

# Compton Data Analysis

## PrimeX-II weekly meeting

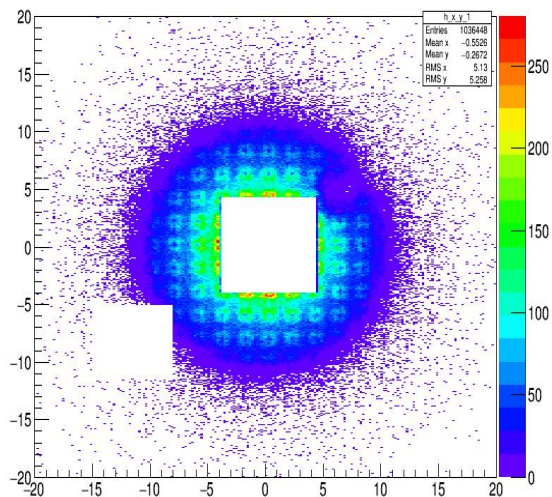
Li Ye

Mississippi State University

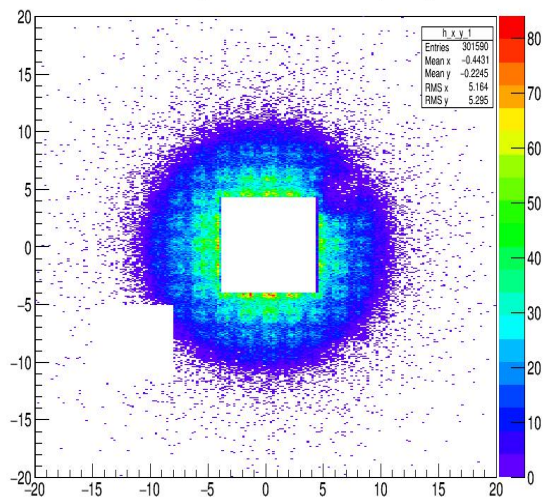
2016-10-07

# Tdiff cut study

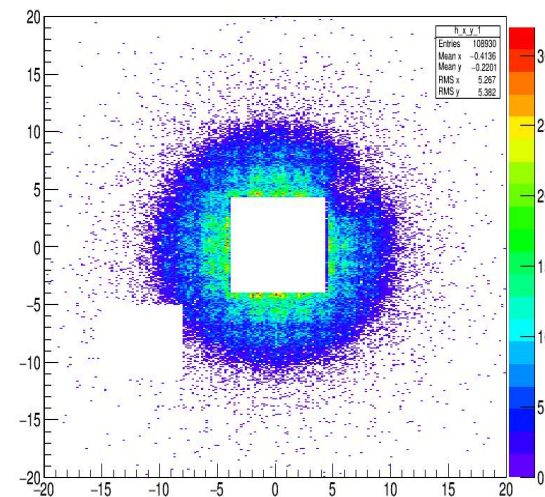
XY position for cluster1 (5%C)



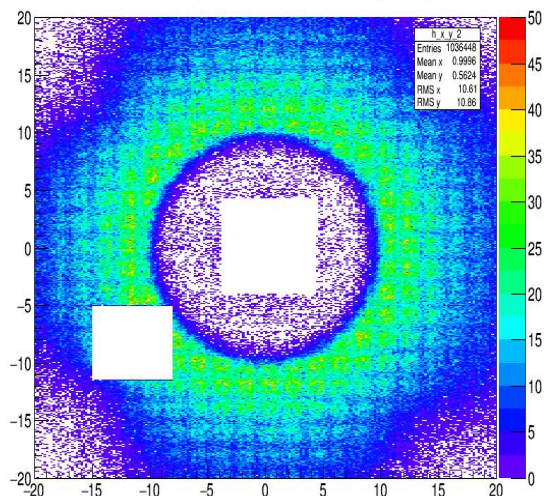
XY position for cluster1 (8%C)



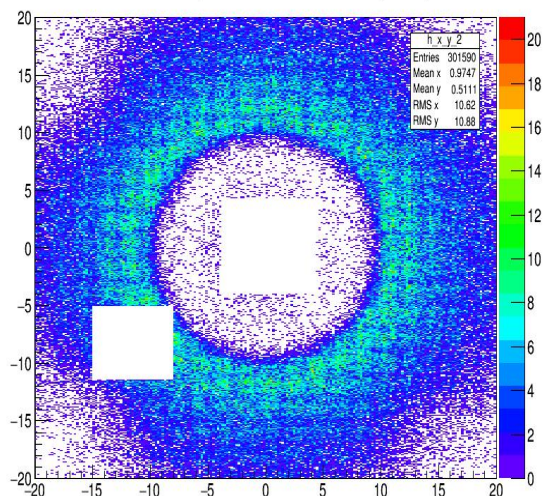
XY position for cluster1 (10%Si)



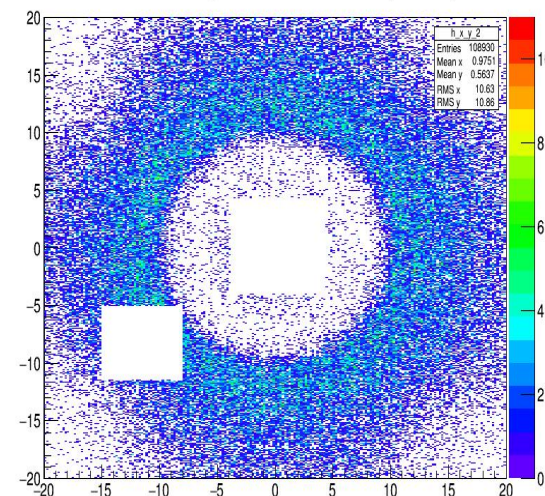
XY position for cluster2 (5%C)



XY position for cluster2 (8%C)



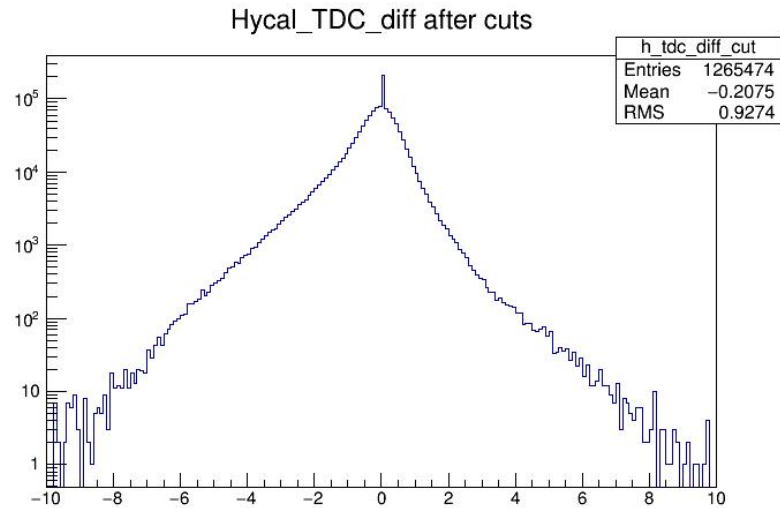
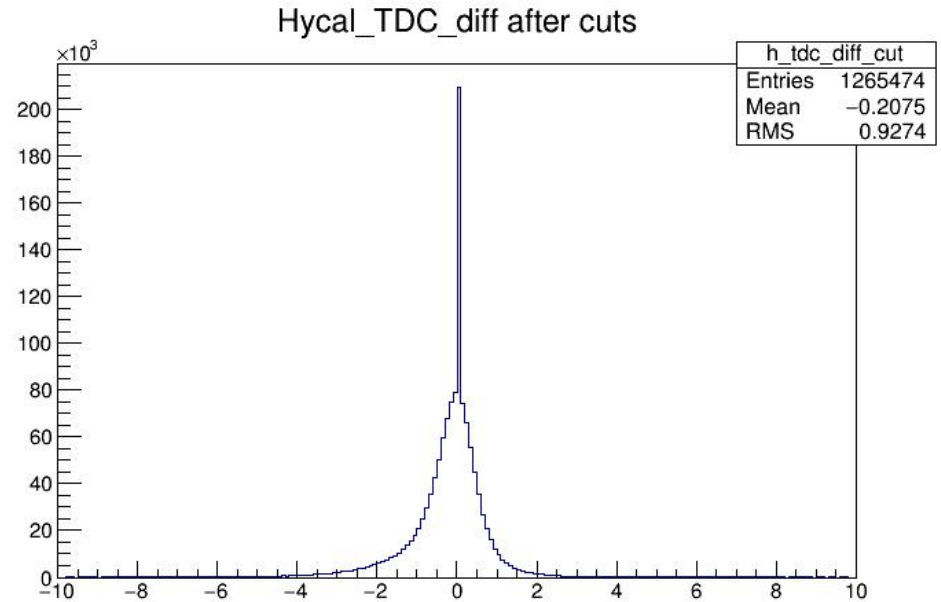
XY position for cluster2 (10%Si)



# Group TDC added

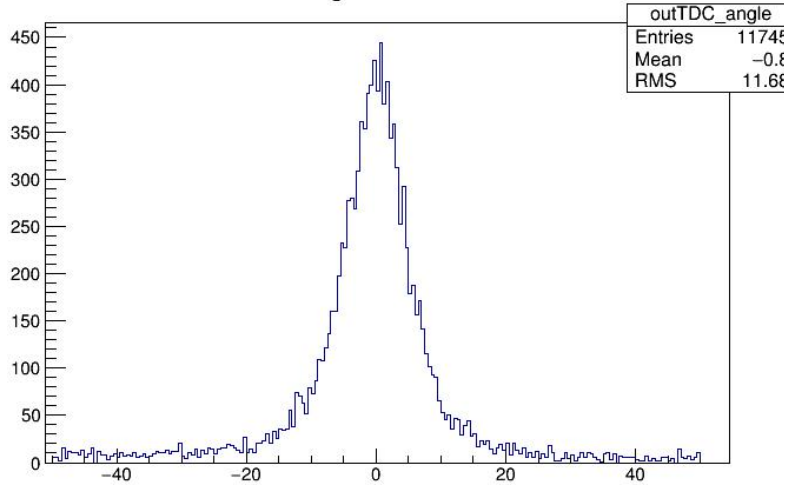
current cut  
 $e1, e2 < 0.5\text{GeV}$   
 $e1+e2 < 3.5\text{GeV}$   
x1y1 x2y2 cut  
 $\text{abs}(T_{\text{diff}}) > 6\text{ns}$   
 $\text{abs}(\text{angle}) > 20\text{deg}$   
 $\text{abs}(z) > 50\text{cm}$   
Sep < 19 cm

