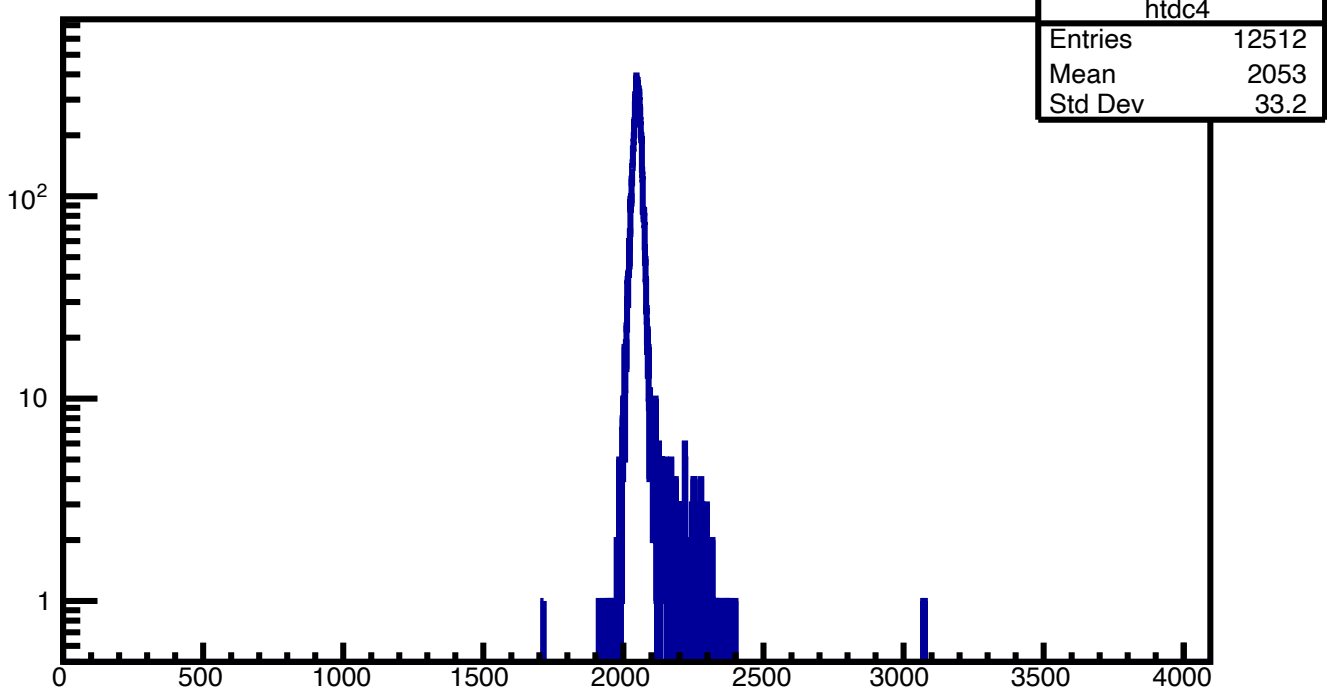
cnc1 (右)



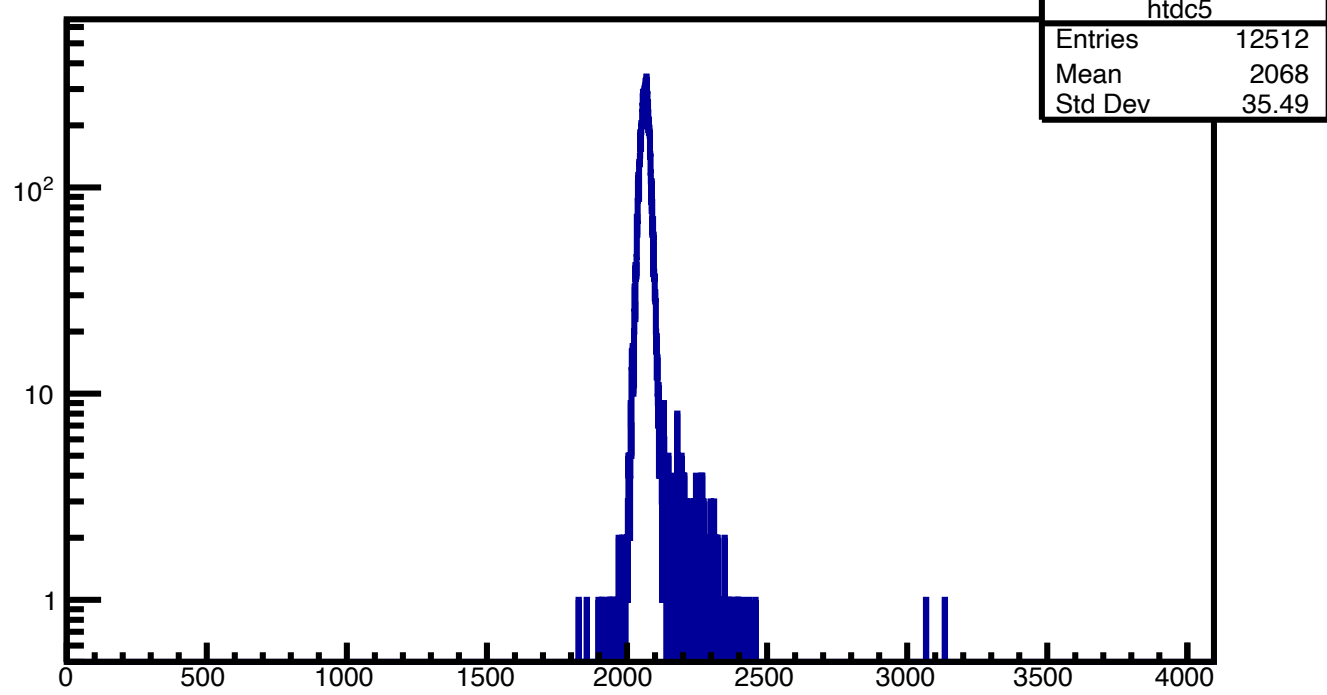
cnc1 (左)



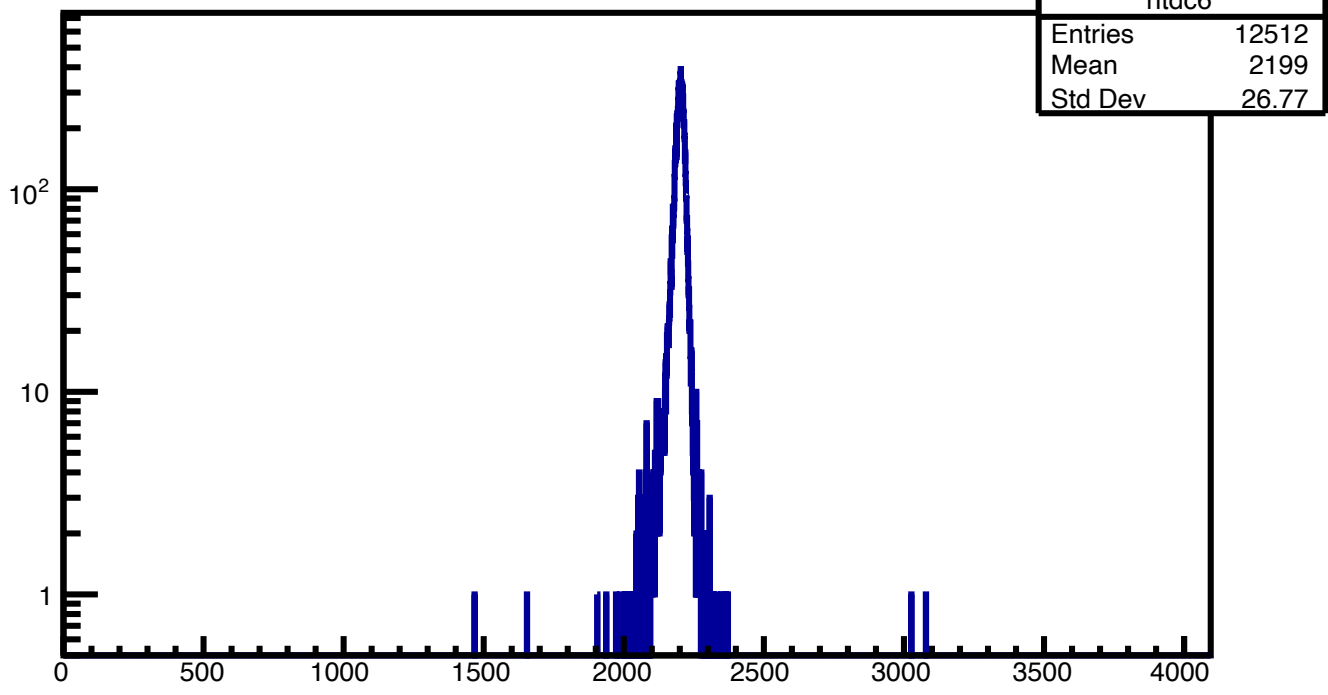
cnc2(右)



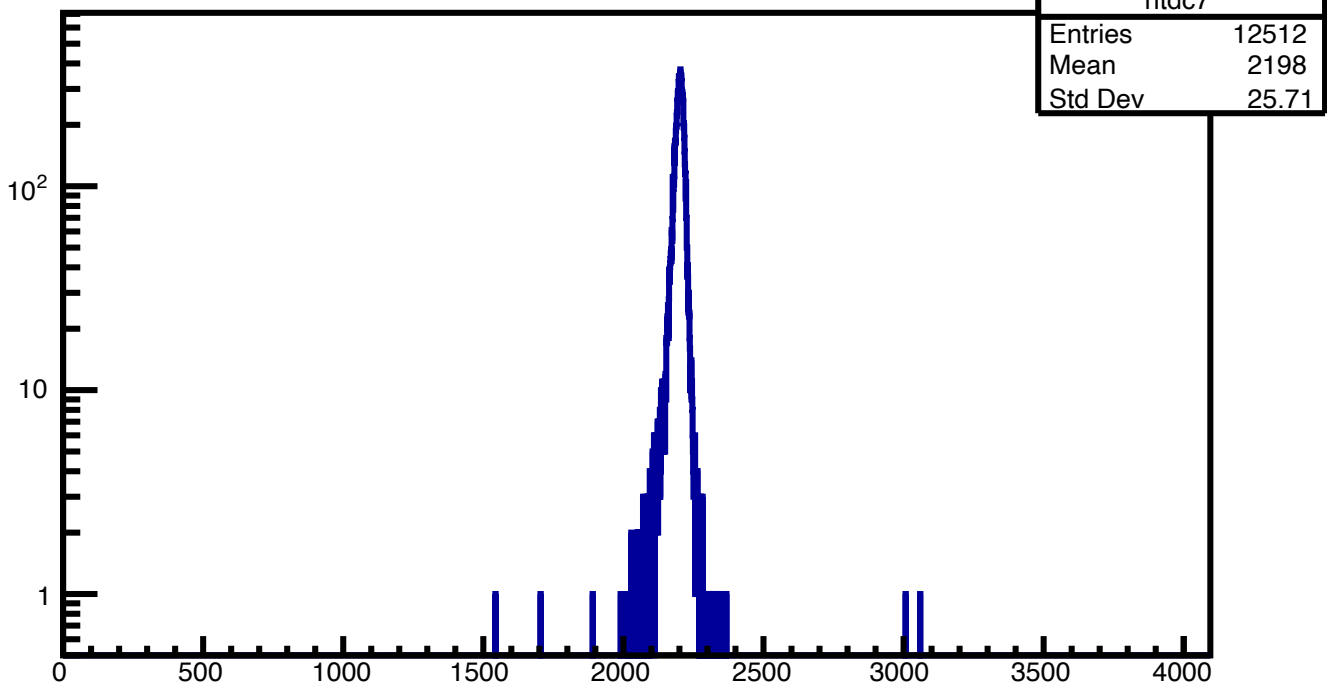
cnc2(左)