$\text{abs}(G_{\text{tdc}}) > 6\text{ns}$

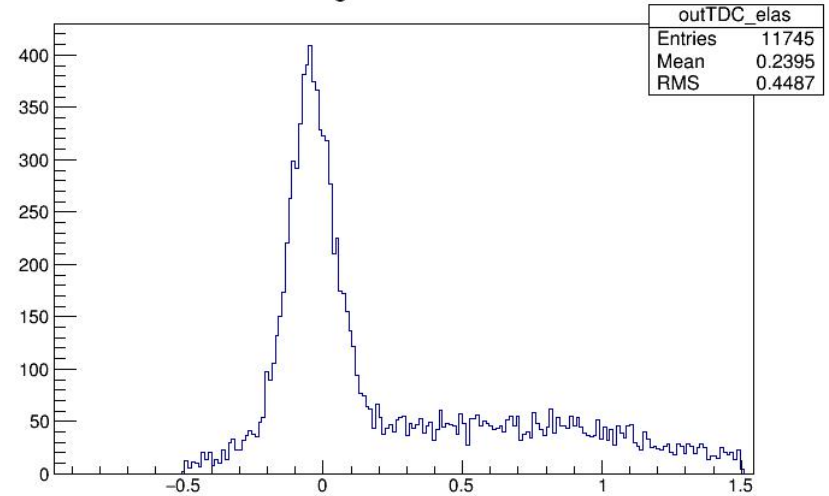


# Group TDC cut study

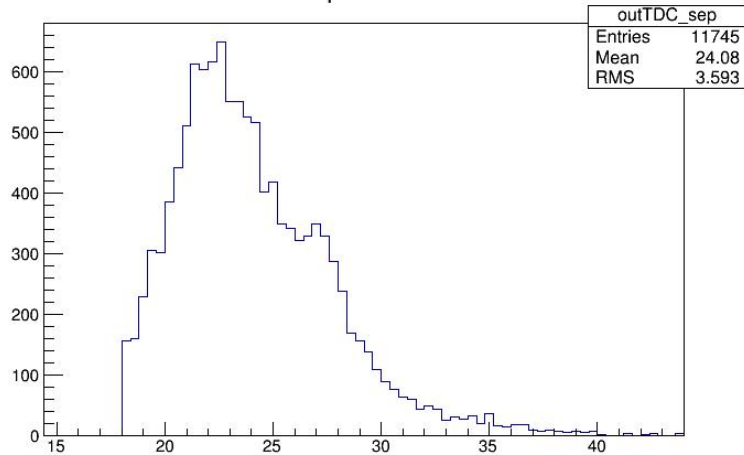
Azimuthal Angle Difference out TDC



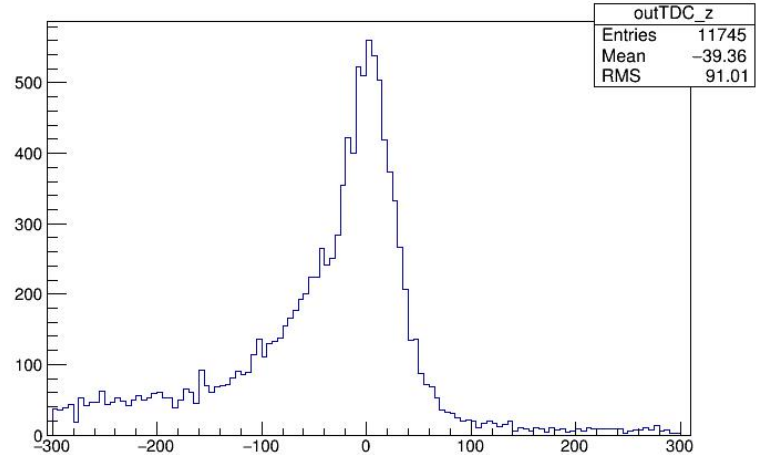
E0 = eg - e1 -e2 out TDC



Cluster Separation out TDC



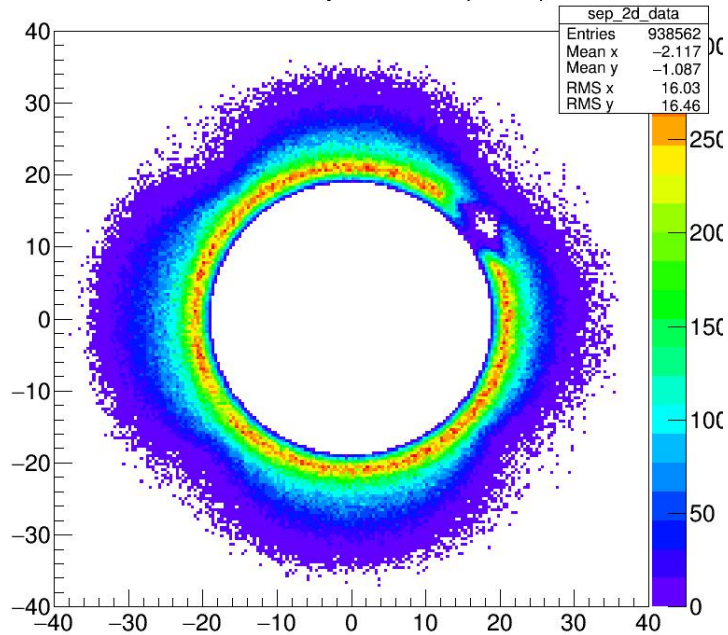
Z out TDC



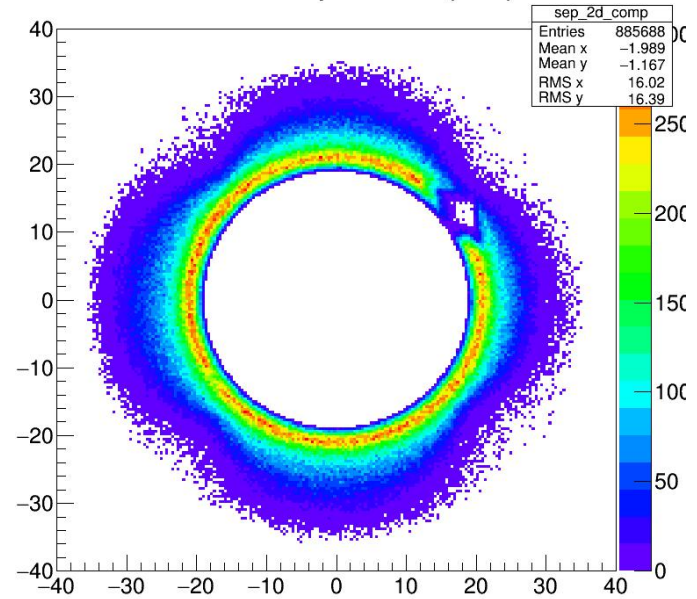
# Sep cut study

Sep: cluster separation

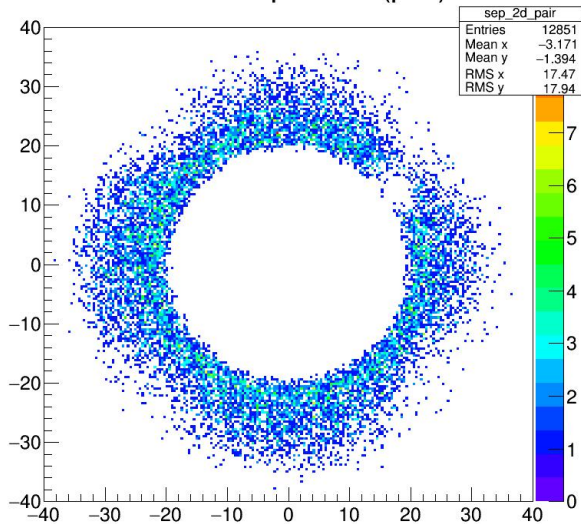
Cluster Separation (data)



Cluster Separation (MC)

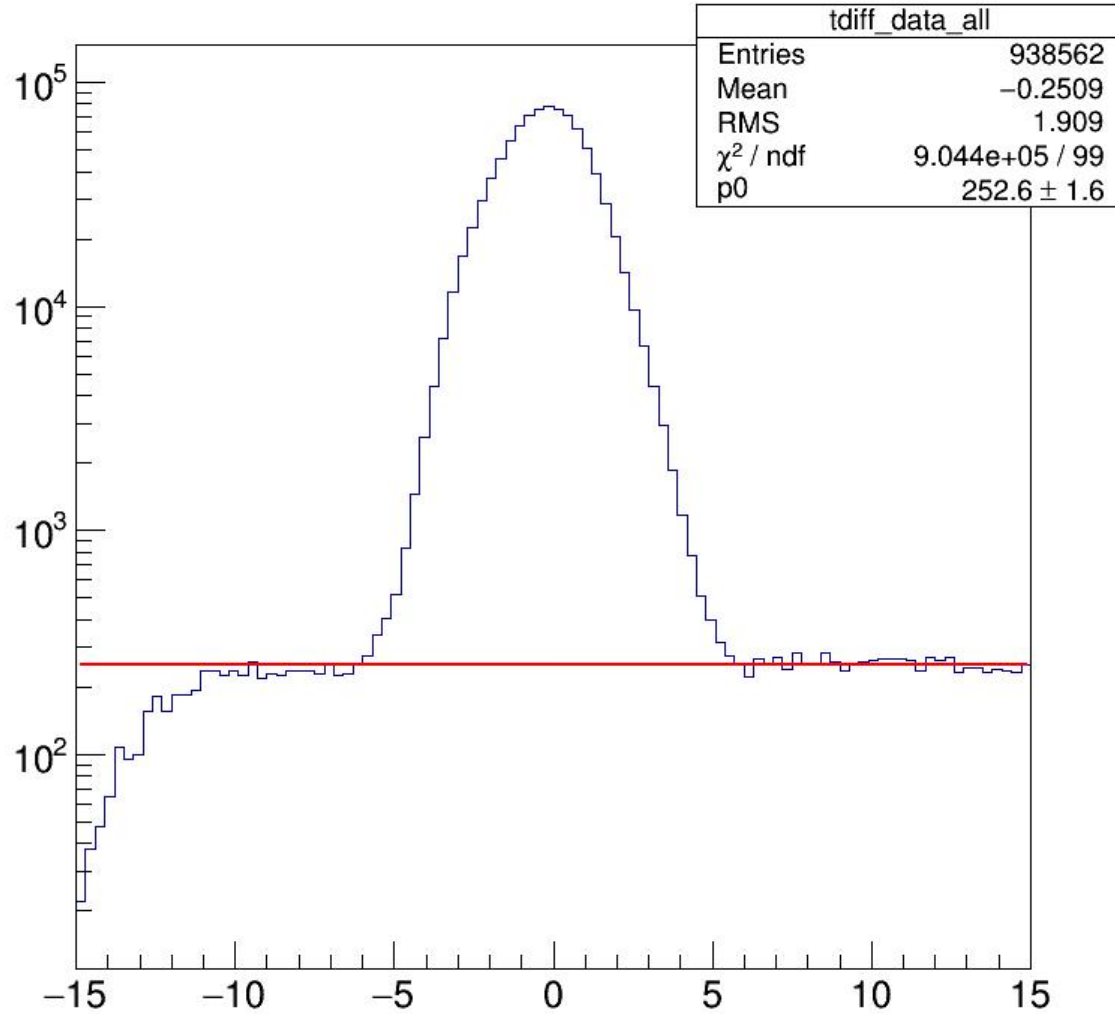


Cluster Separation (pair)

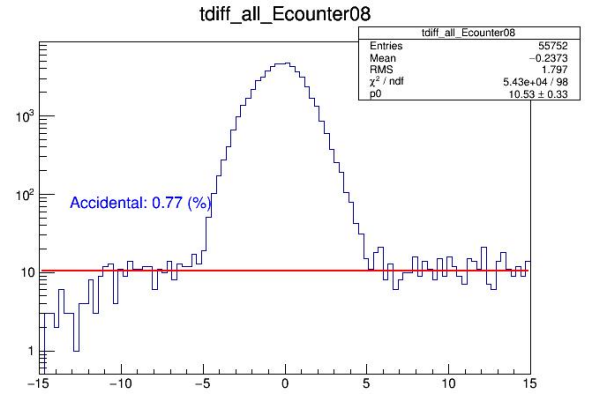
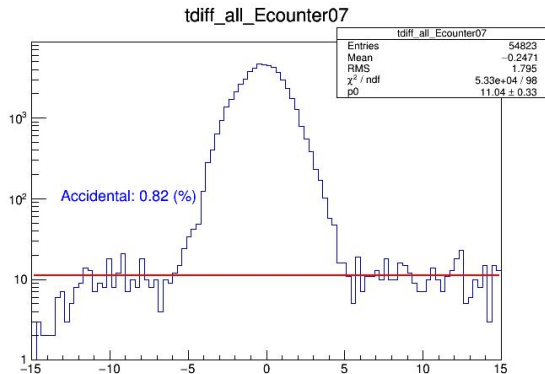
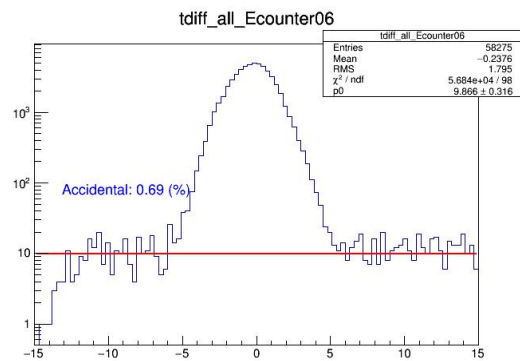
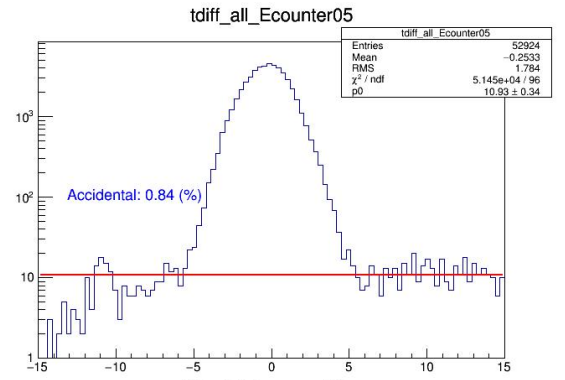
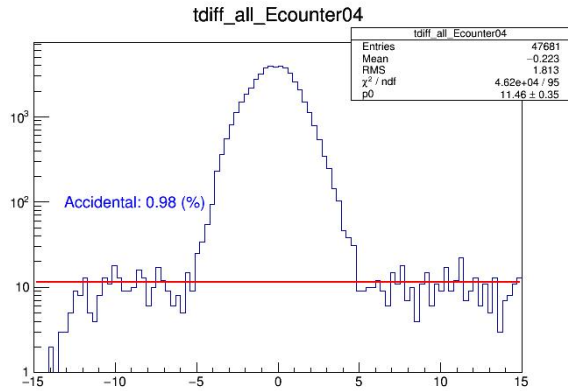
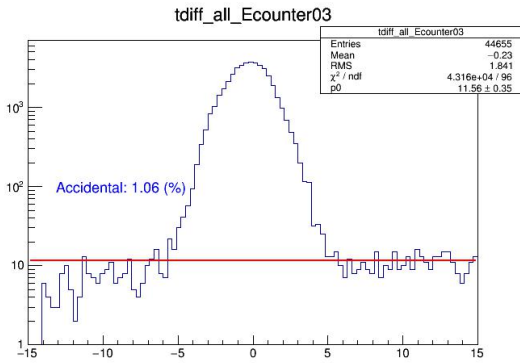
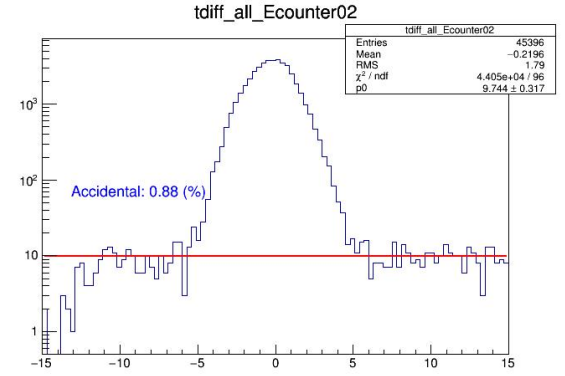
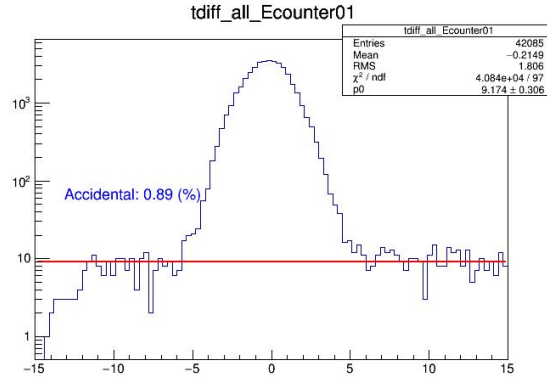
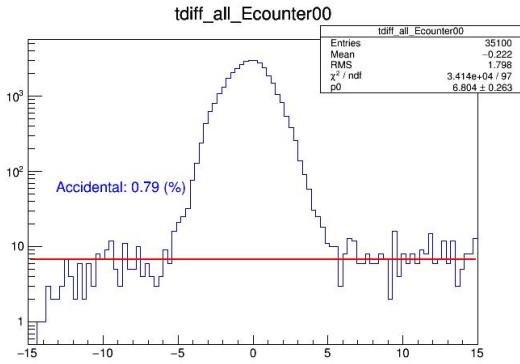