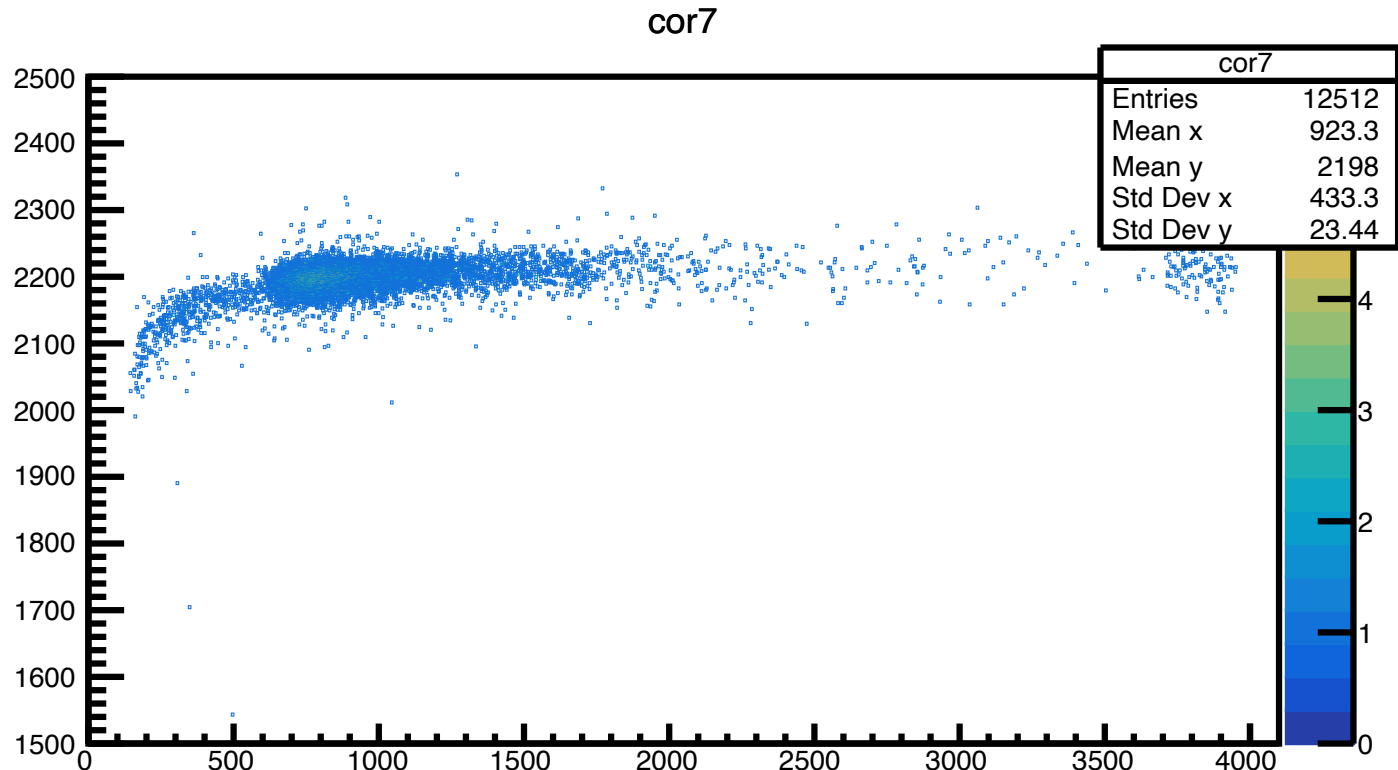
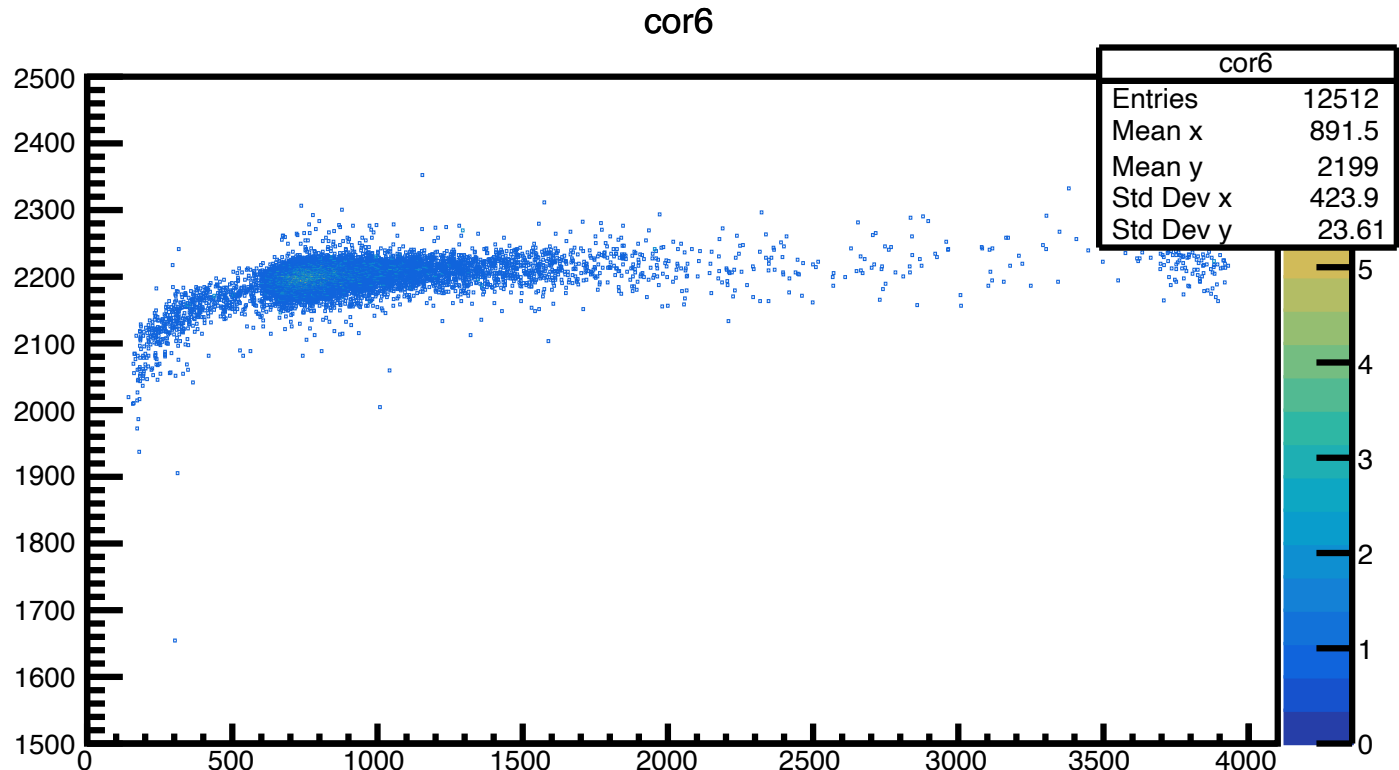
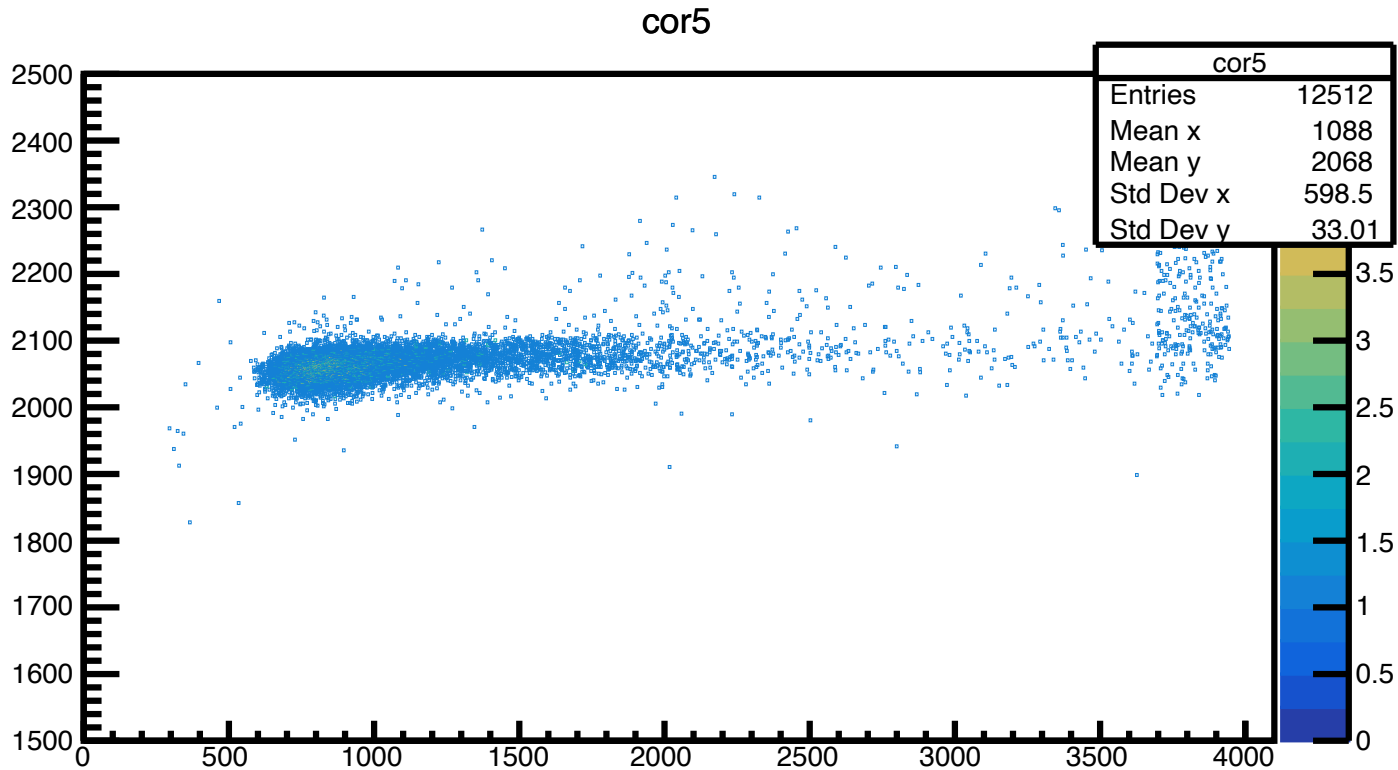
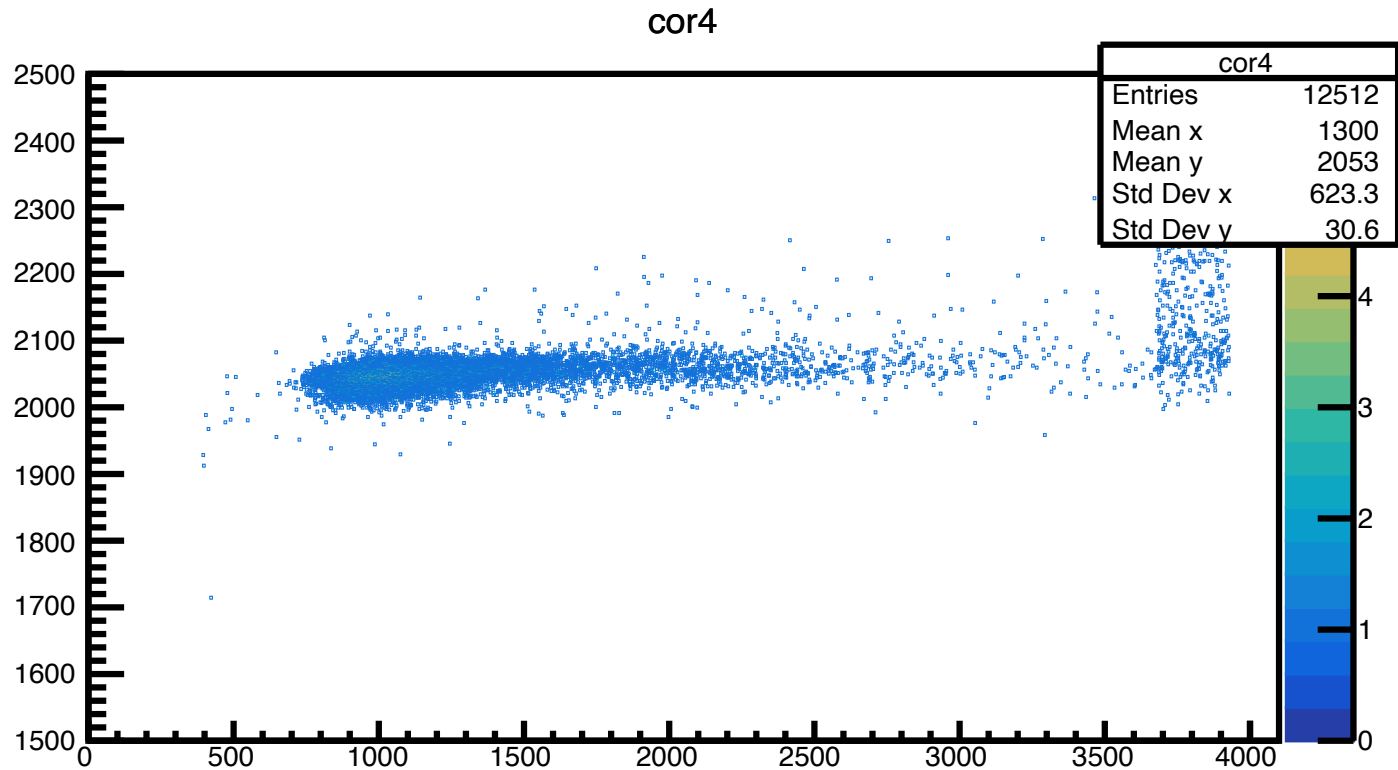