# Z cut study

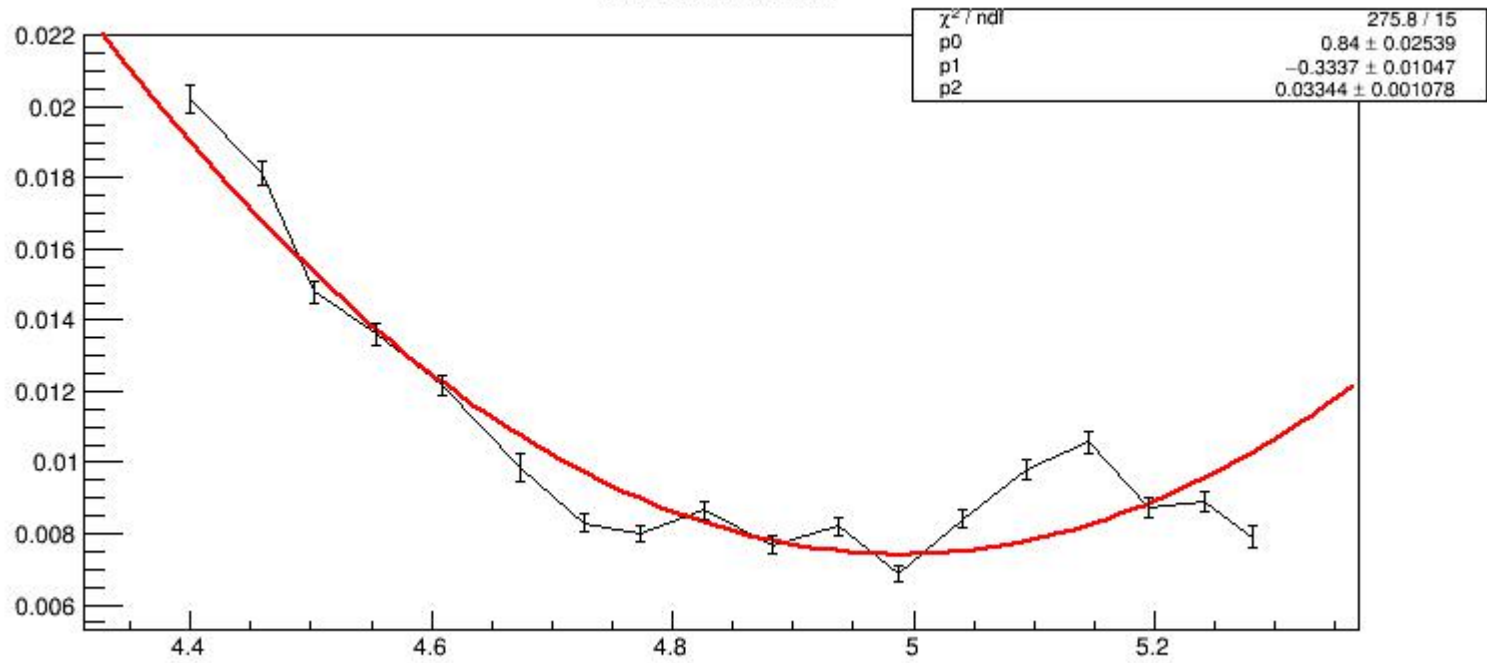
## Tdiff data all



# e0 cut study

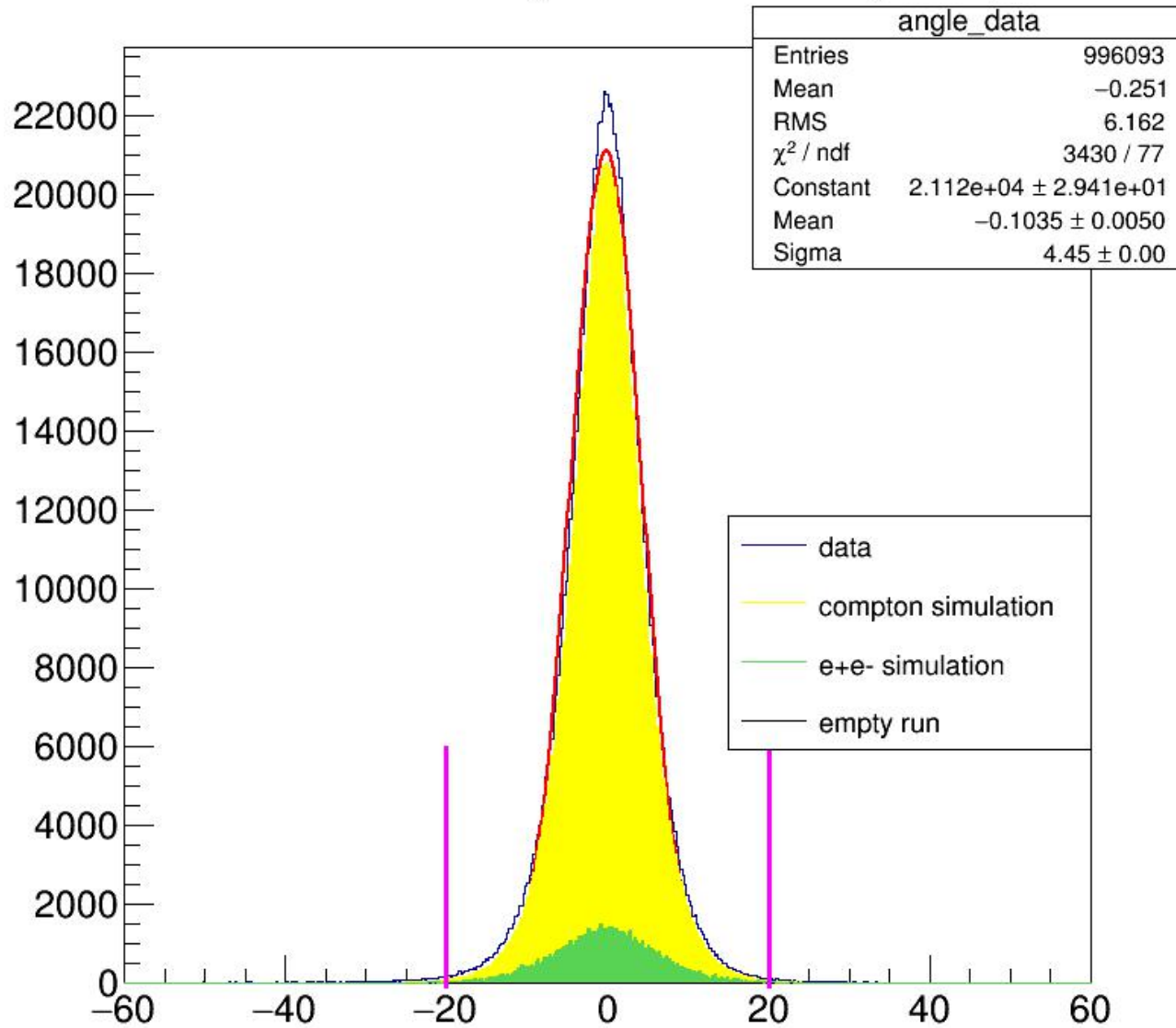


### 5%C accidentals

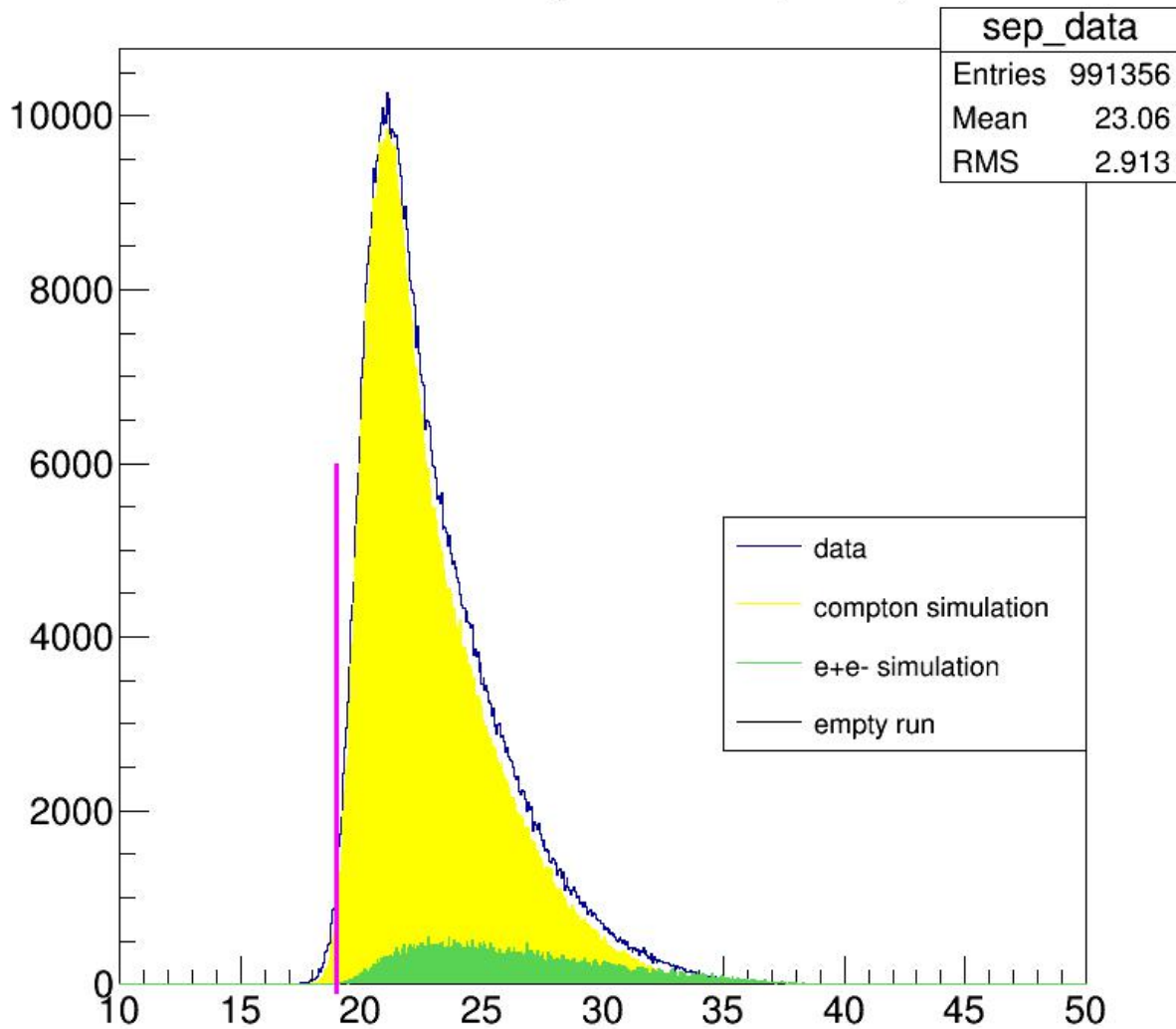




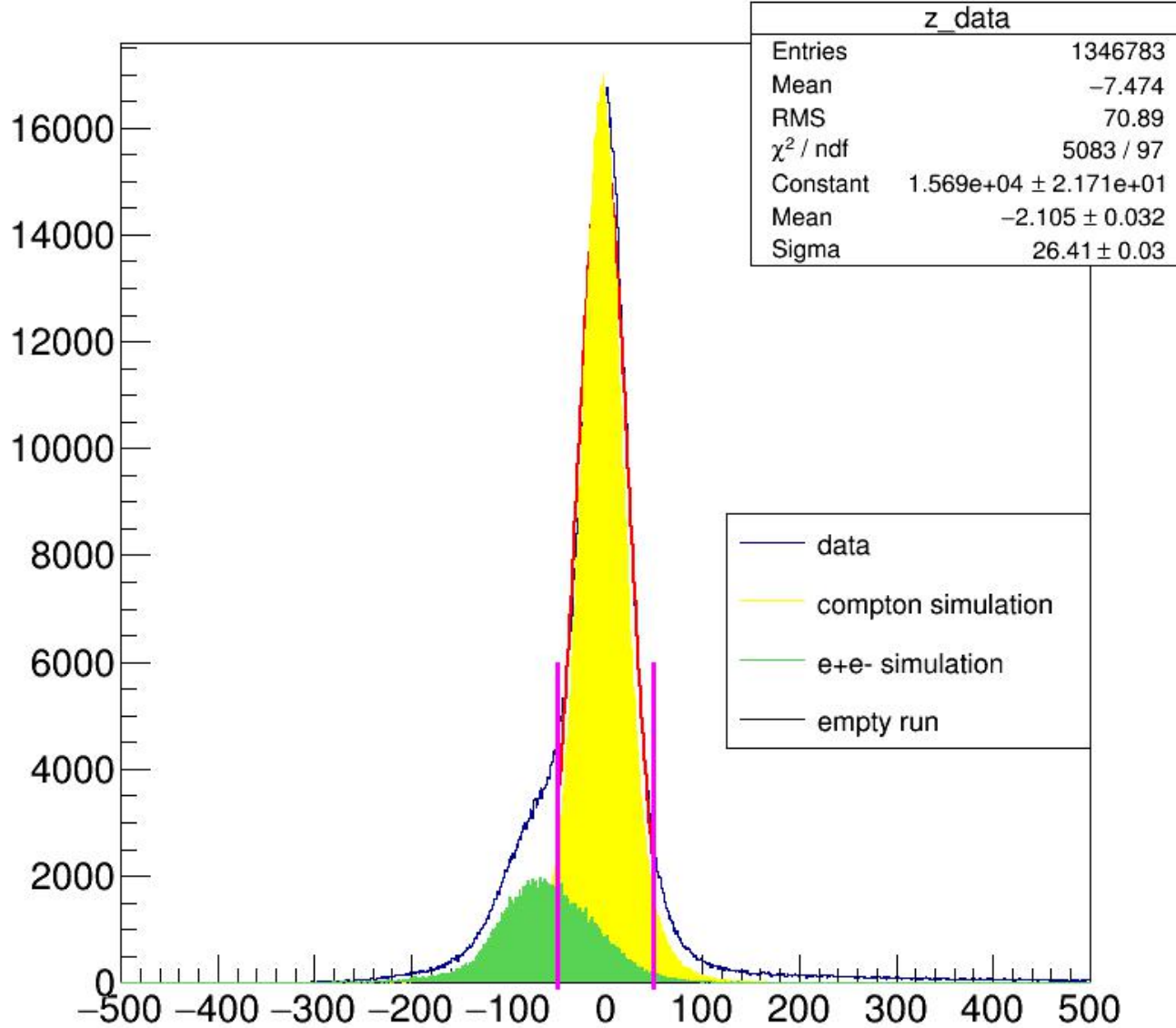
# Azimuthal Angle Difference (data)



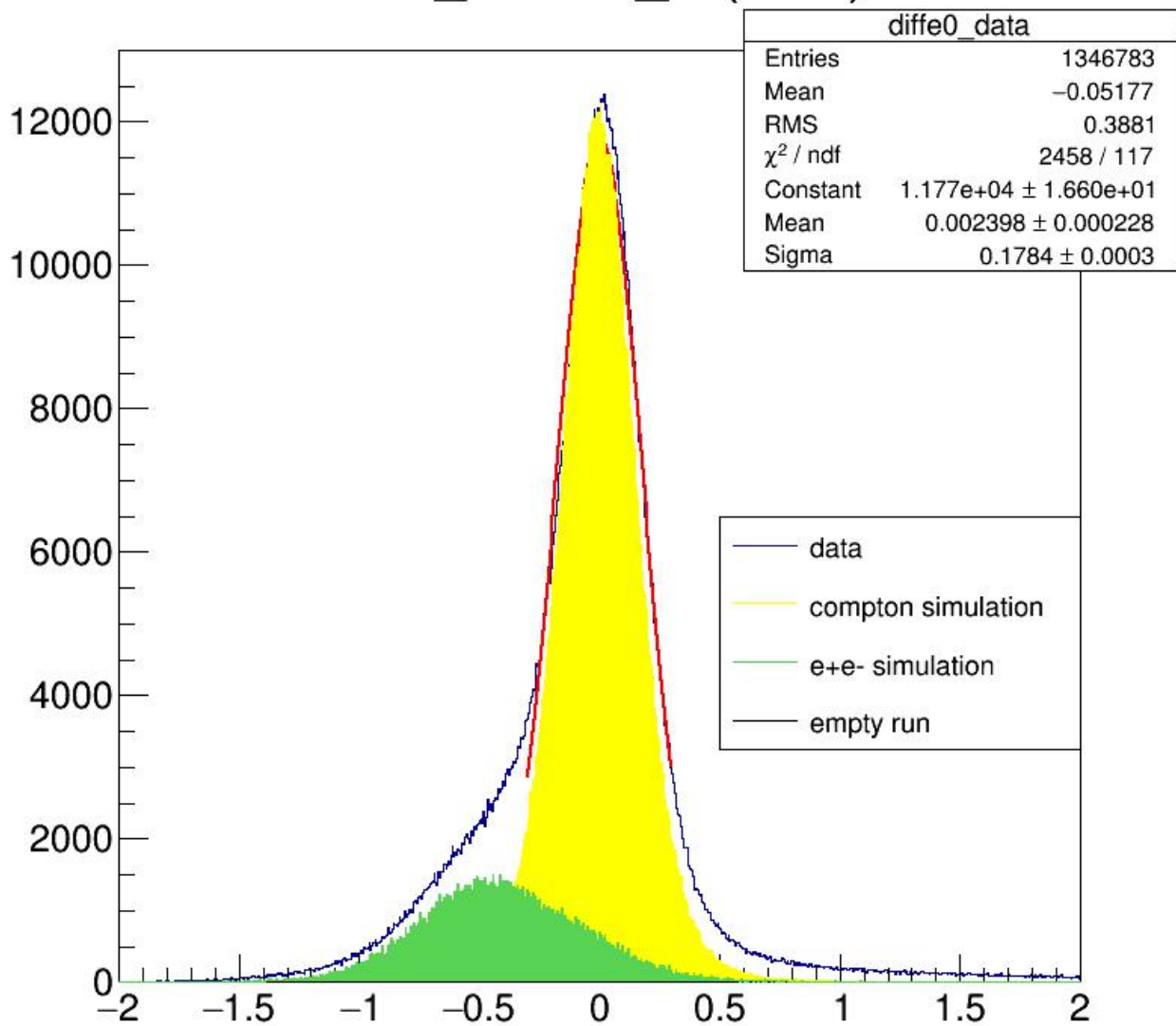
# Cluster Separation (data)



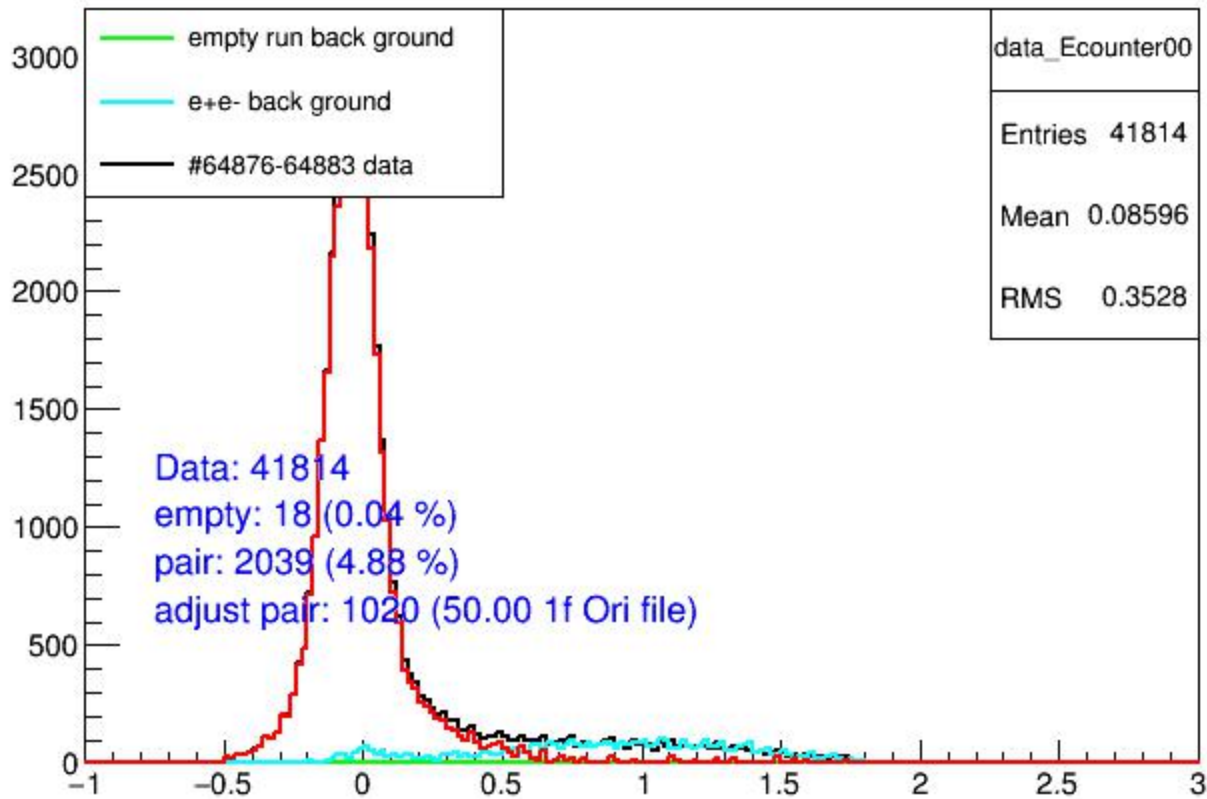
# Z position (data)



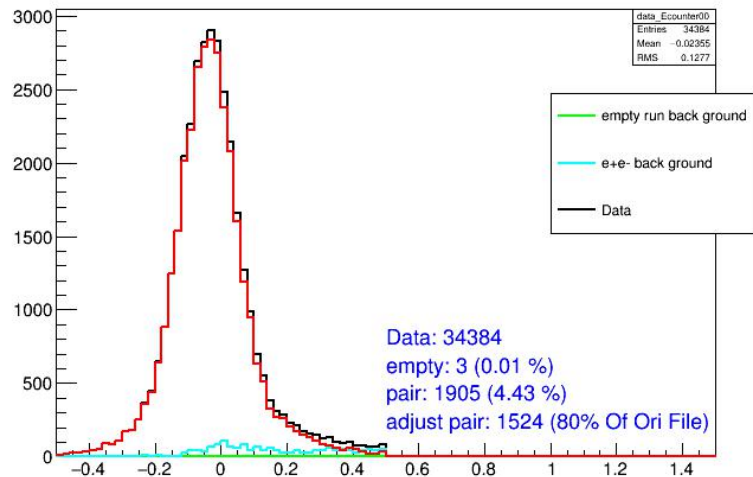
# Rec\_E - Cal\_E (data)