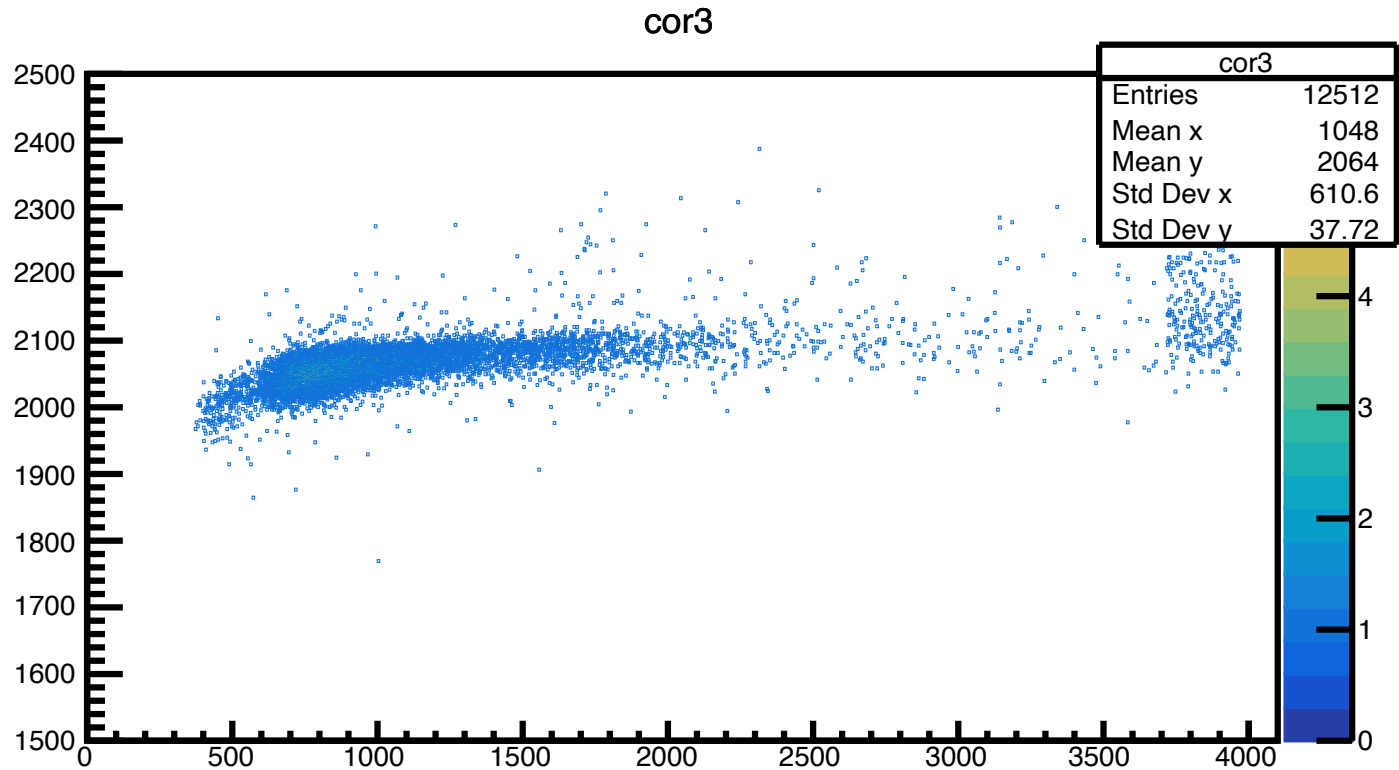
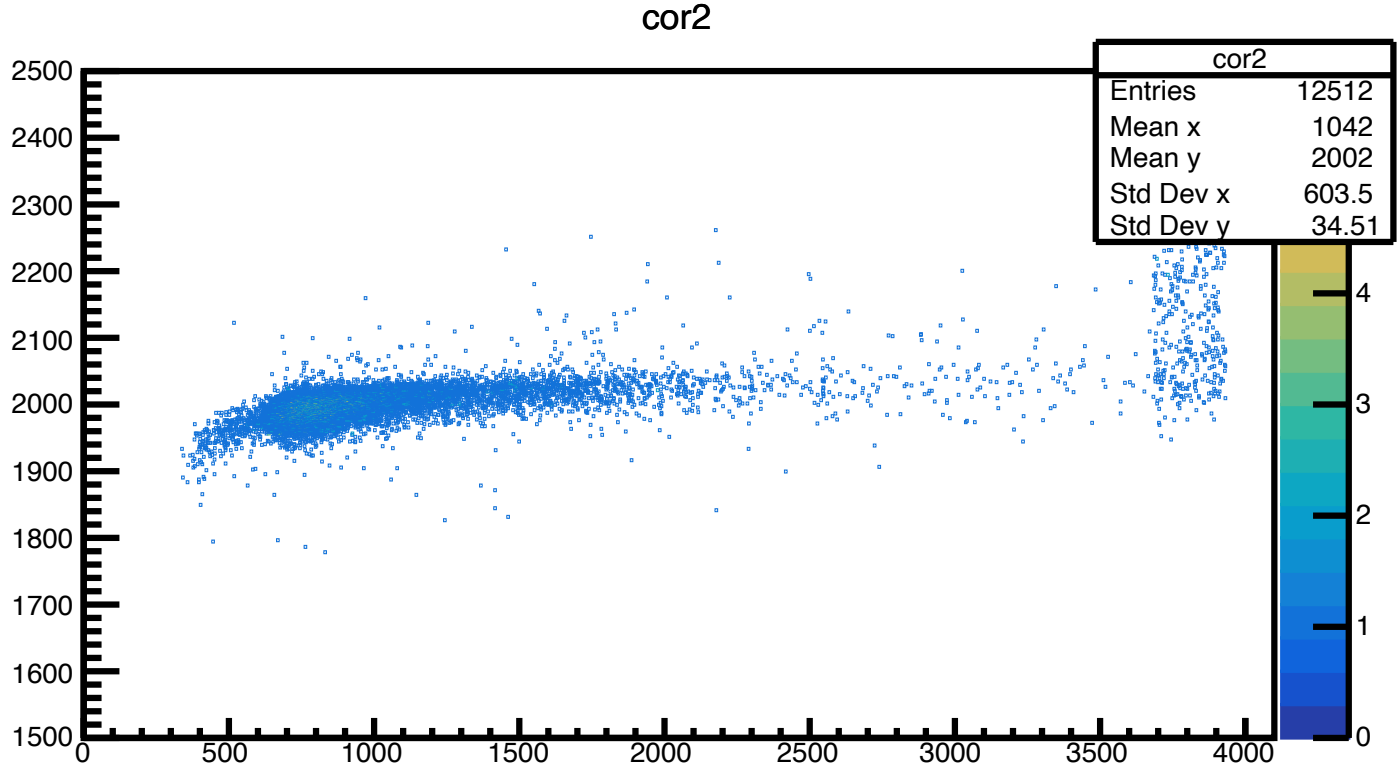
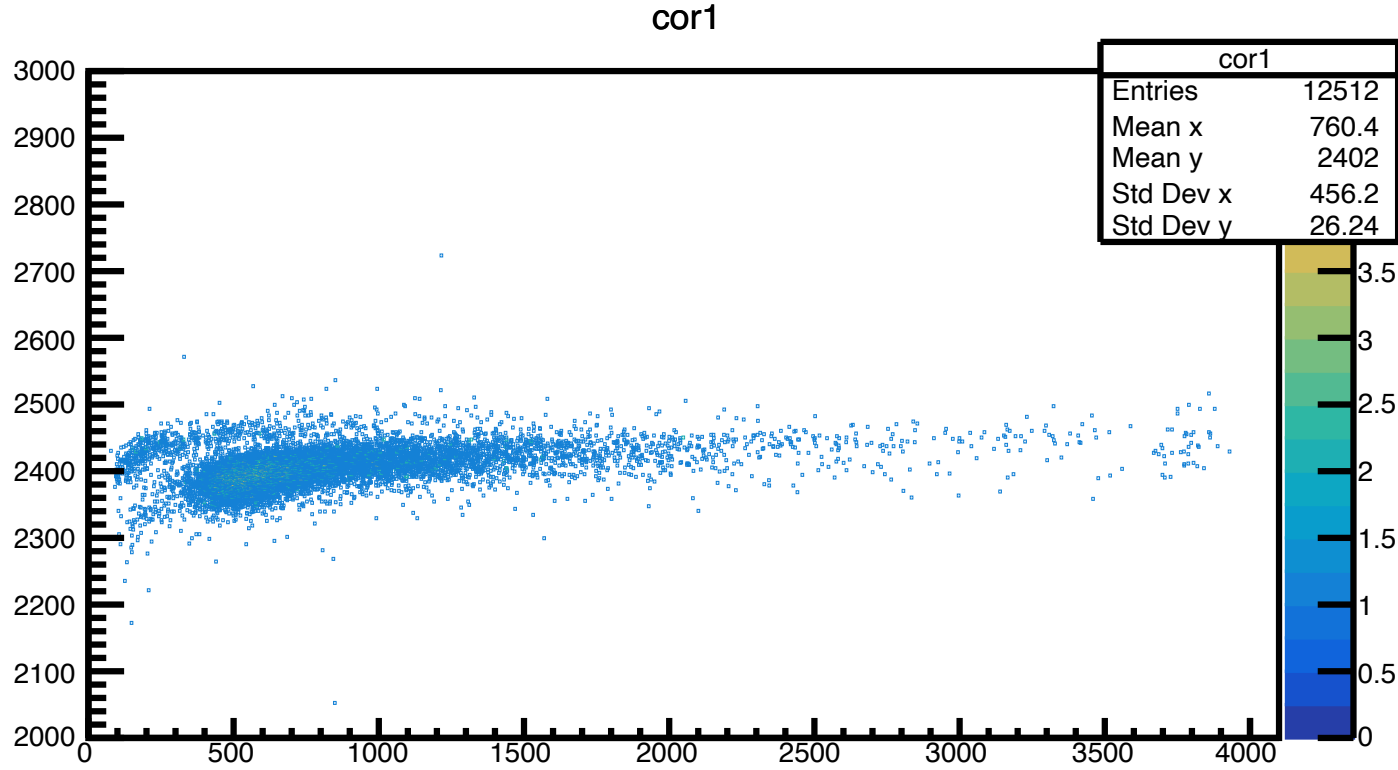
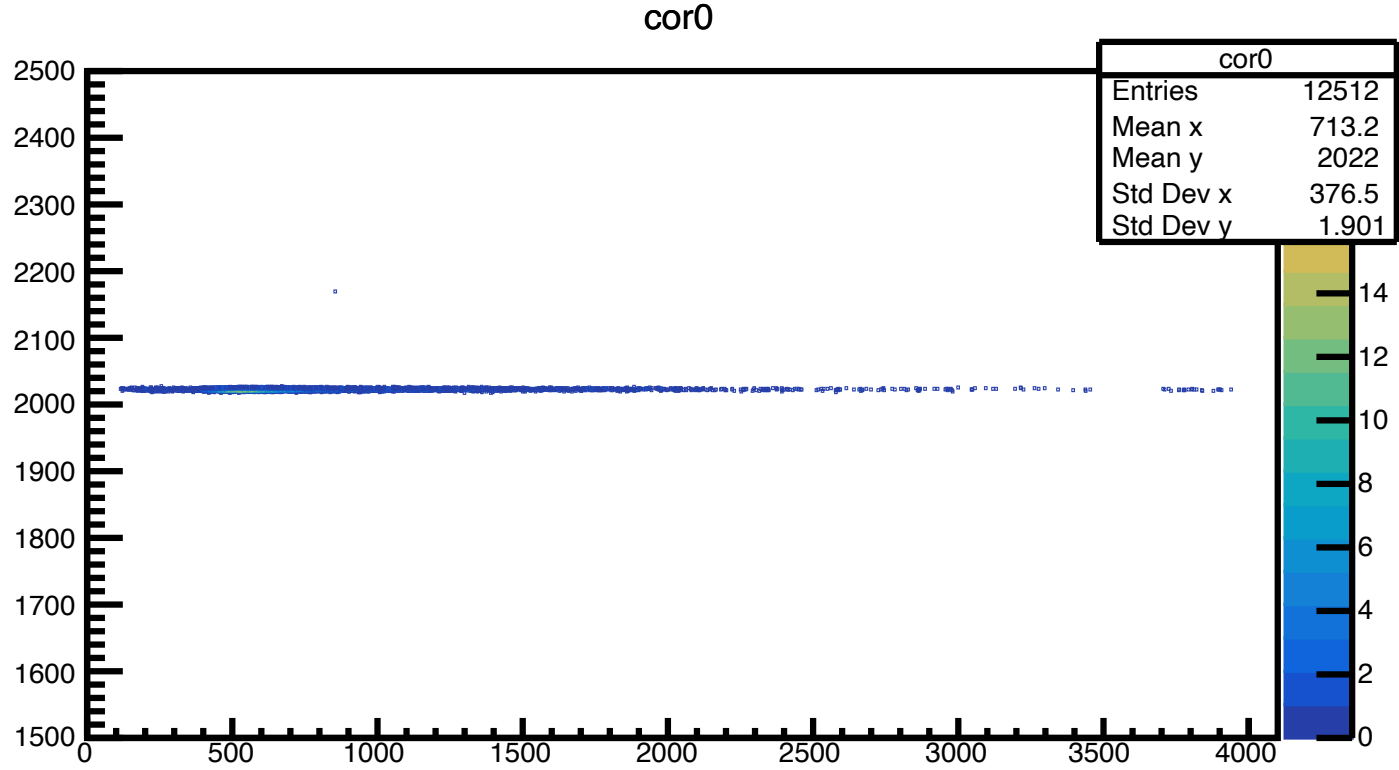
cdh75cm(右)