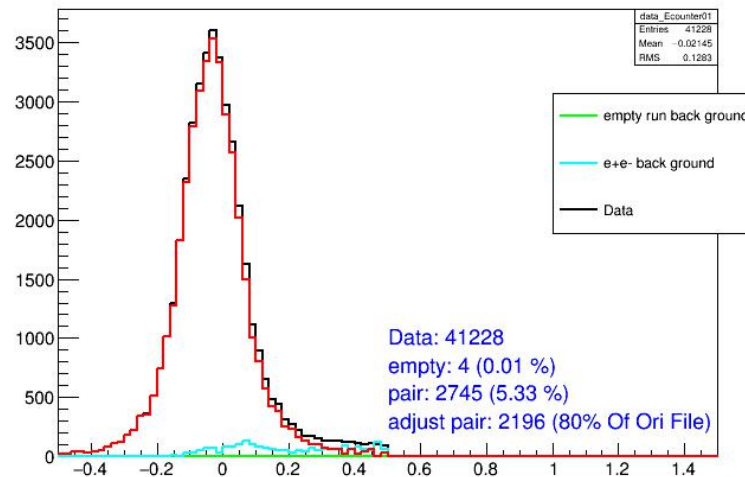
# 5%\_Carbon\_E1



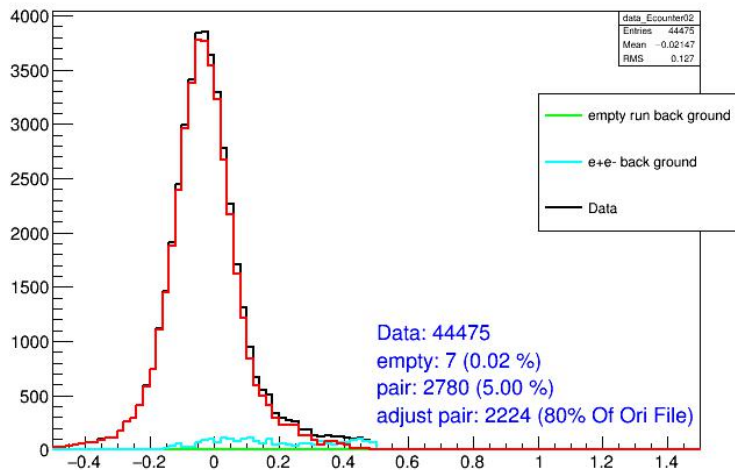
5%\_Carbon\_E1



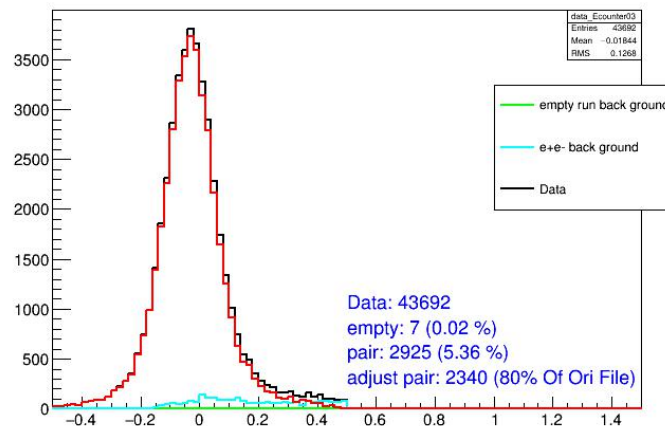
5%\_Carbon\_E2



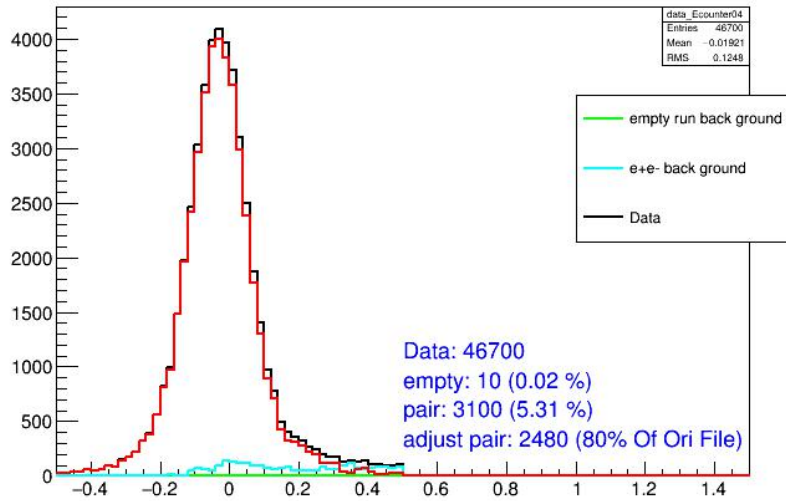
5%\_Carbon\_E3



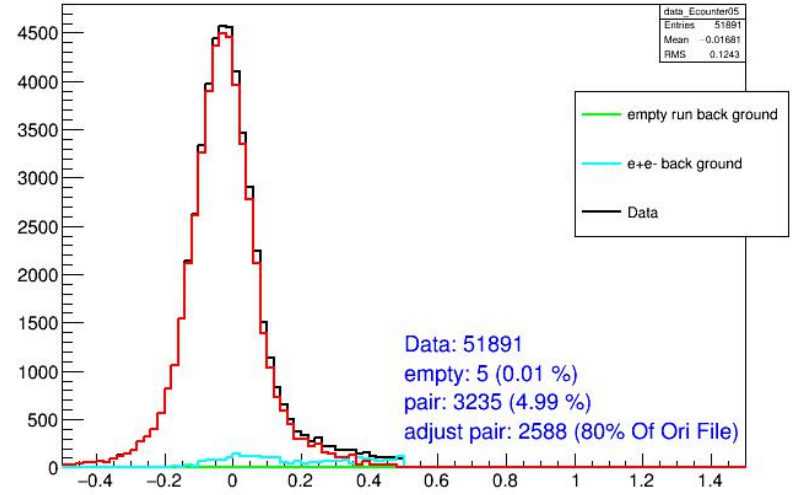
5%\_Carbon\_E4



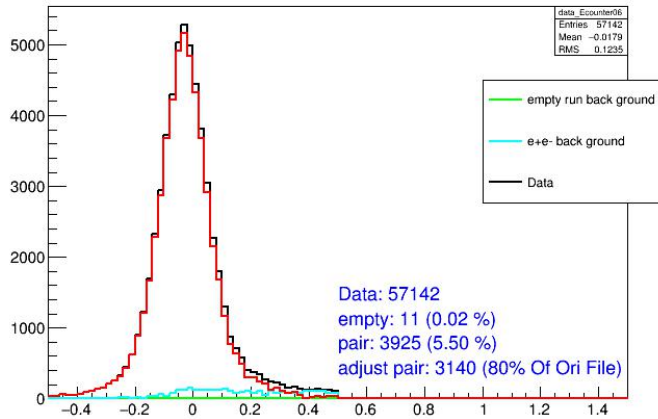
5%\_Carbon\_E5



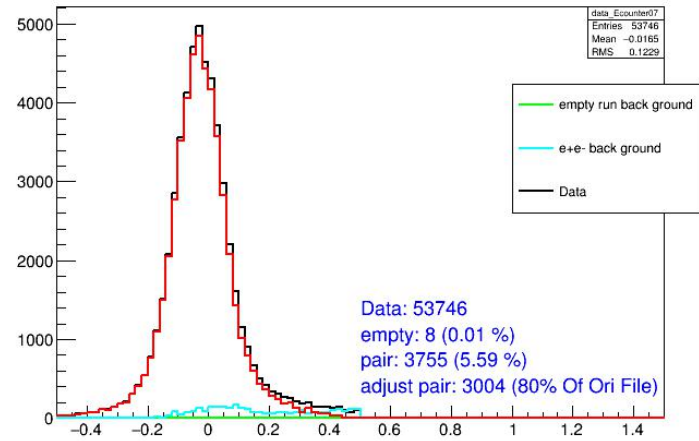
5%\_Carbon\_E6



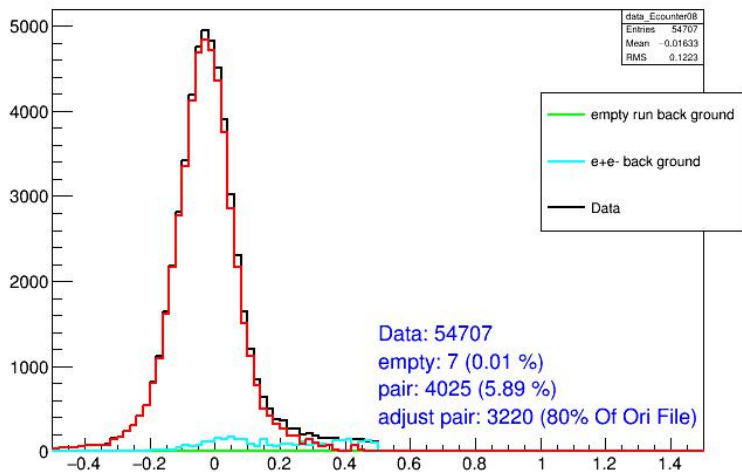
5%\_Carbon\_E7



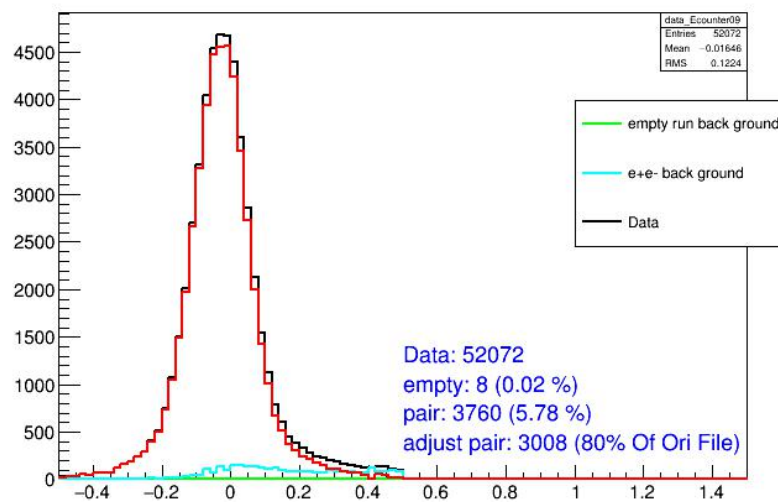
5%\_Carbon\_E8



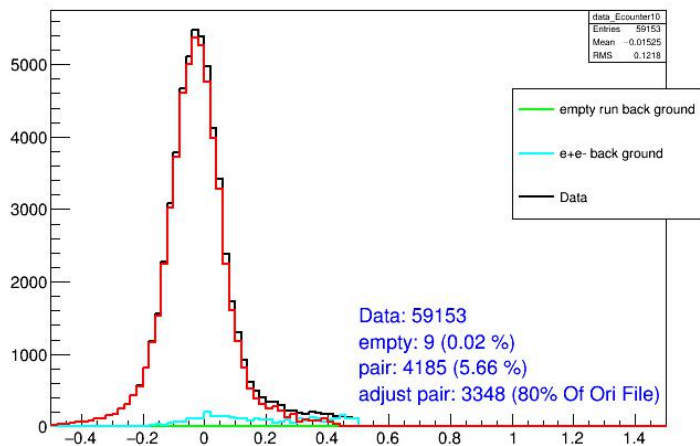
5%\_Carbon\_E9



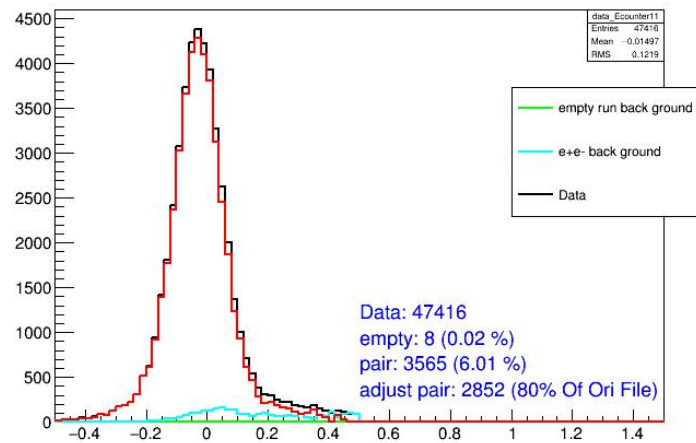
5%\_Carbon\_E10



5%\_Carbon\_E11

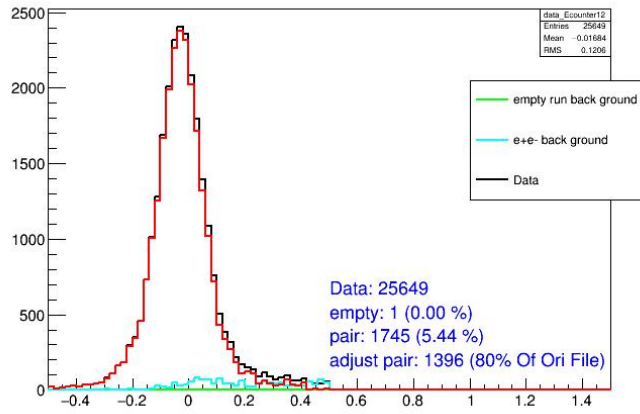


5%\_Carbon\_E12

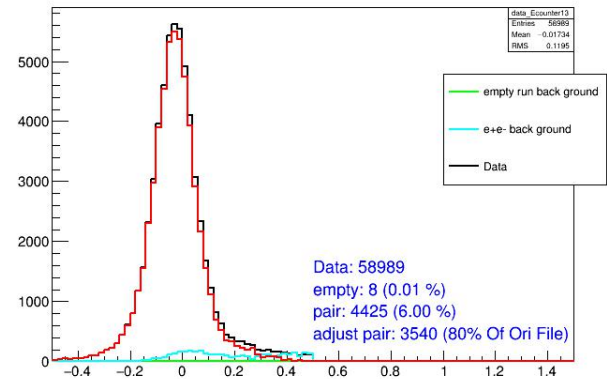




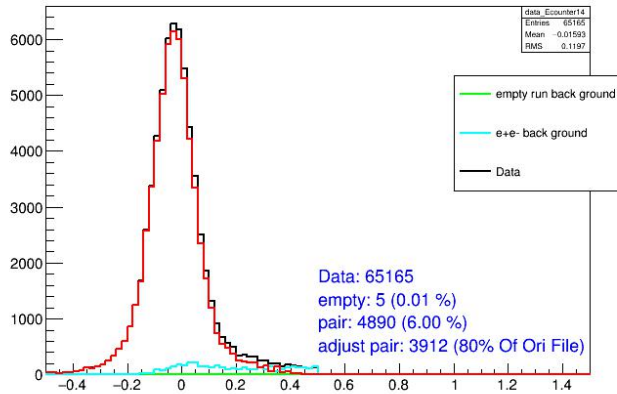
5%\_Carbon\_E13