cdh75cm(左)

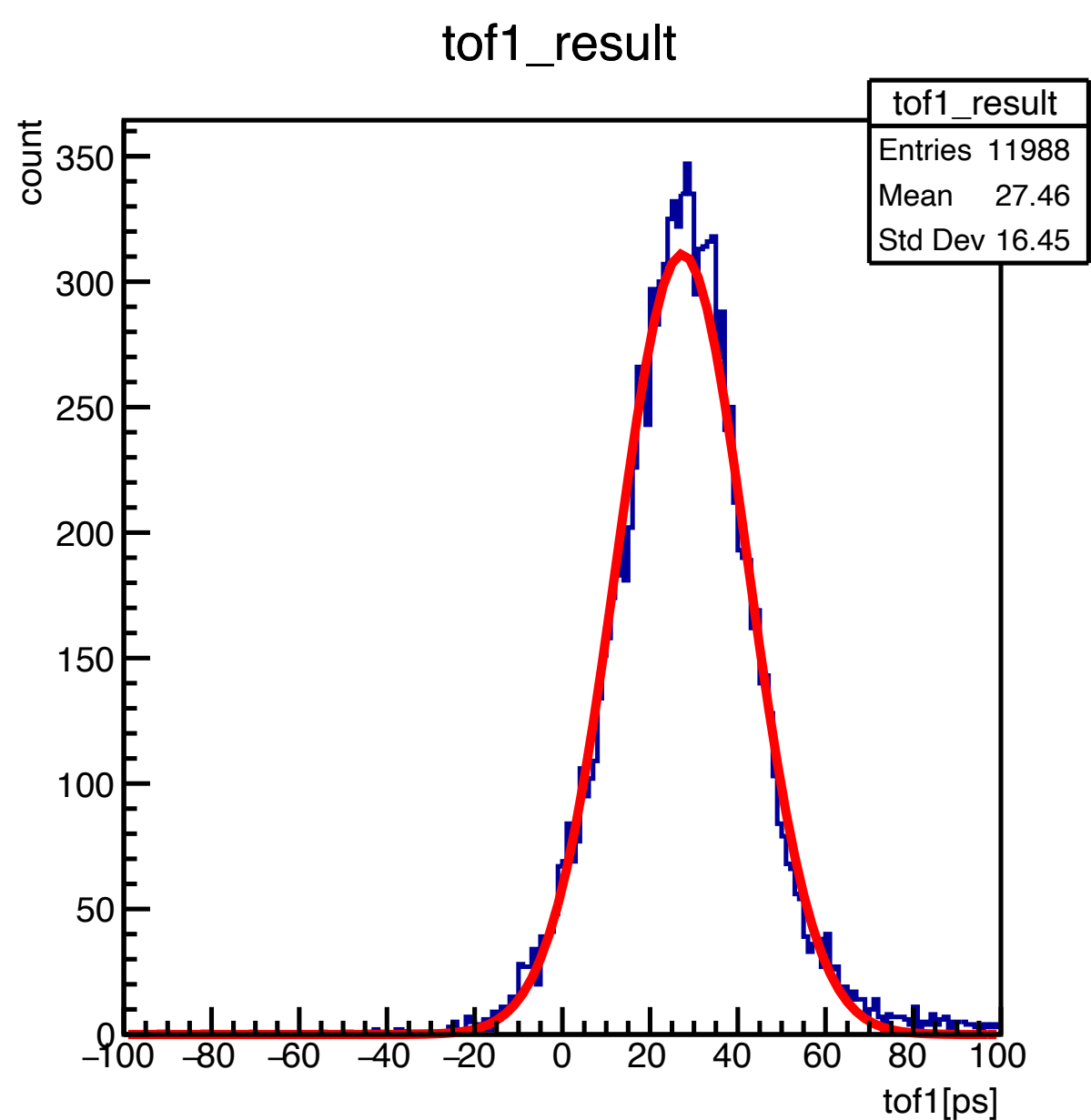
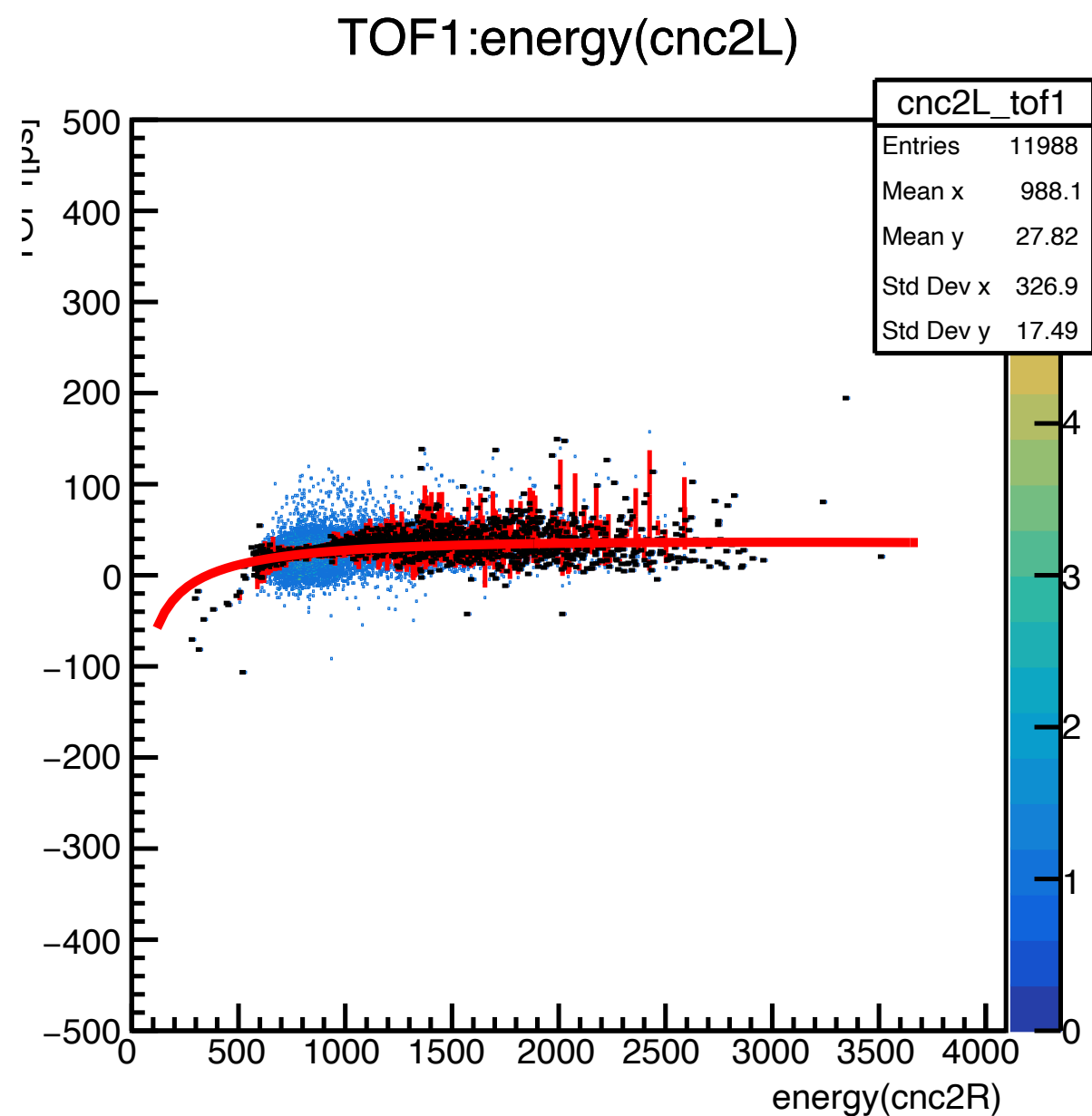
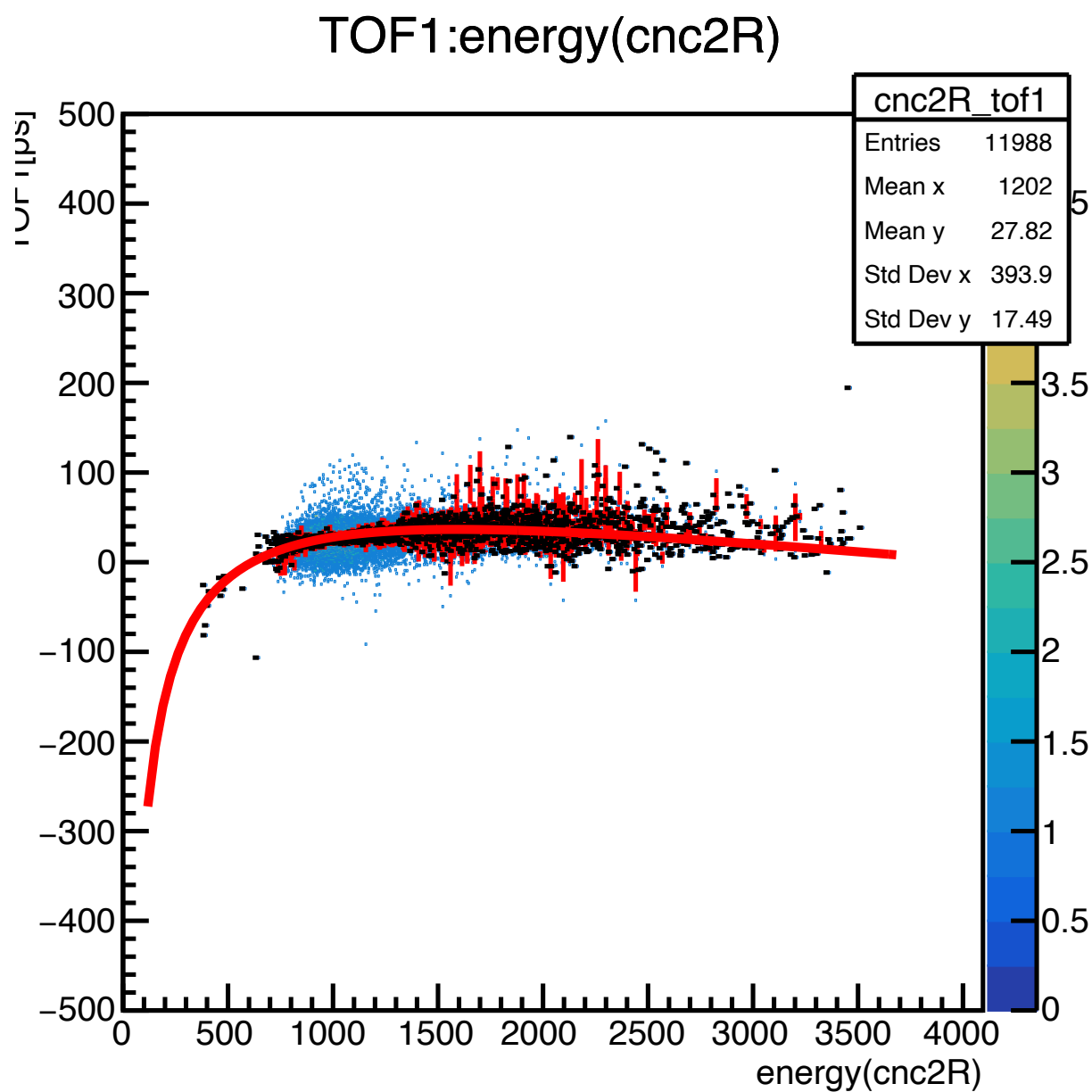
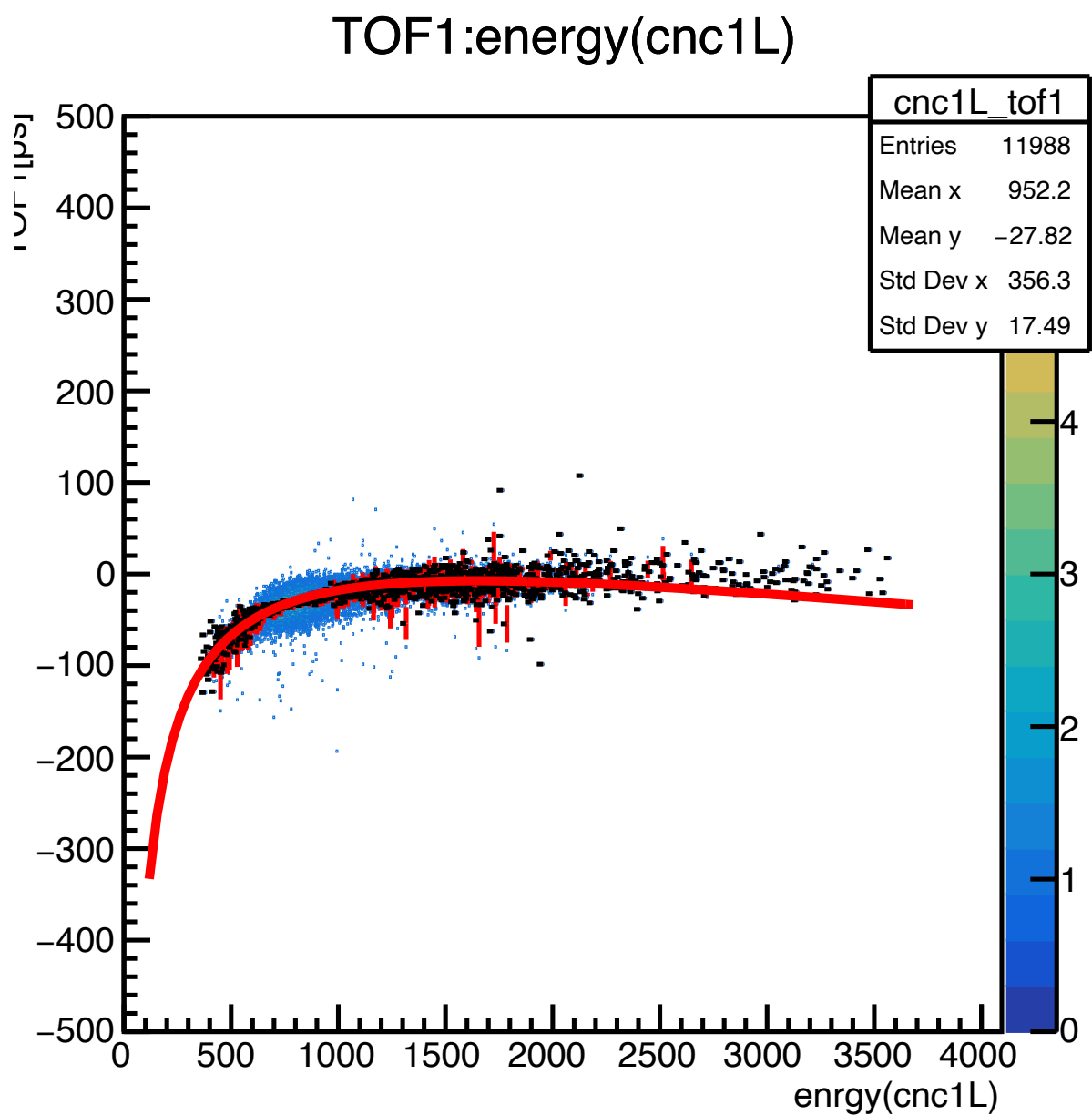
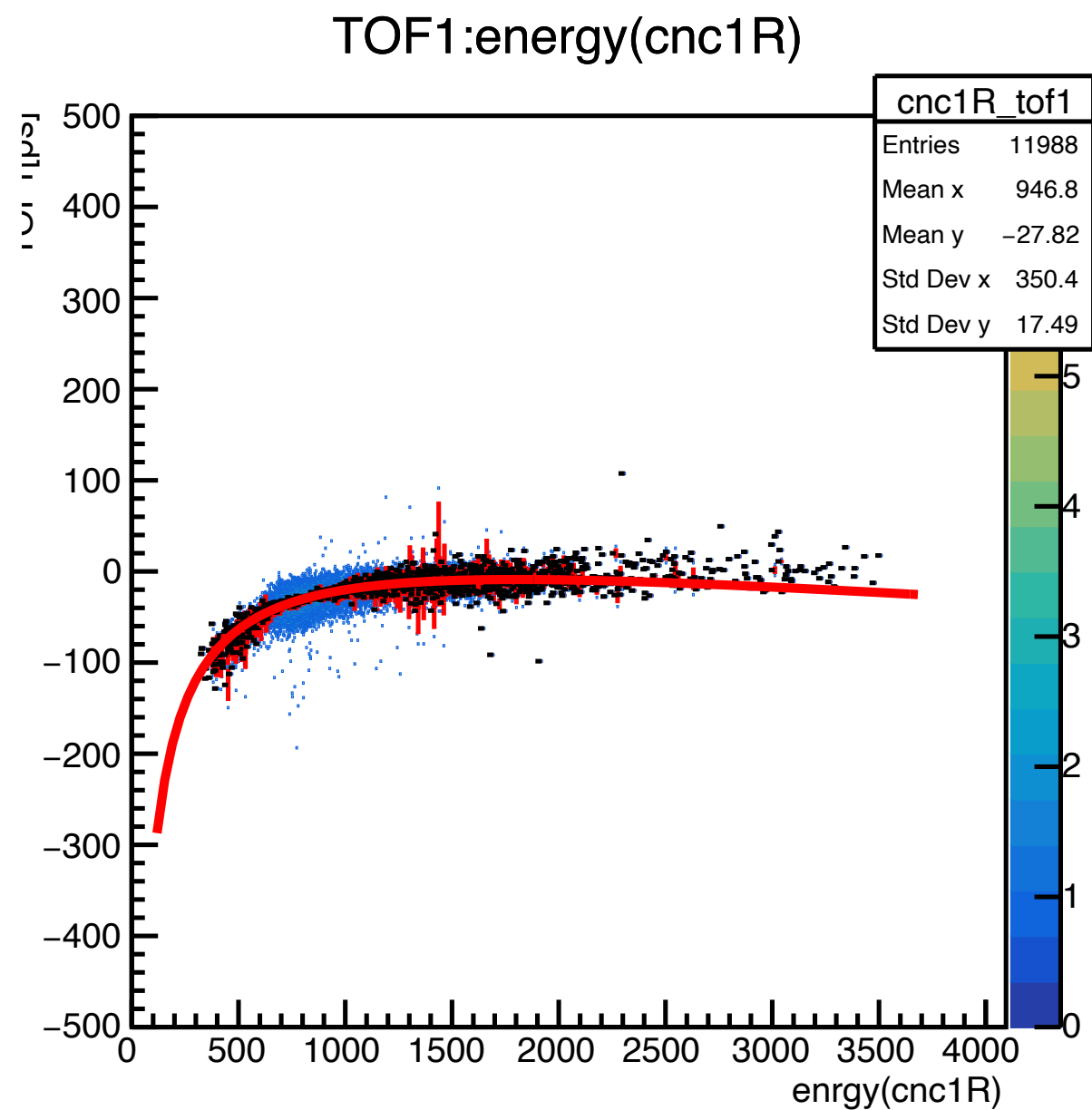


Energy:TDC



$$TOF_1 = (cnc2R + cnc2L - cnc1R - cnc1L) / 2$$

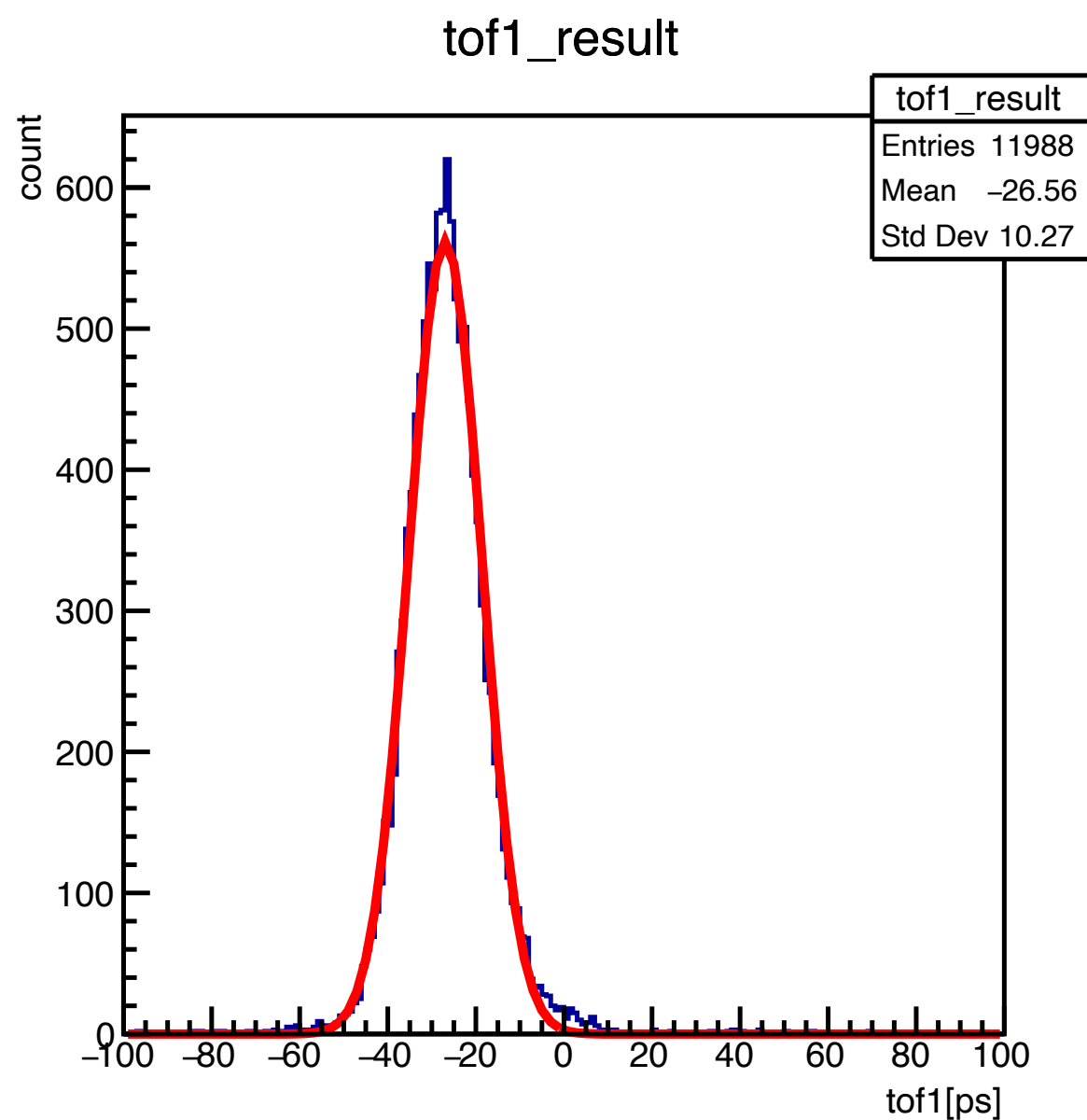
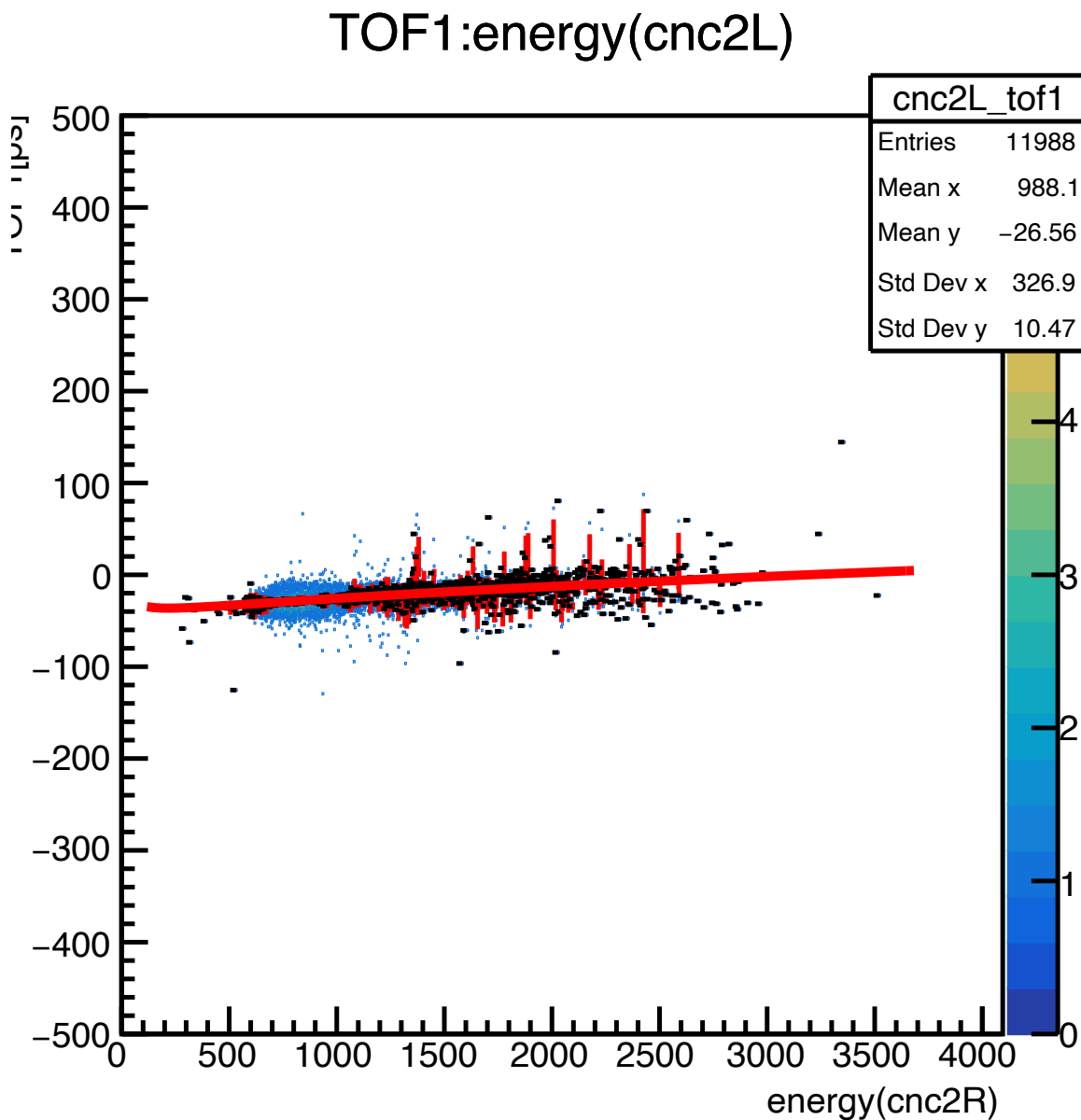
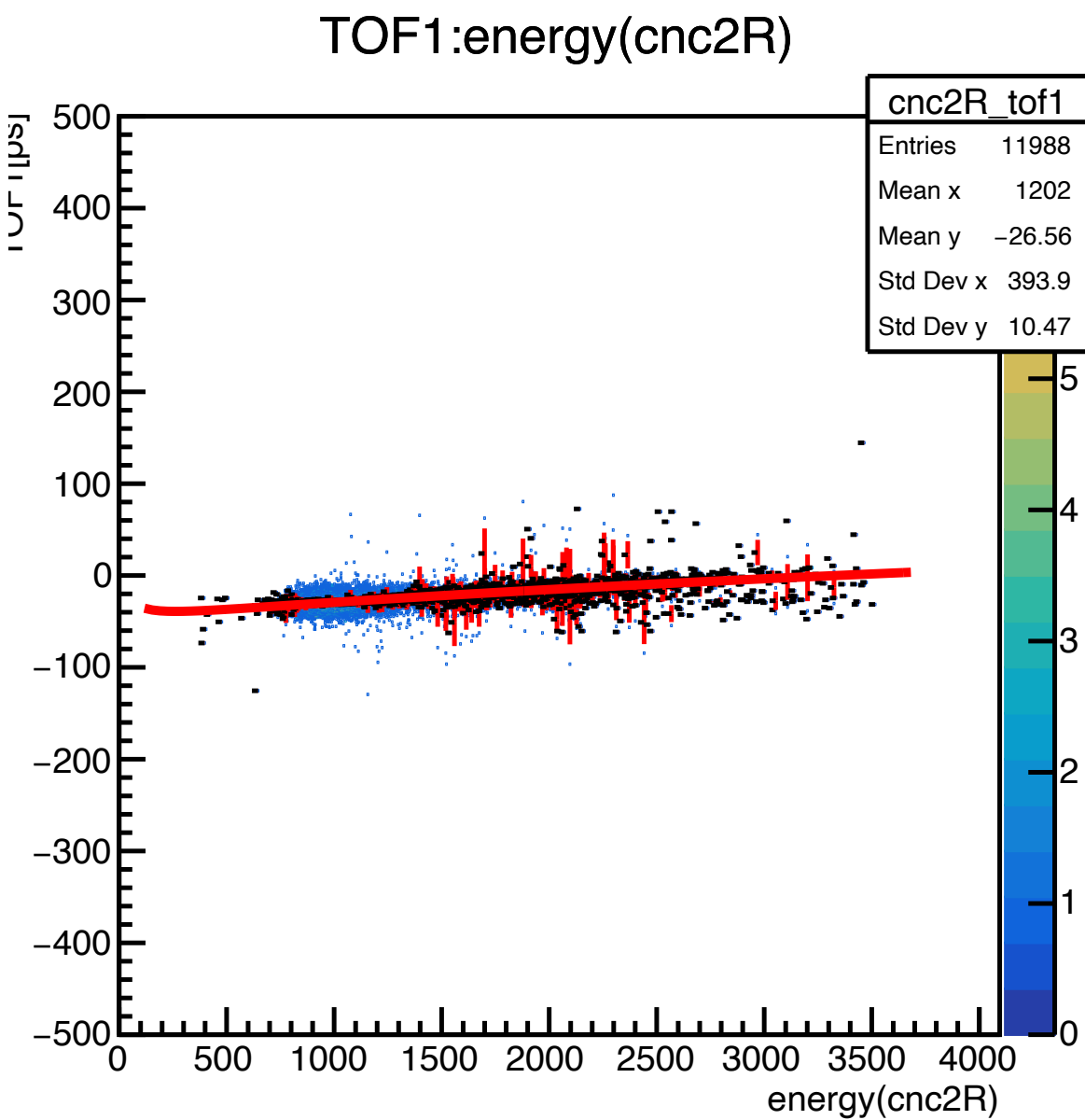
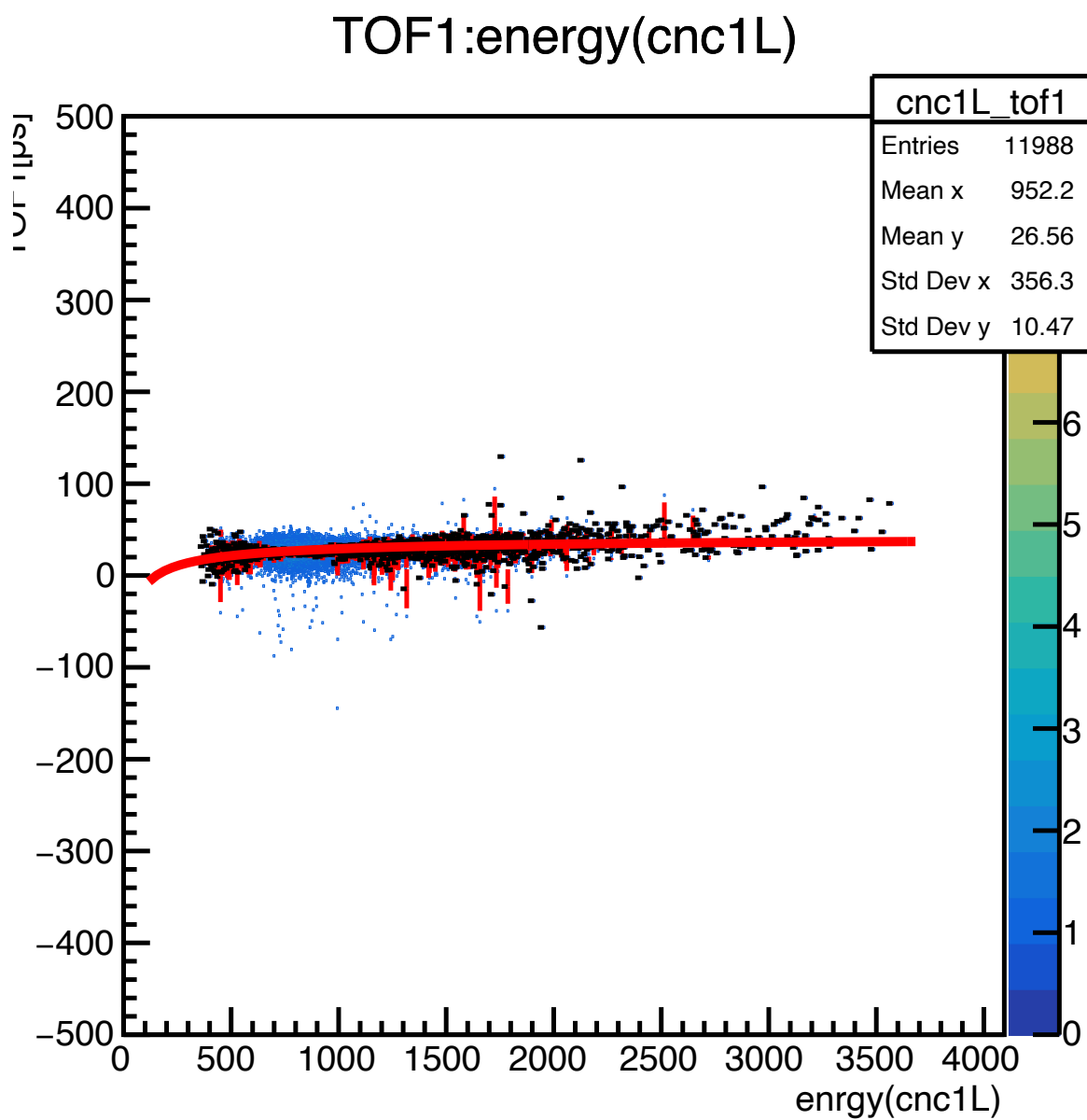
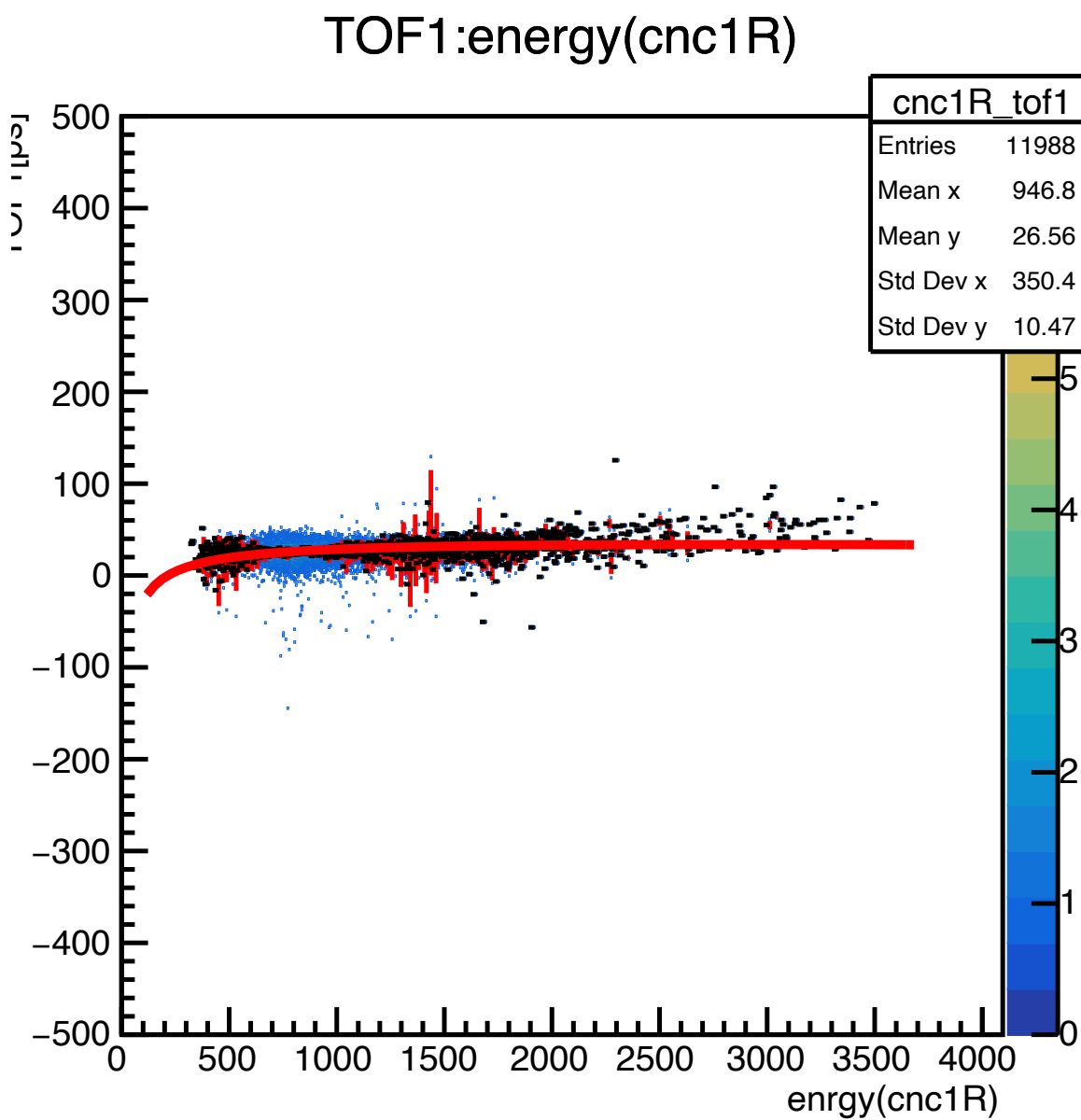
Slew 0回目