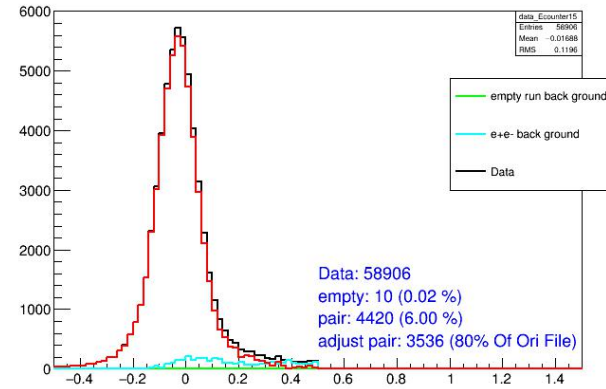
5%\_Carbon\_E14



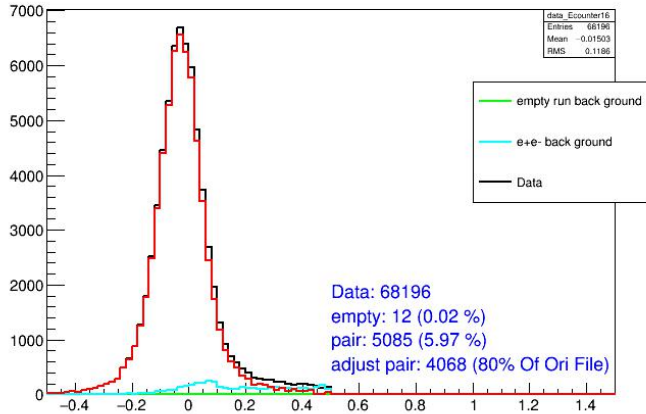
5%\_Carbon\_E15



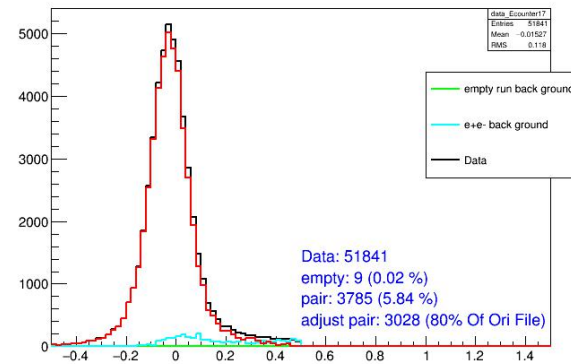
5%\_Carbon\_E16

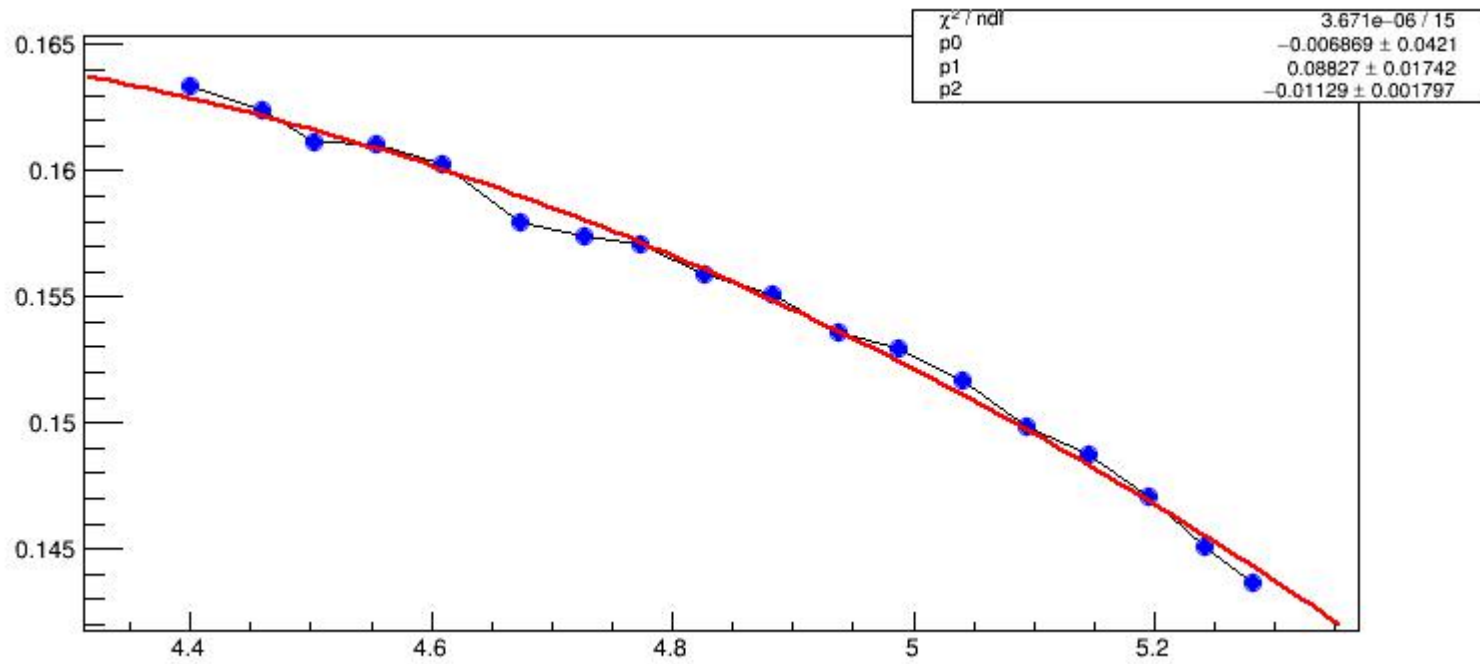


5%\_Carbon\_E17

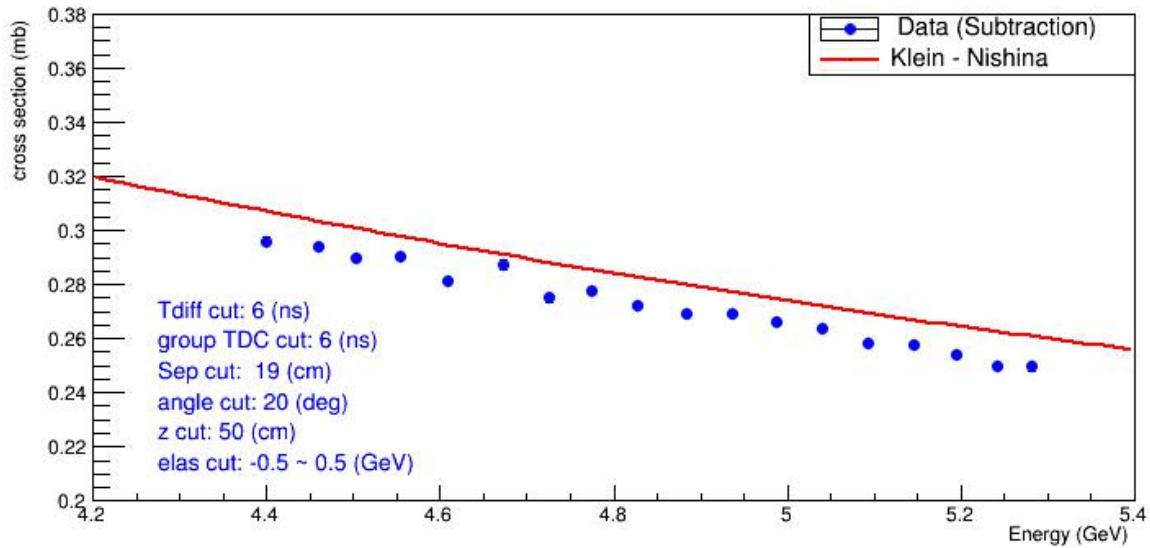


5%\_Carbon\_E18

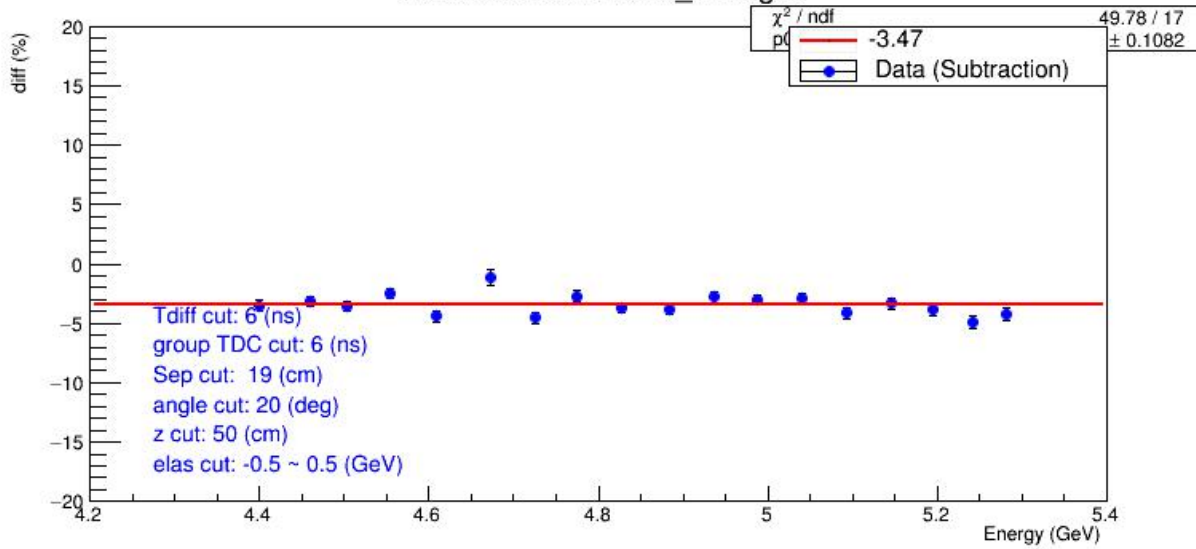




cross section #64876-64883 5%\_C target

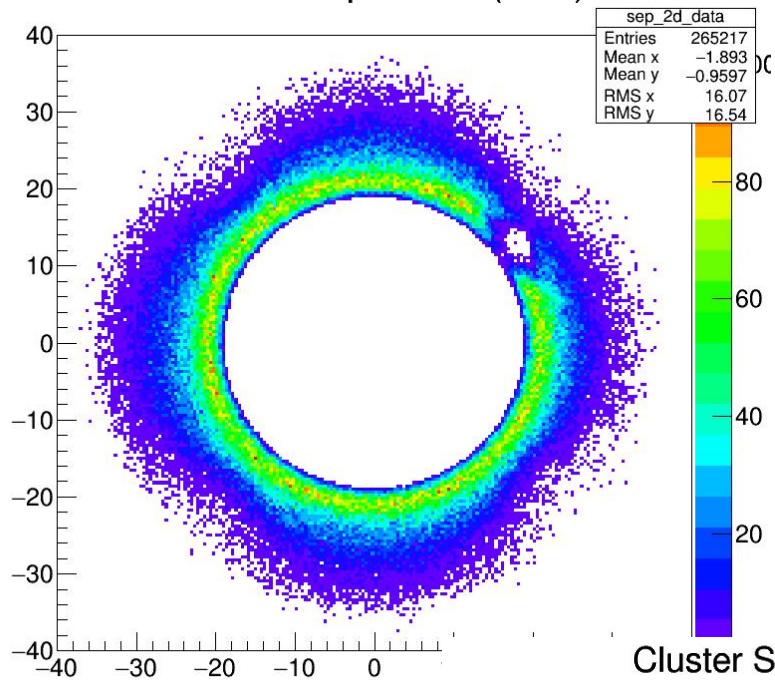


cross section diff 5%\_C target

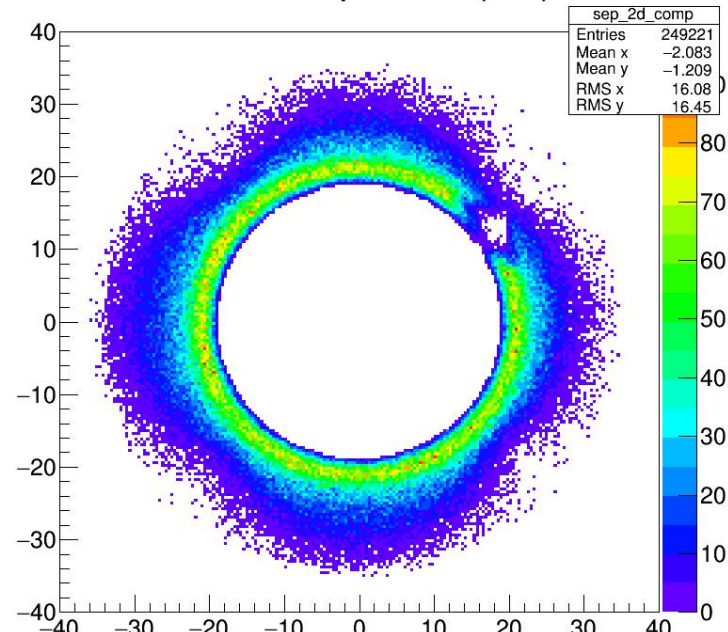


8% Carbon

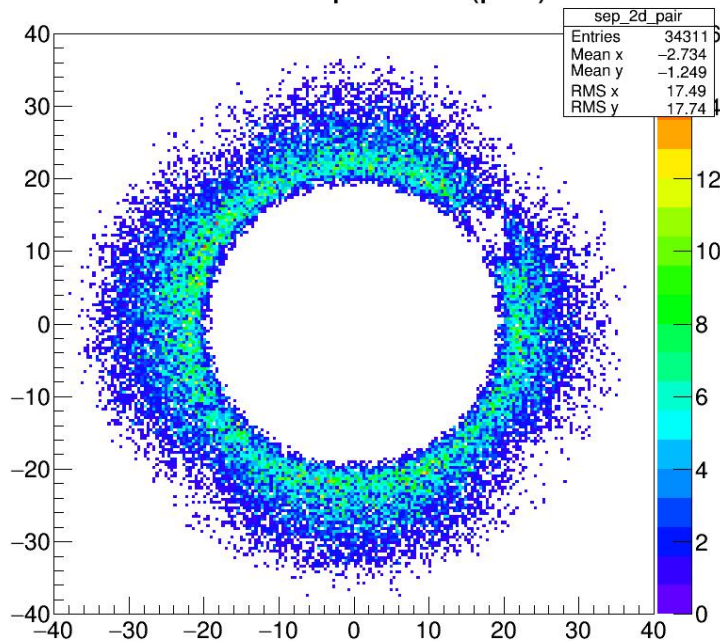
### Cluster Separation (data)



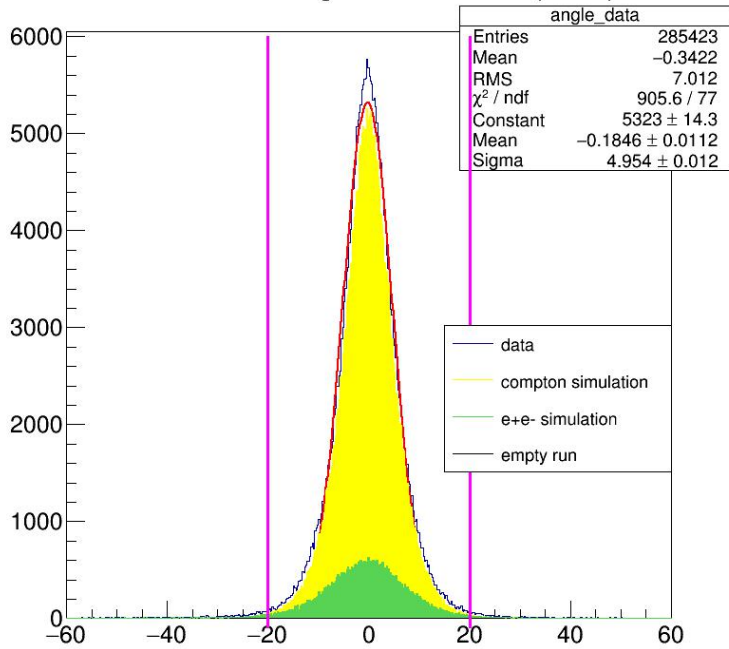
### Cluster Separation (MC)



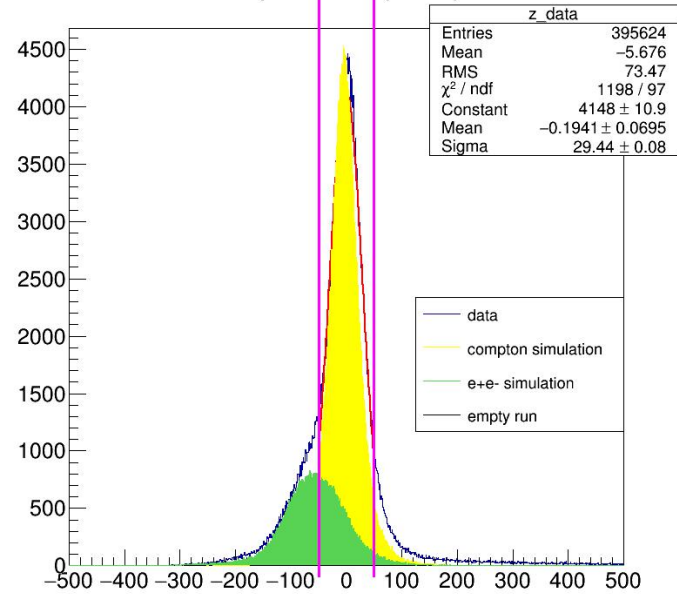
### Cluster Separation (pair)



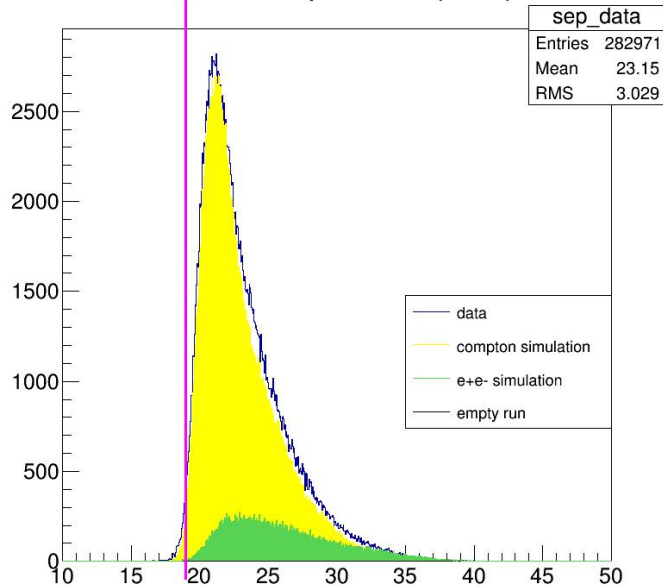
Azimuthal Angle Difference (data)



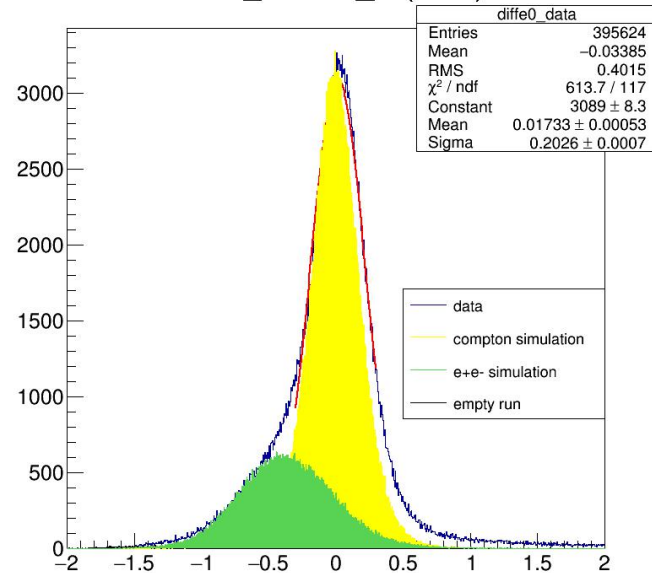
Z position (data)



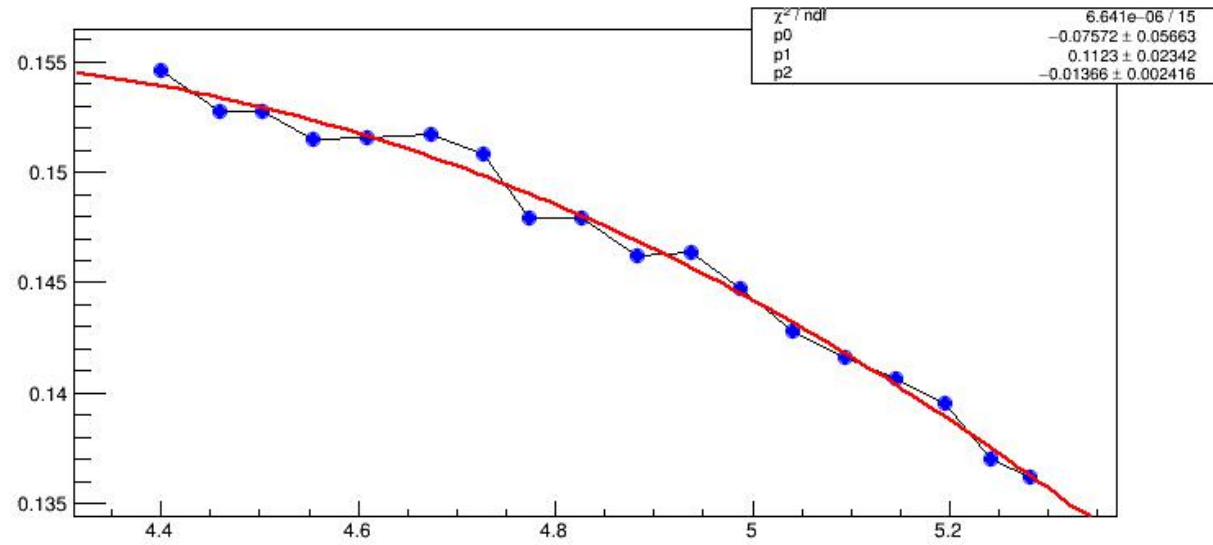
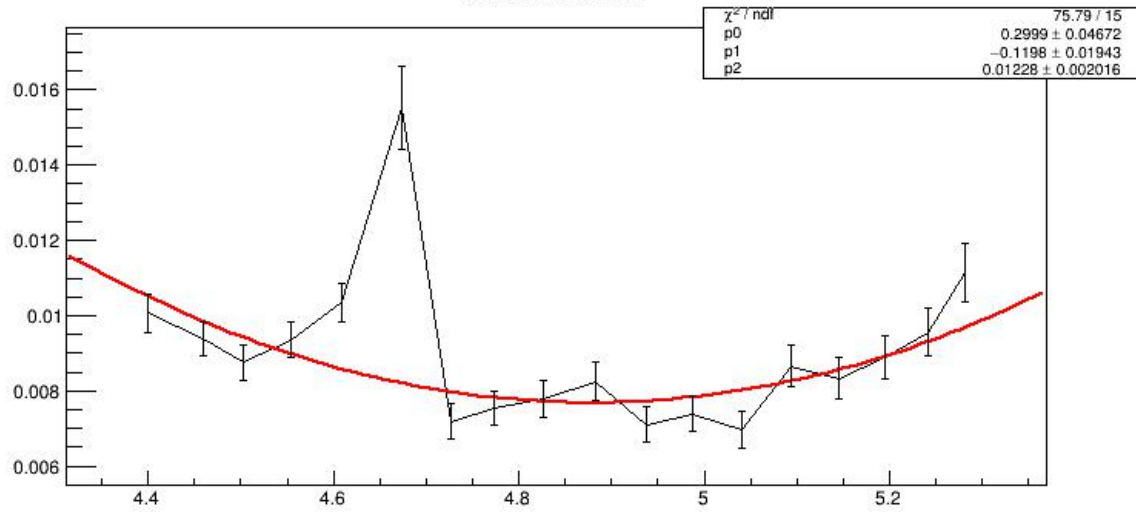
Cluster Separation (data)



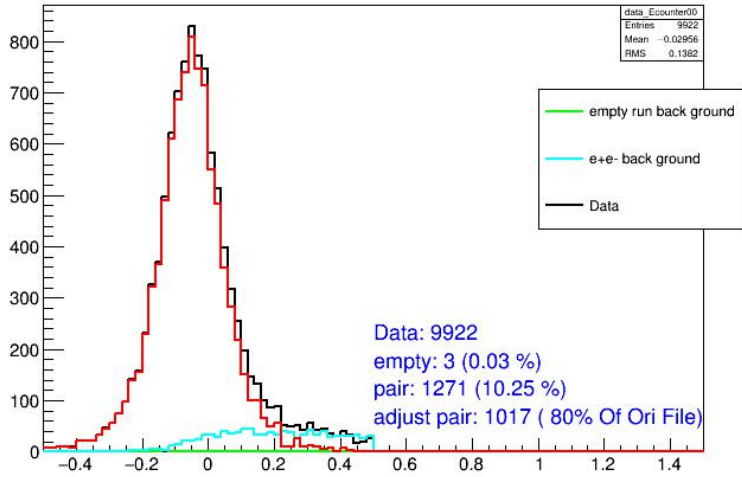
Rec\_E - Cal\_E (data)