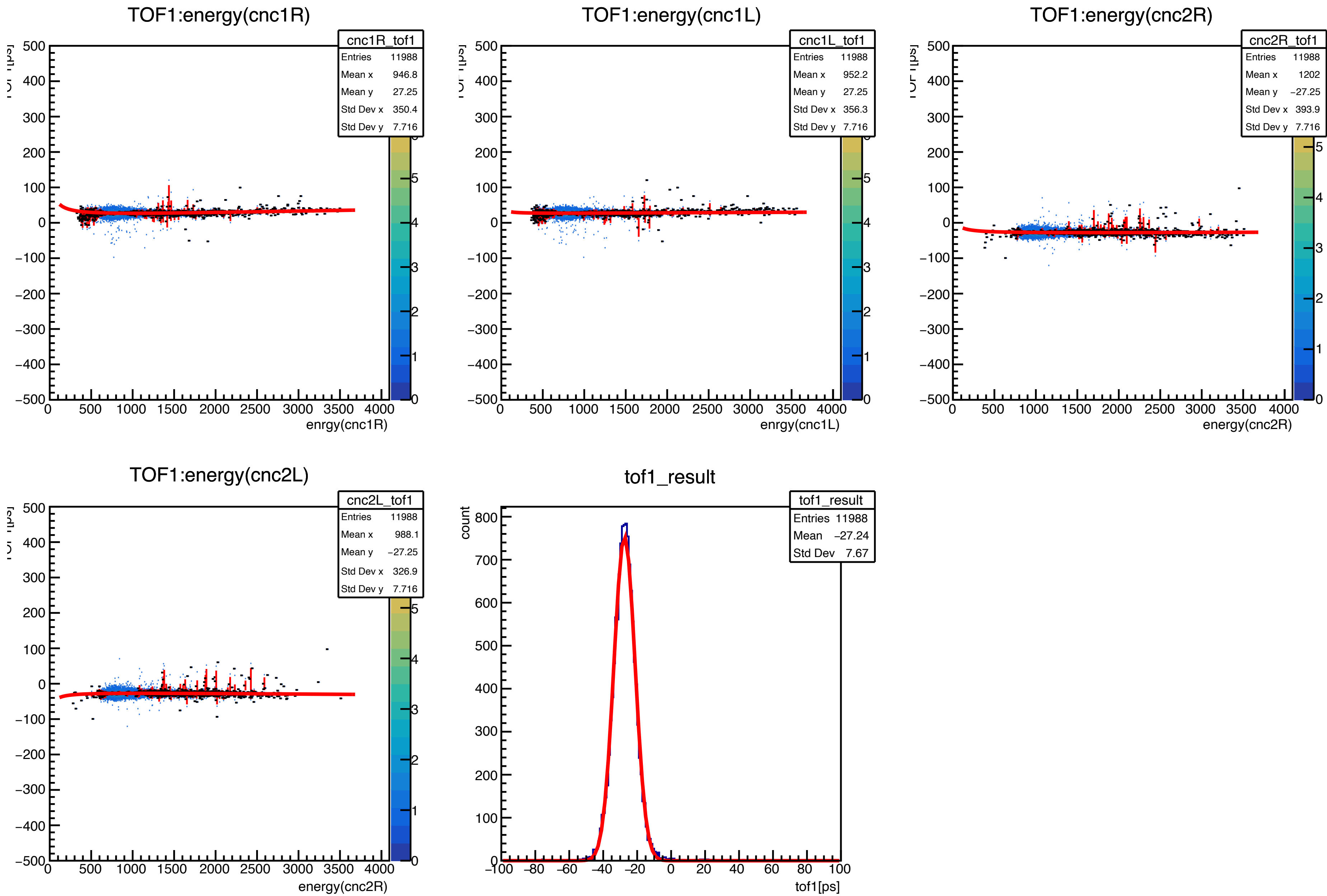


Slewing correctionの1例です
全chのTDC!=0とADC<3700を
要求してます

TOF_1

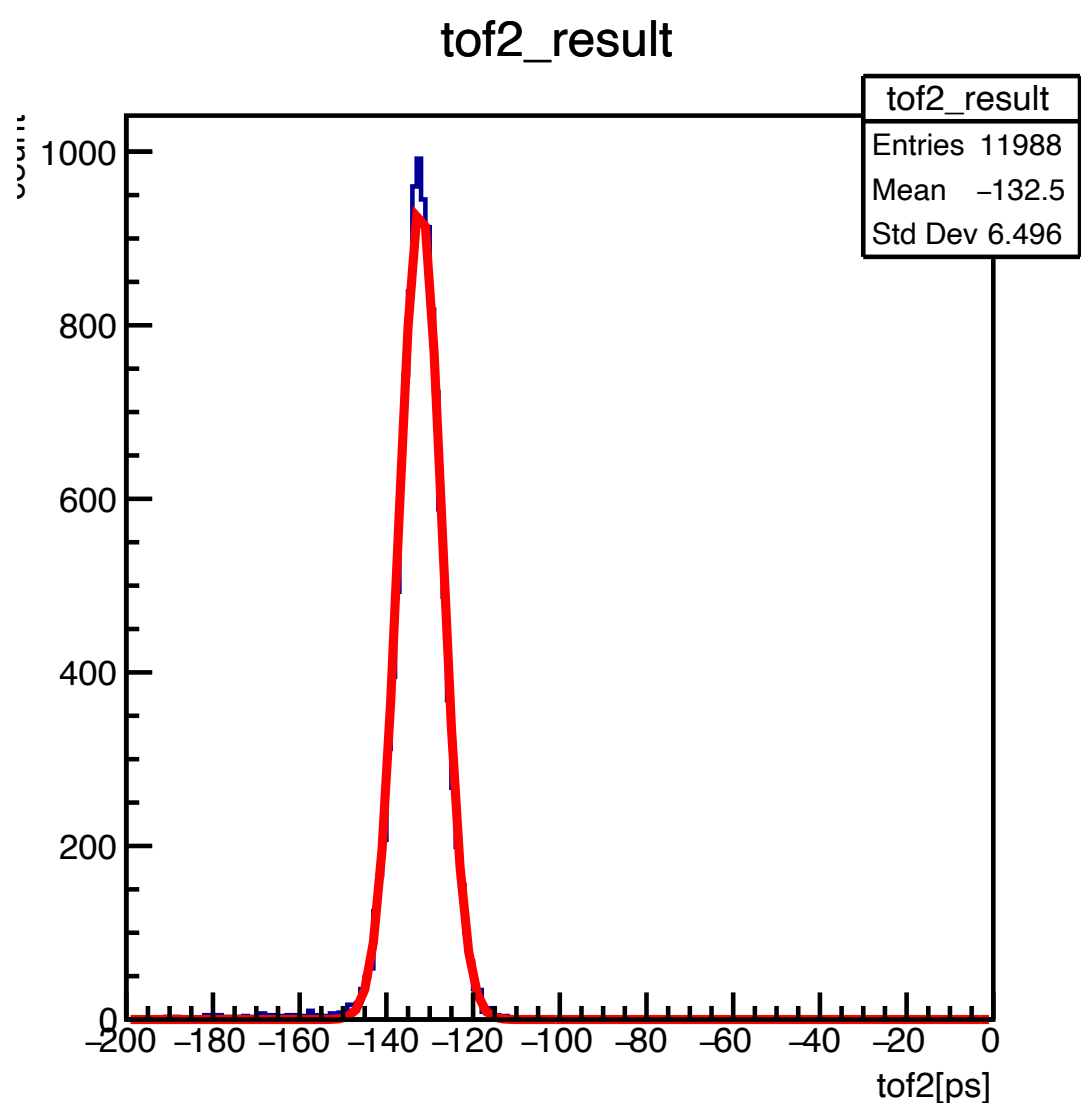
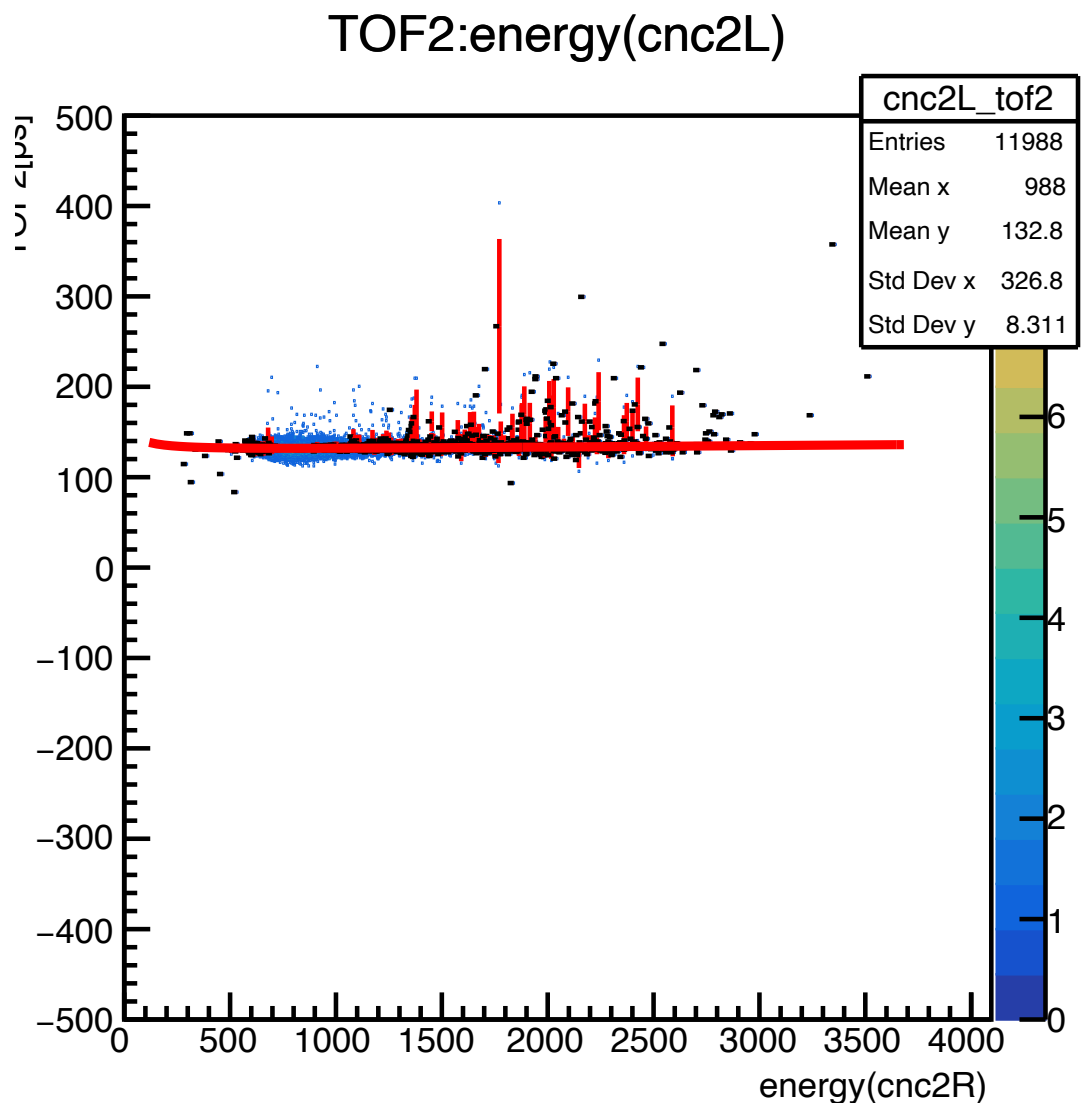
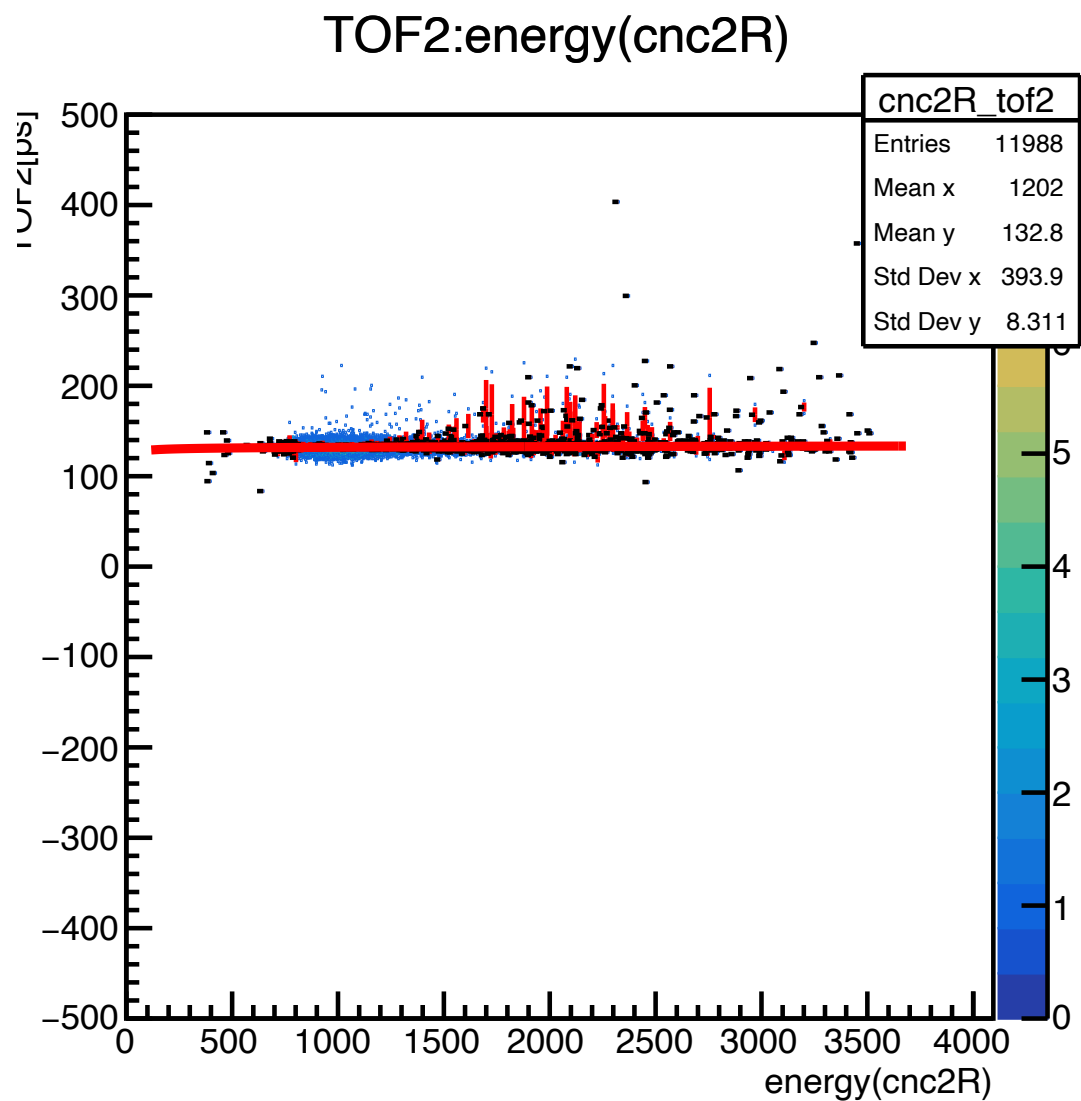
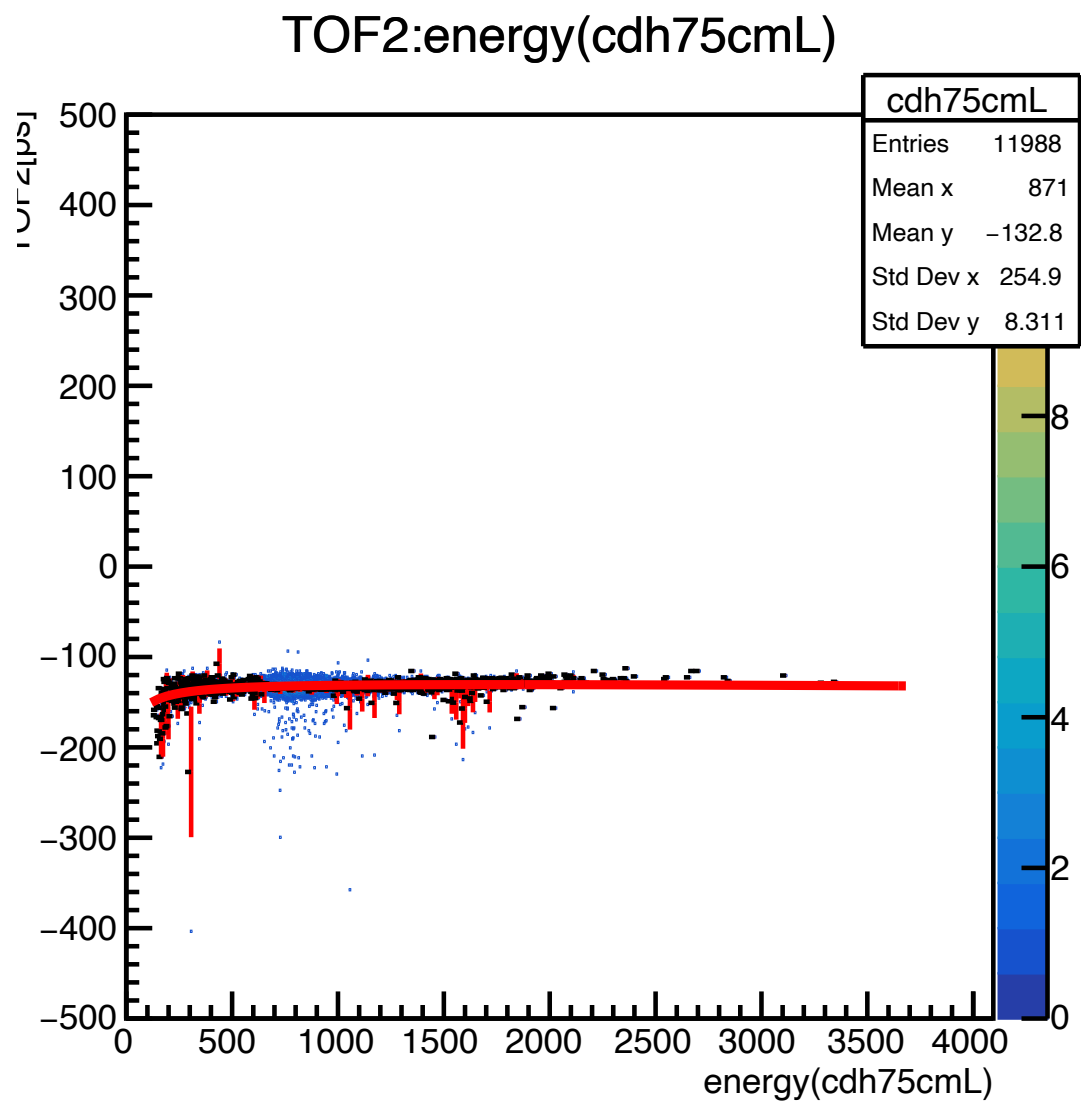
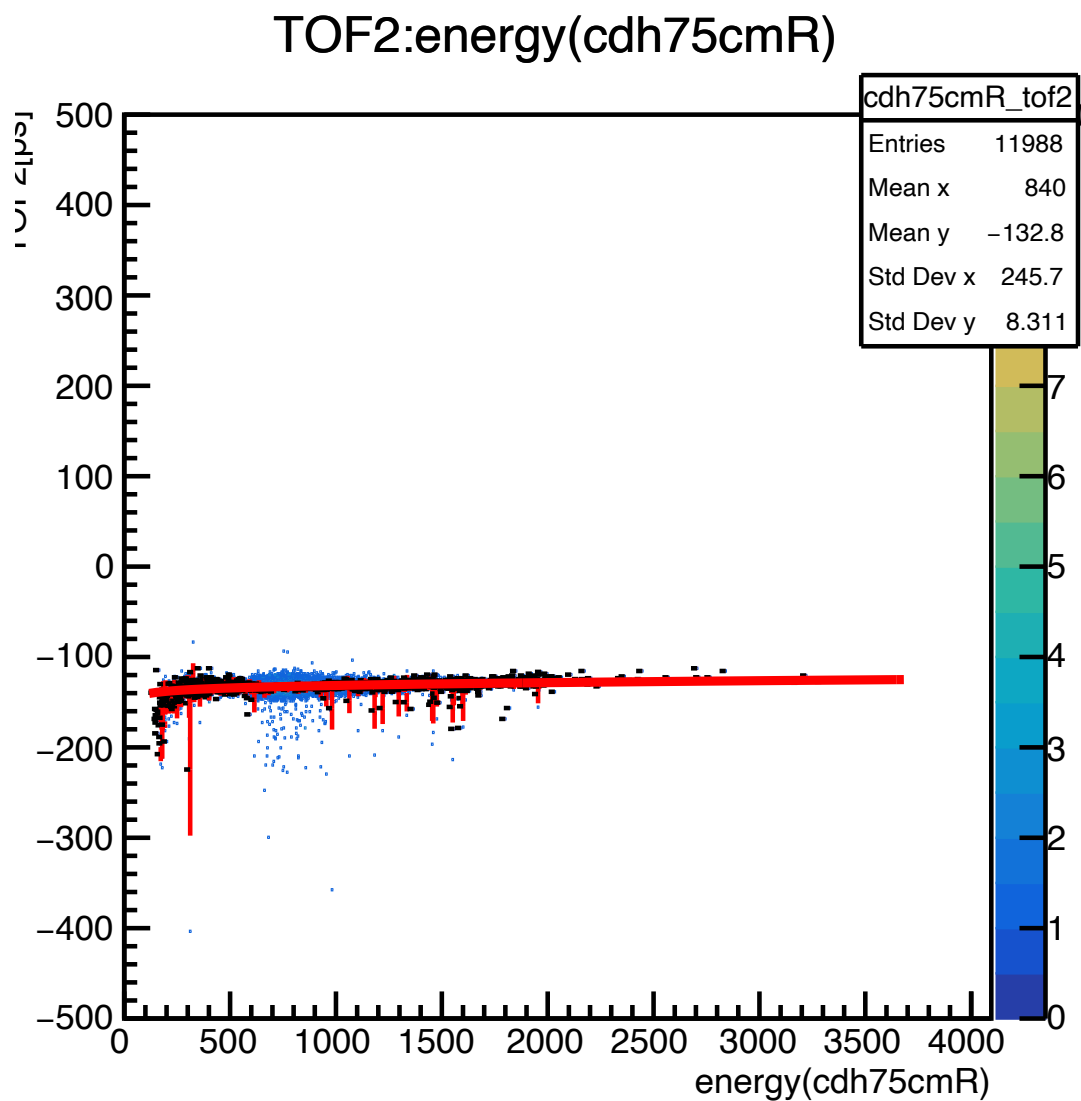
Slew 1回目