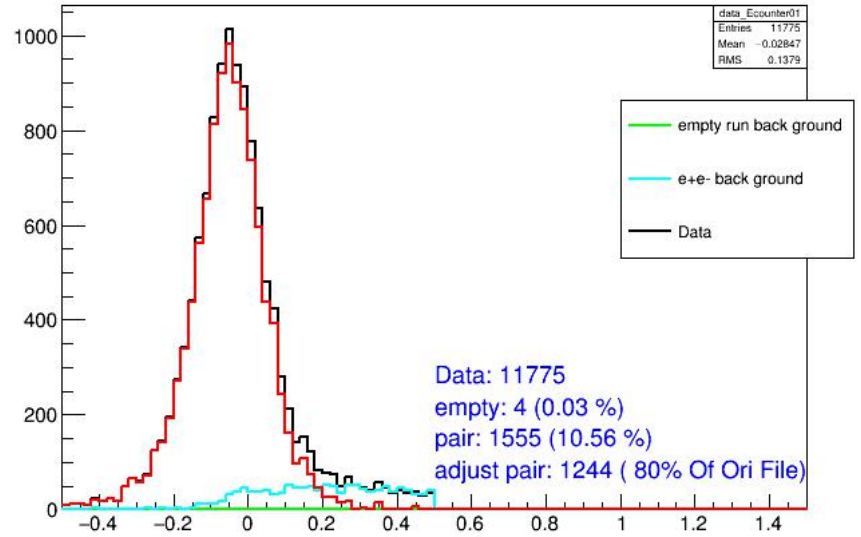
### 8%C accidentals



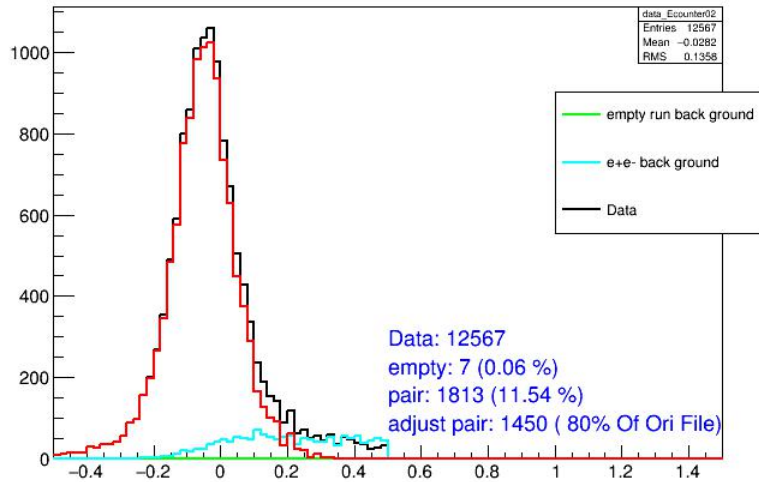
8%\_Carbon\_E1



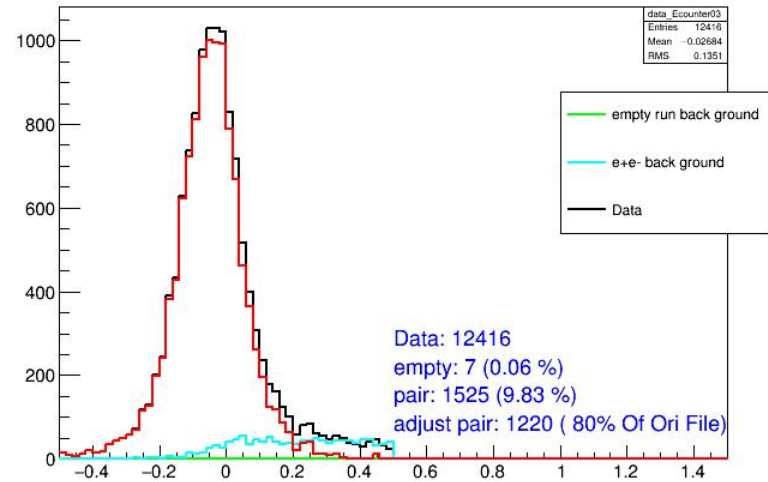
8%\_Carbon\_E2



8%\_Carbon\_E3

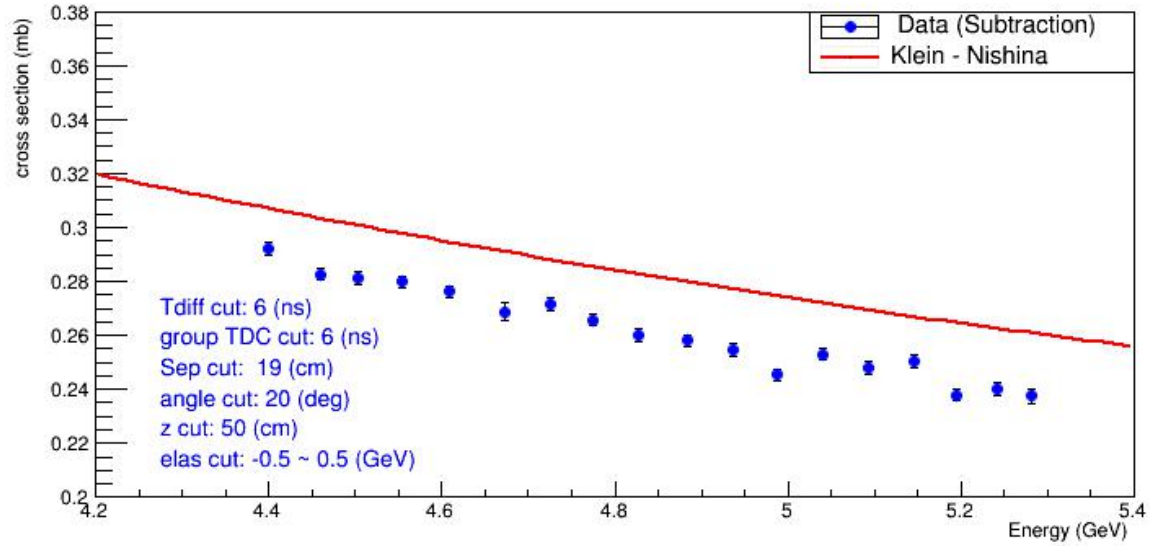


8%\_Carbon\_E4

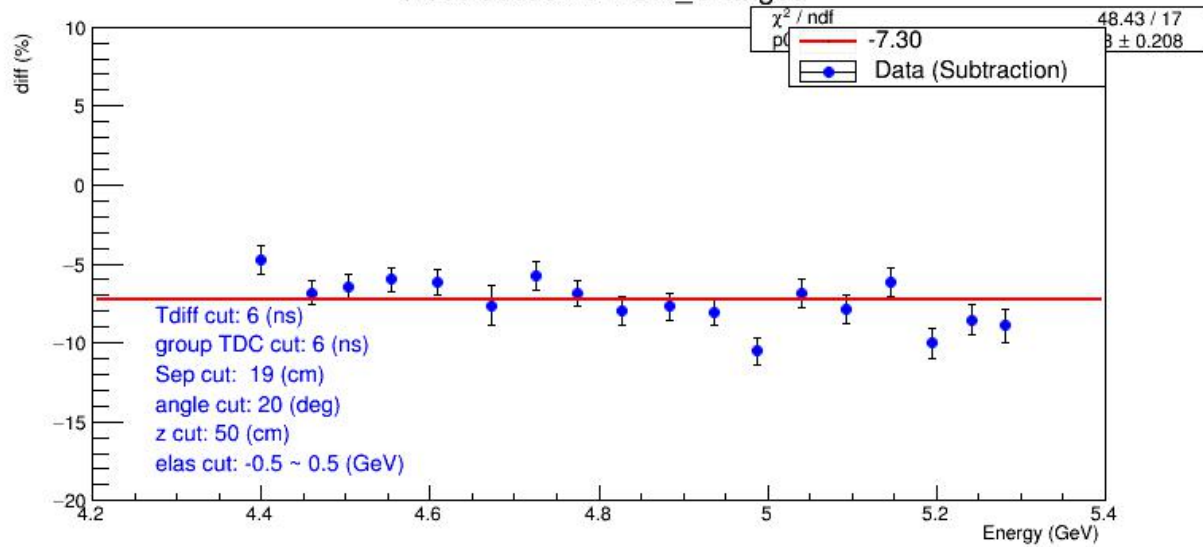




cross section 8%\_C target

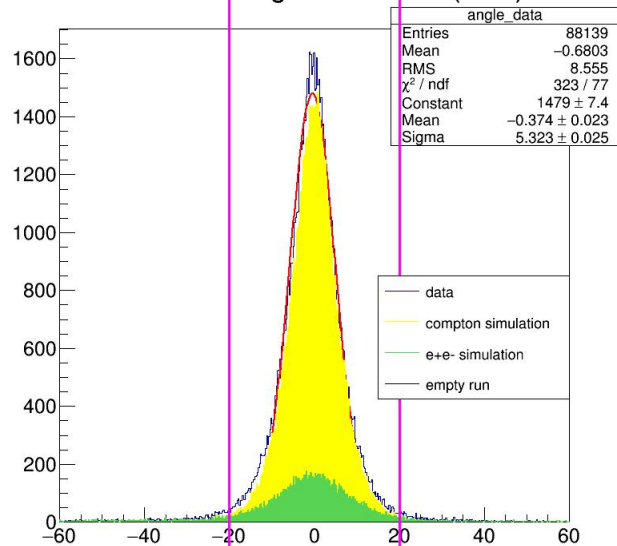


cross section diff 8%\_C target

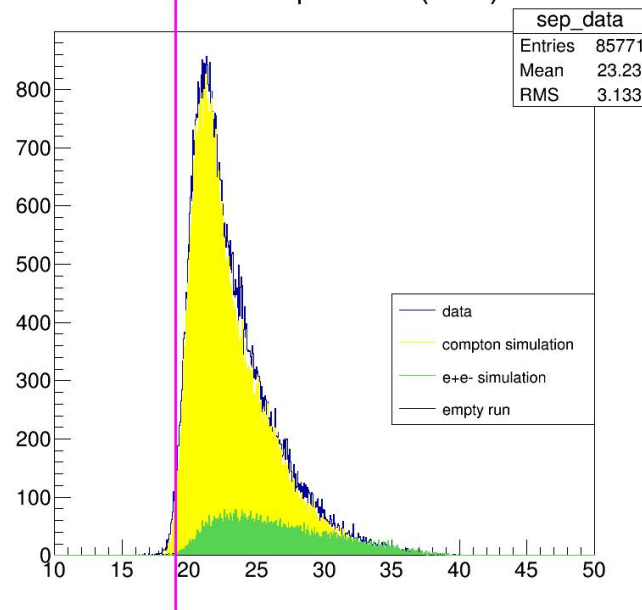


10% Si

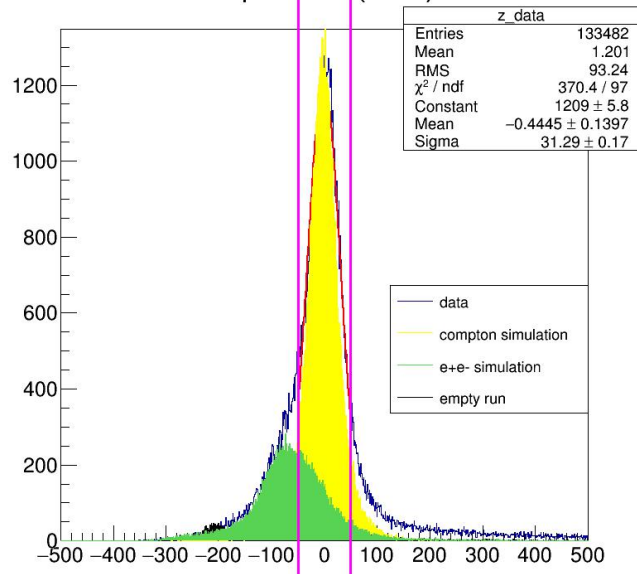
Azimuthal Angle Difference (data)



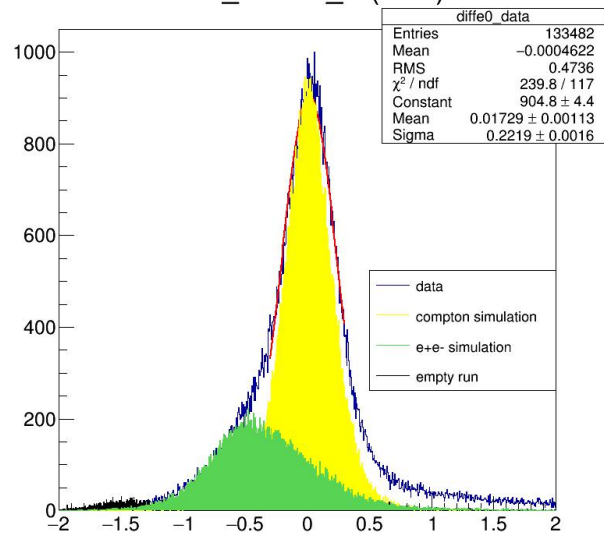
Cluster Separation (data)



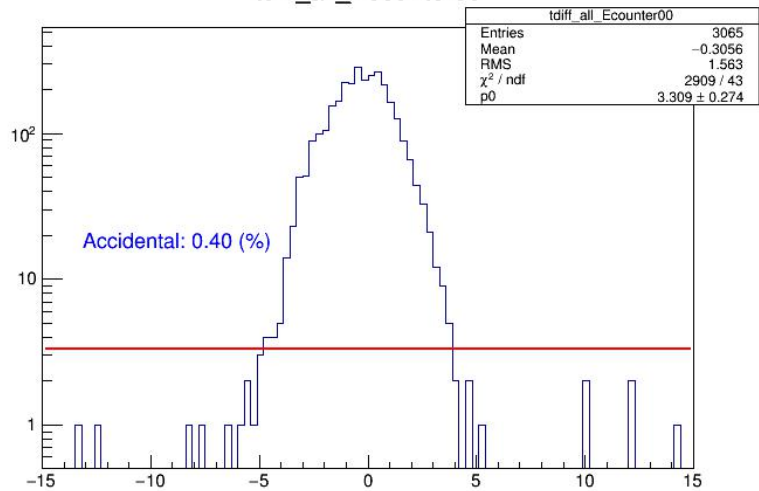
Z position (data)



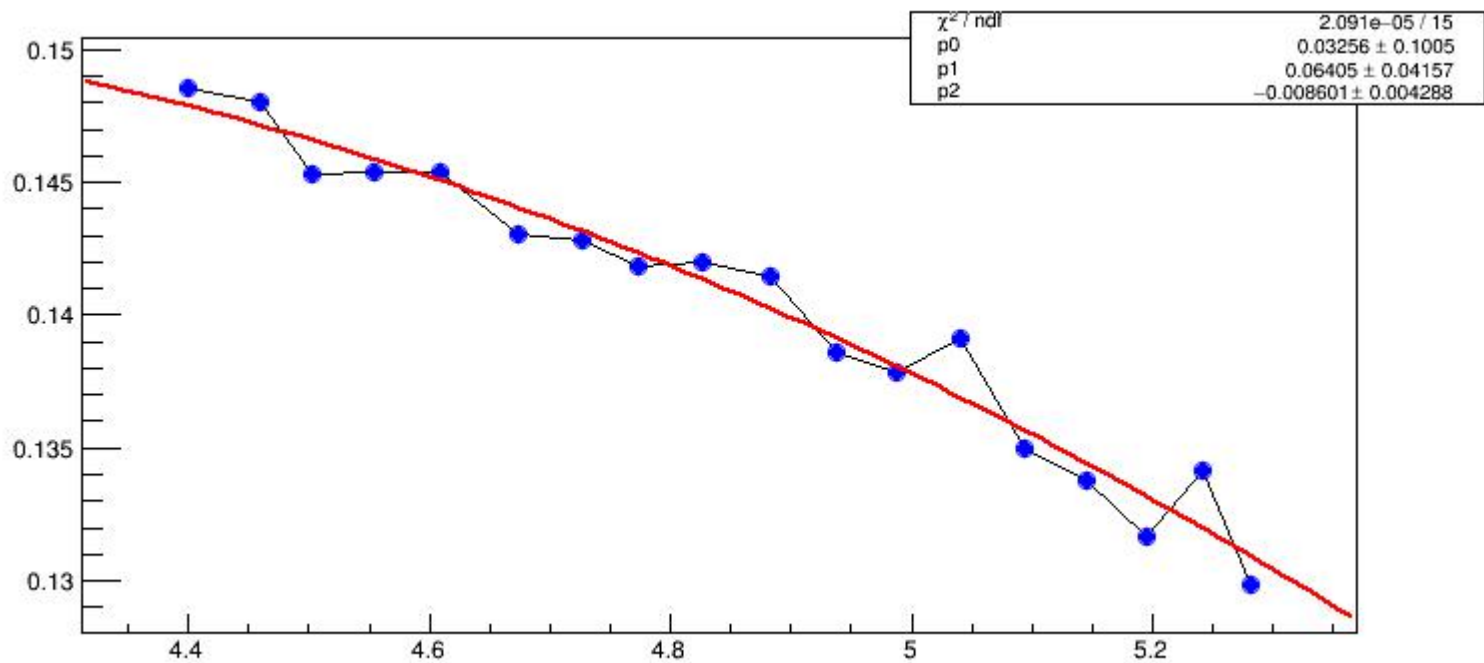
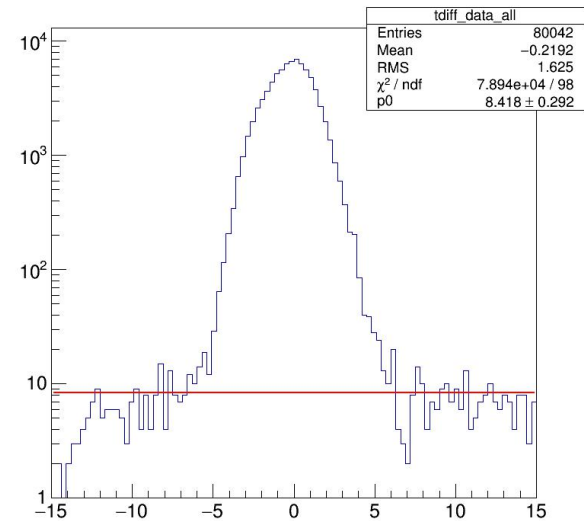
Rec\_E - Cal\_E (data)



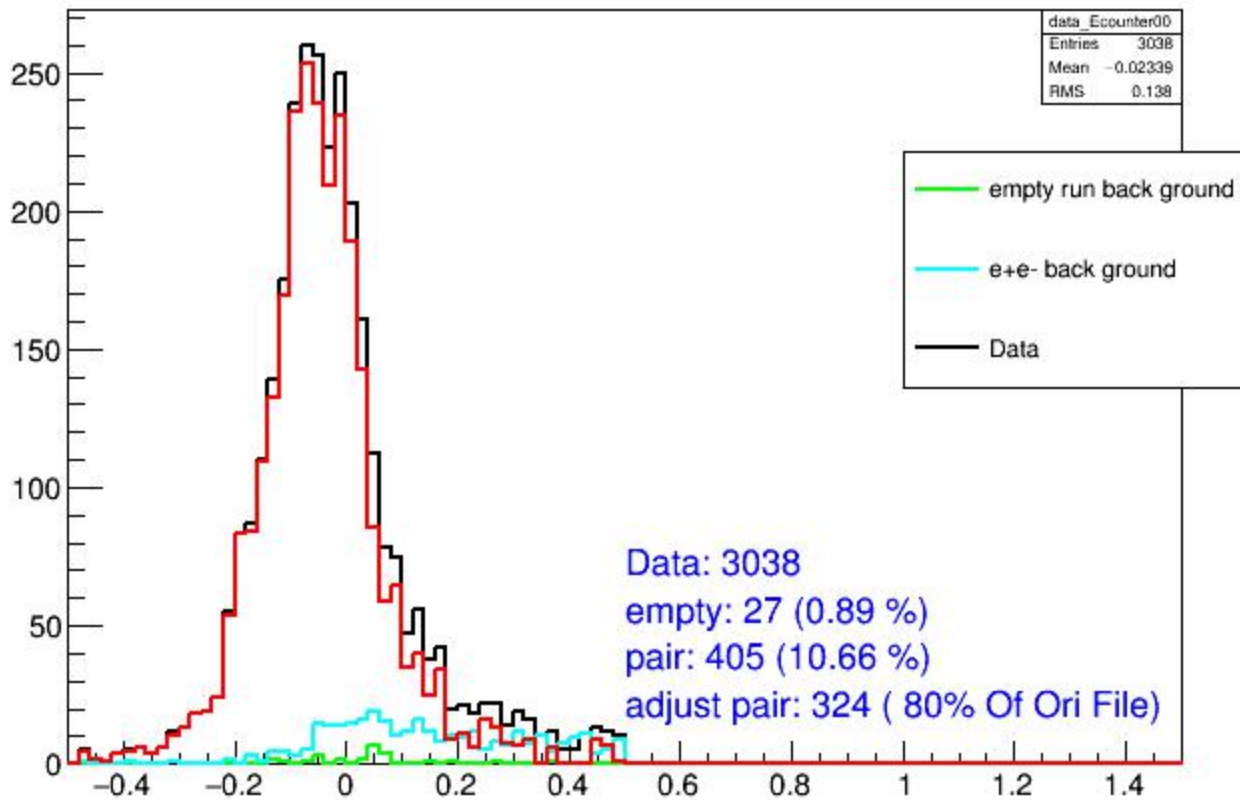
tdiff\_all\_Ecounter00



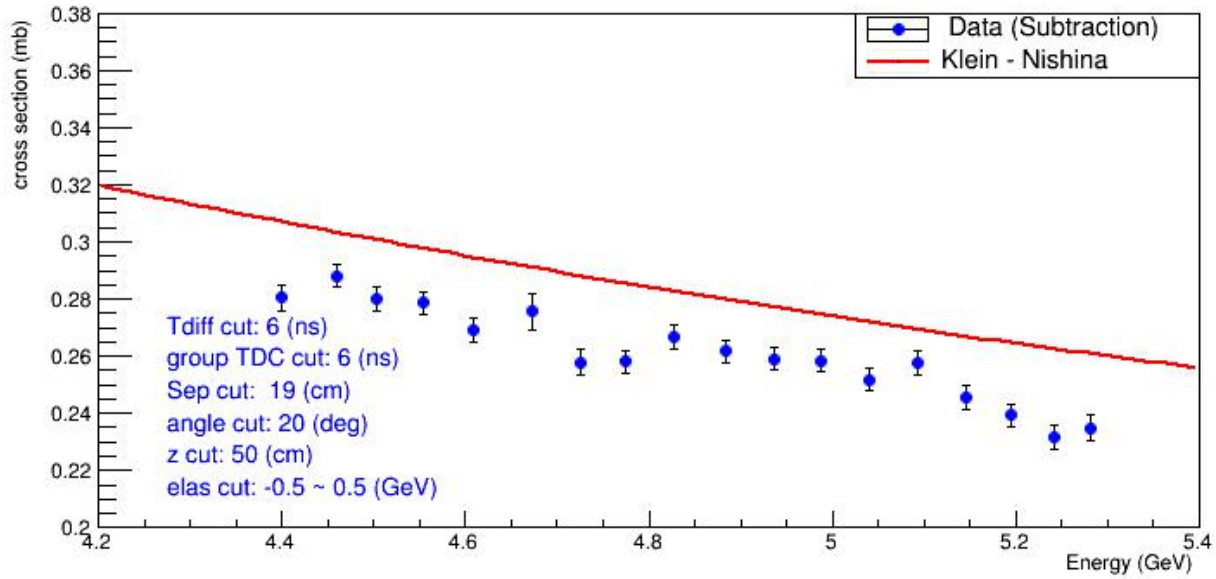
Tdiff data all



# 10%\_Si\_E1



cross section 10%\_Si target



cross section diff 10%\_Si target