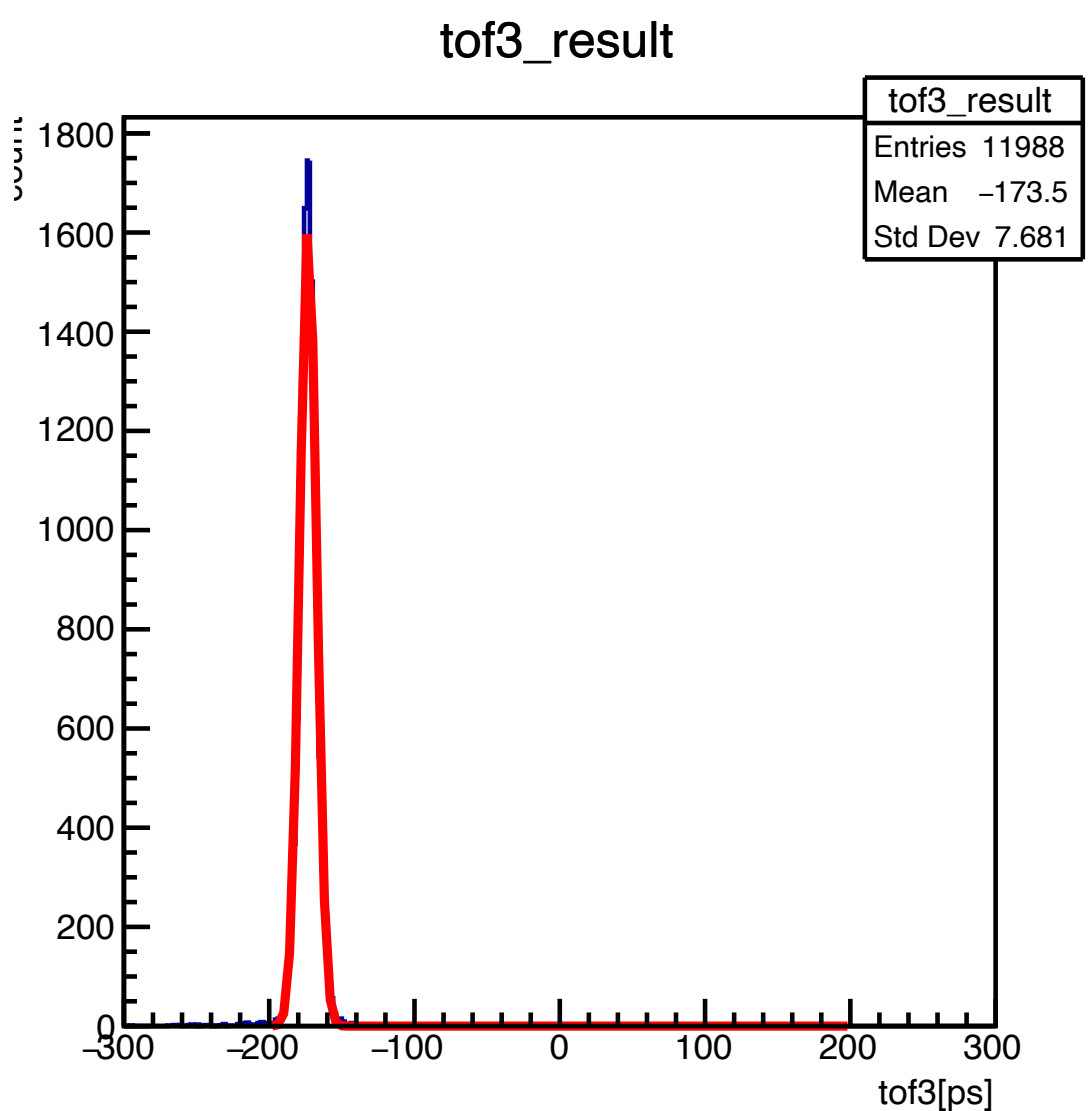
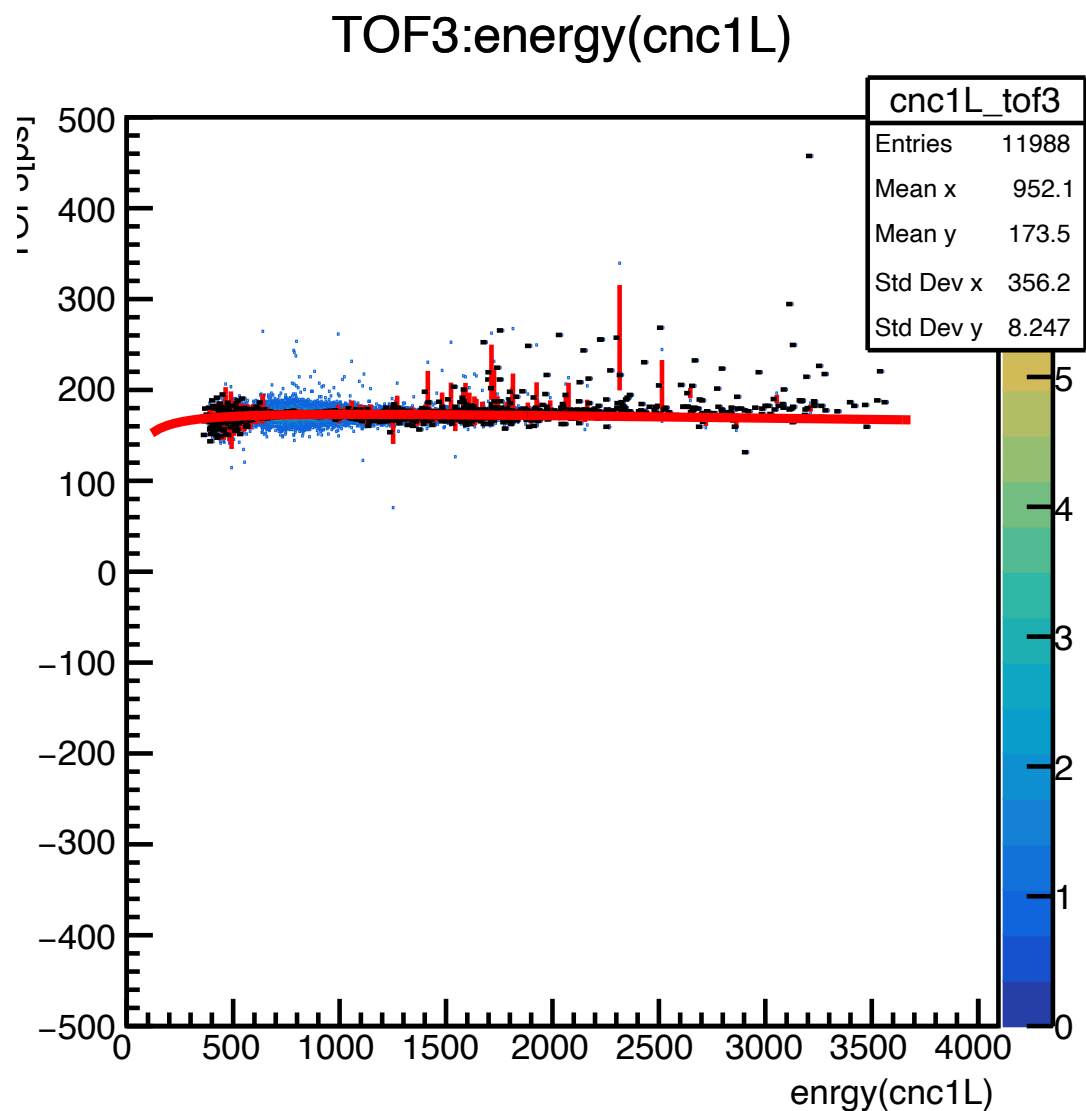
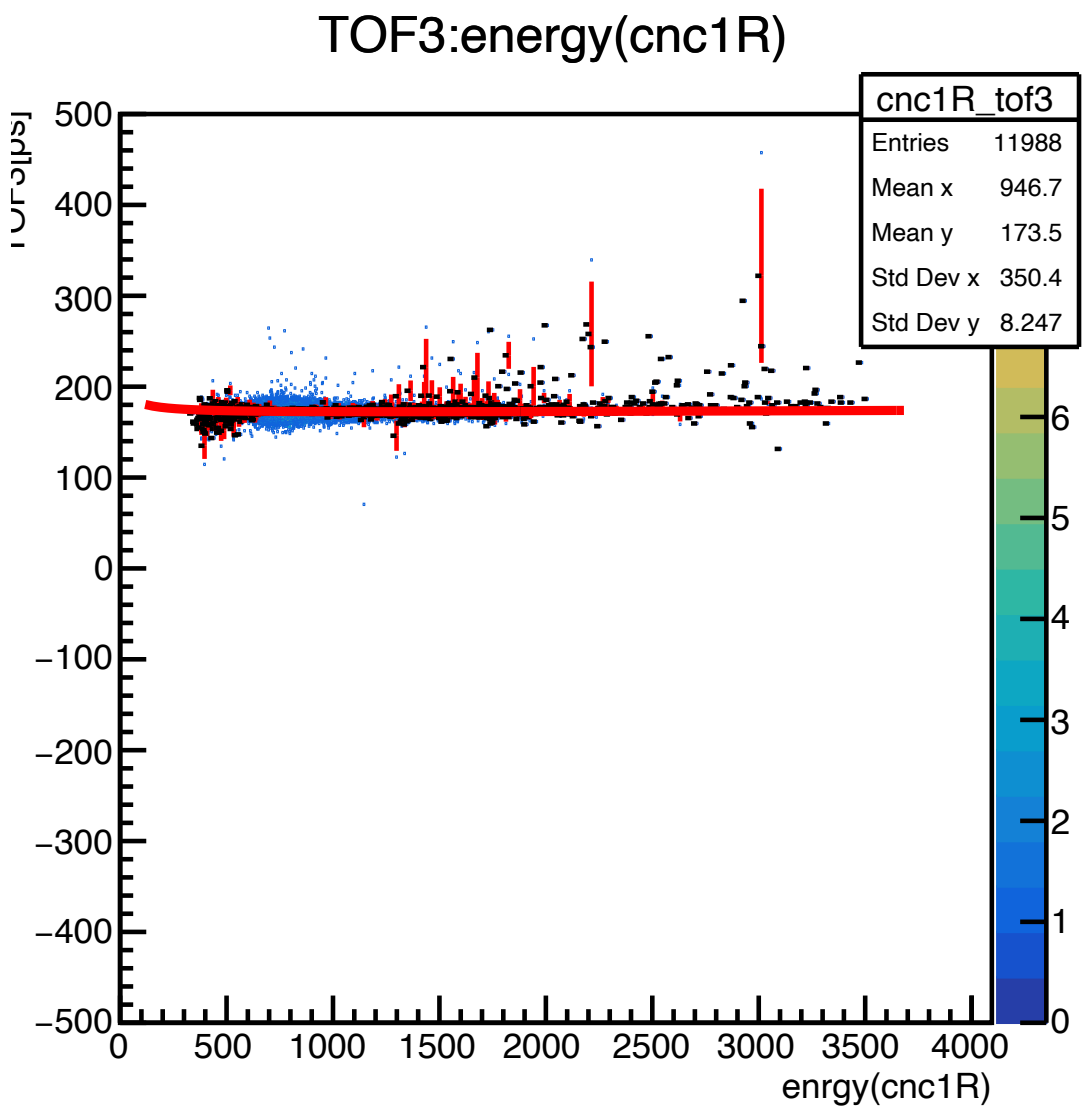
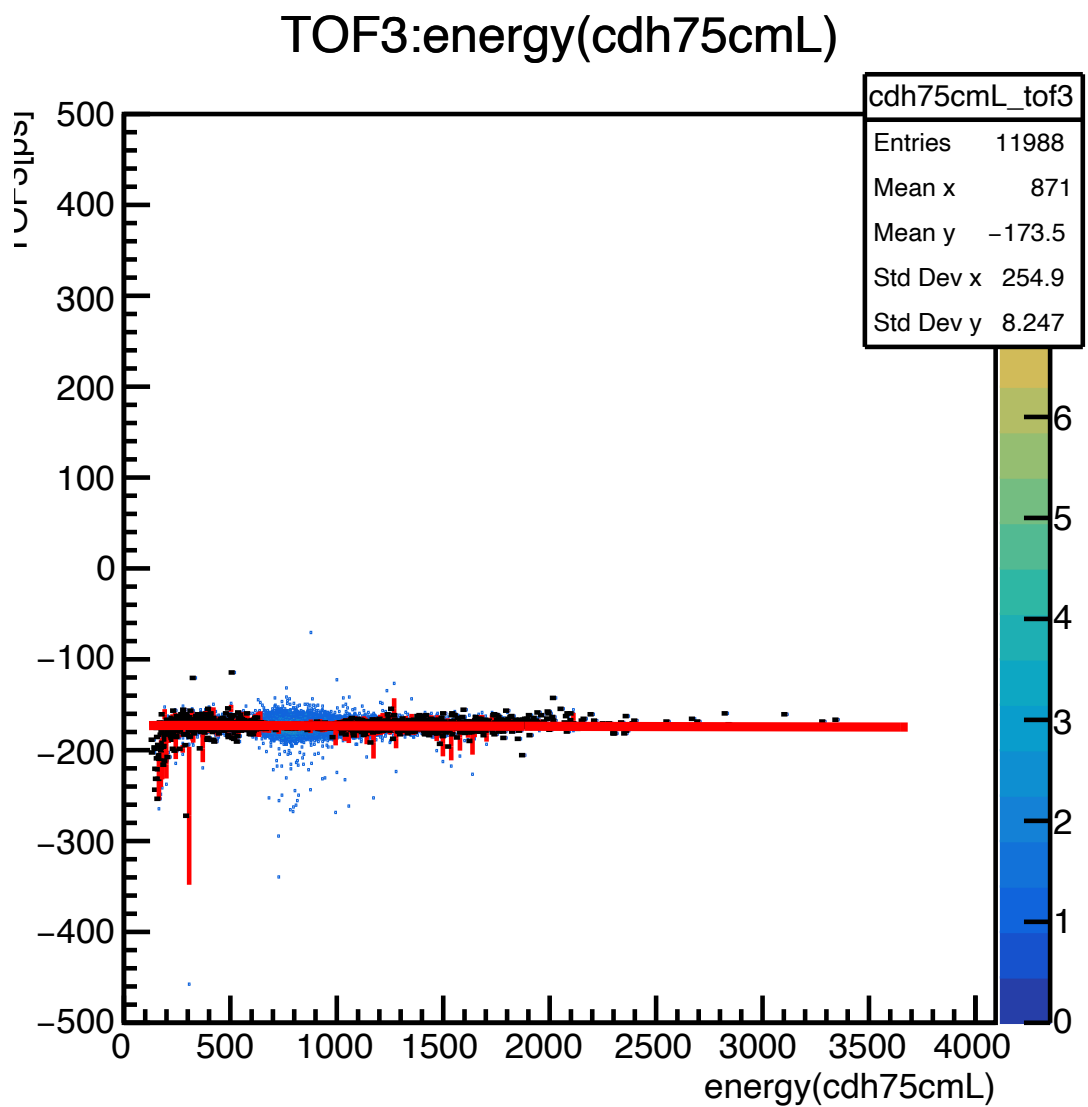
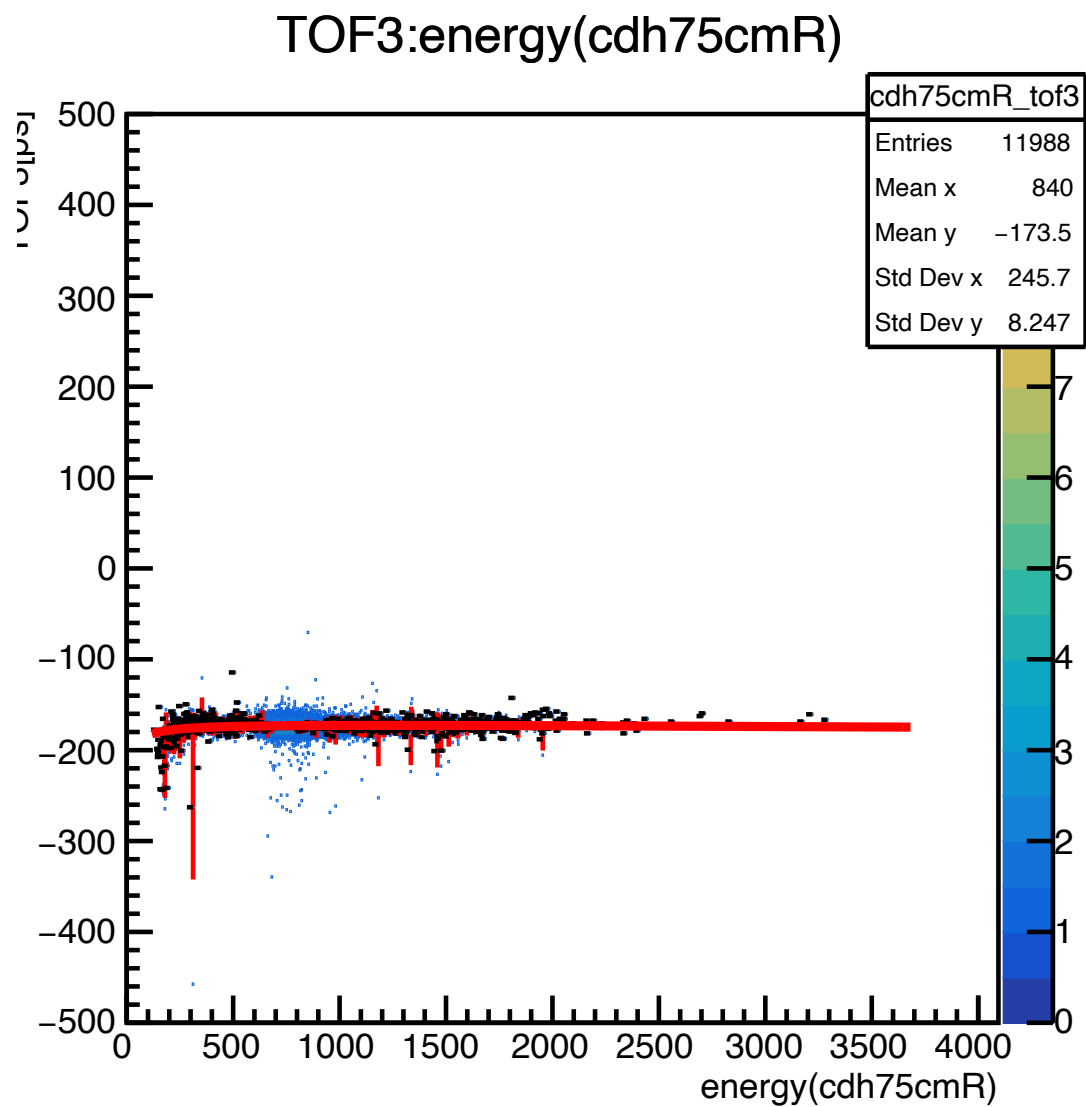
$TOF_2 = (cdh75cm - cnc2) / 2$

Slew 4回目



$$\text{TOF_3} = (\text{cdh75cm} - \text{cnc1}) / 2$$

Slew 4回目



```
表示 移動 実行 ターミナル ウィンドウ ヘルプ
← → 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

問題 24 出力 デバッグ コンソール ターミナル ポート
EDM=4.36702e-09 STRATEGY= 1 ERROR MATRIX ACCURATE
EXT PARAMETER NO. NAME VALUE ERROR STEP SIZE FIRST DERIVATIVE
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
EDM=4.08348e-07 STRATEGY= 1 ERROR MATRIX ACCURATE
EXT PARAMETER NO. NAME VALUE ERROR STEP SIZE FIRST DERIVATIVE
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
EDM=1.22271e-09 STRATEGY= 1 ERROR MATRIX ACCURATE
EXT PARAMETER NO. NAME VALUE ERROR STEP SIZE FIRST DERIVATIVE
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
```

よって、

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

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

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