

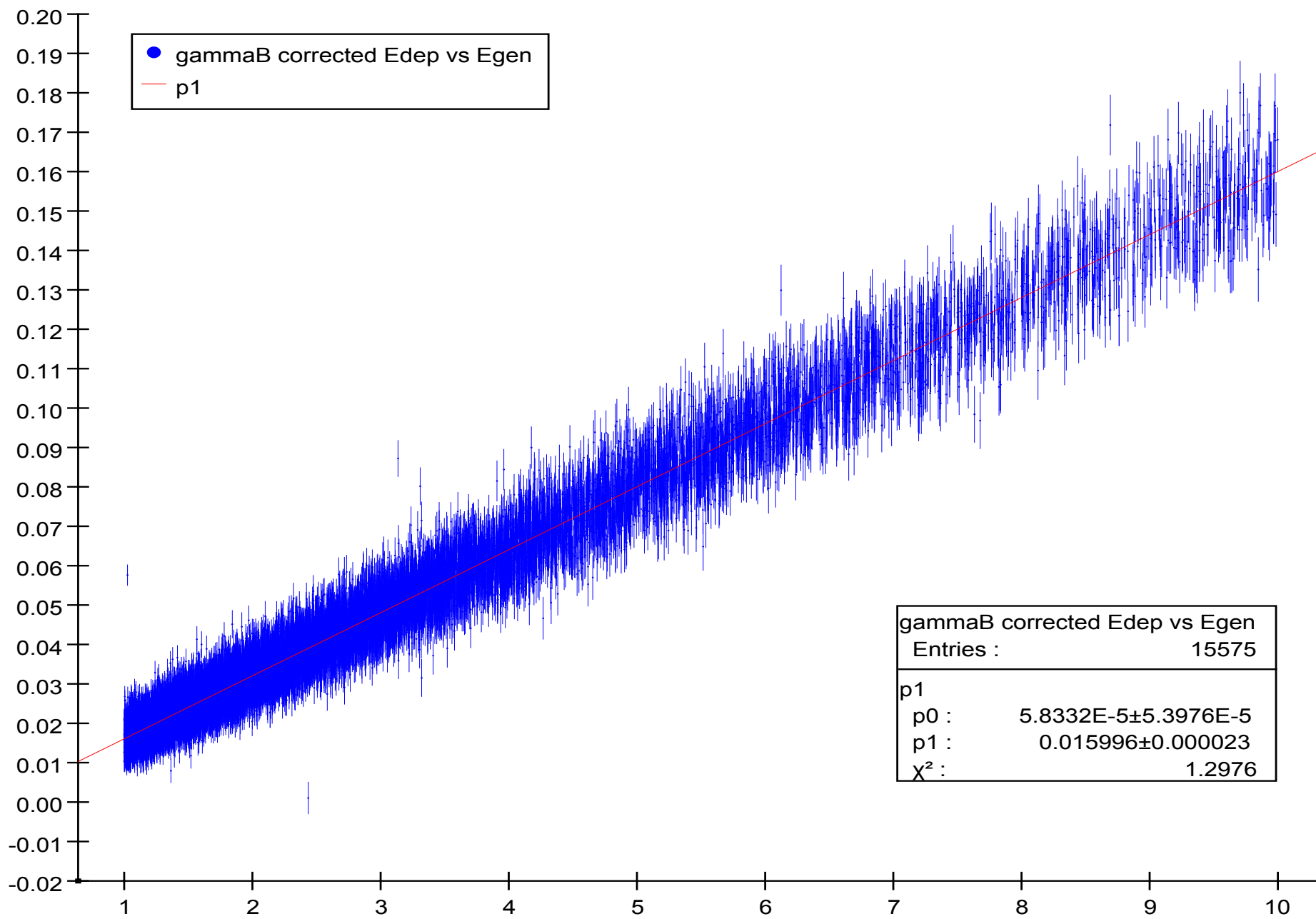
# Acme0605 EM sampling fraction update

Ron Cassell

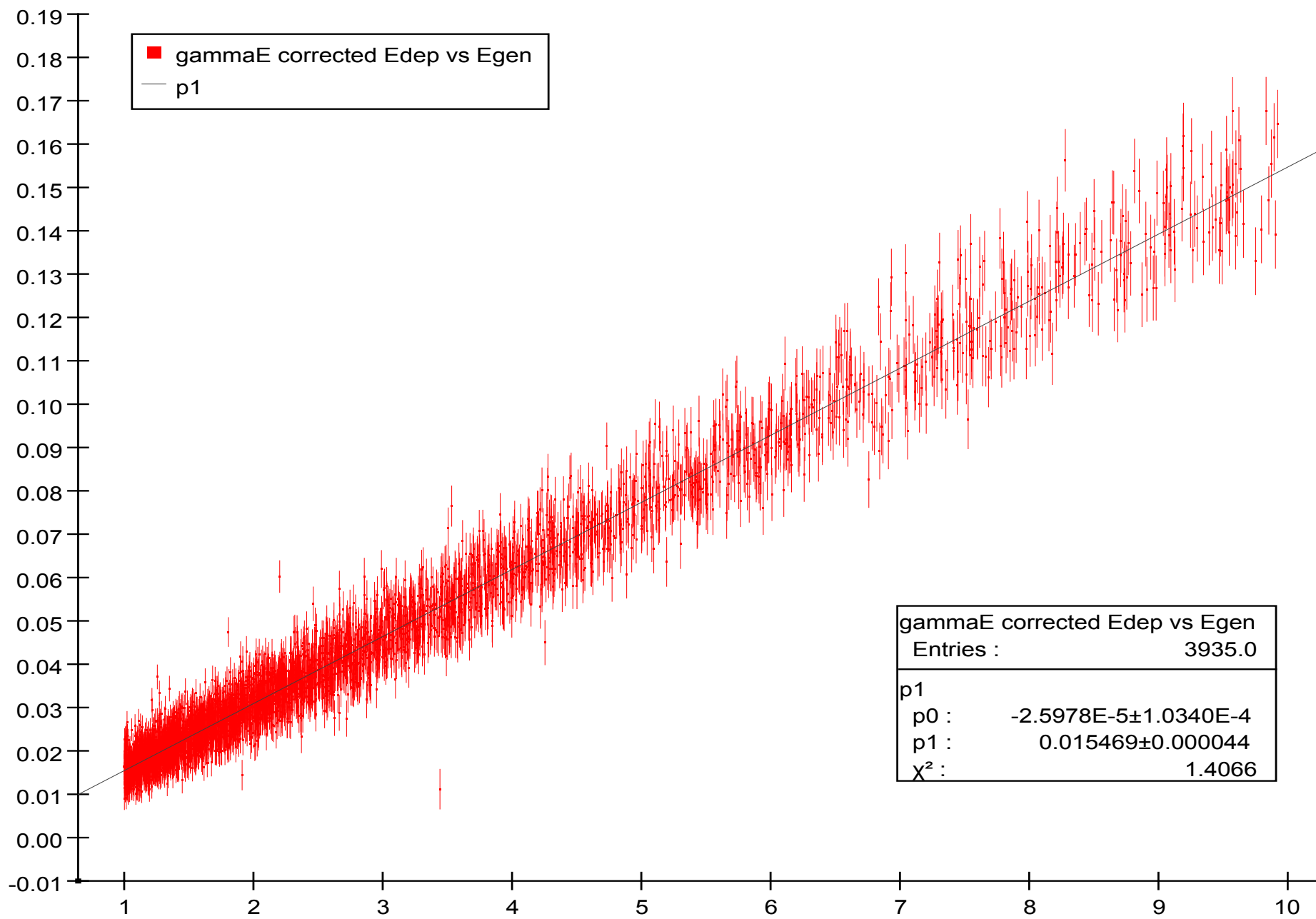
# Procedure

- First pass – assume last 10 layers have half the sampling fraction of first 20 layers
- Use cheat clusters for gammas with  $E > 1\text{GeV}$  in barrel and endcap separately
- Plot  $E_{\text{dep}}$  vs  $E$  and fit a straight line

p1



p1

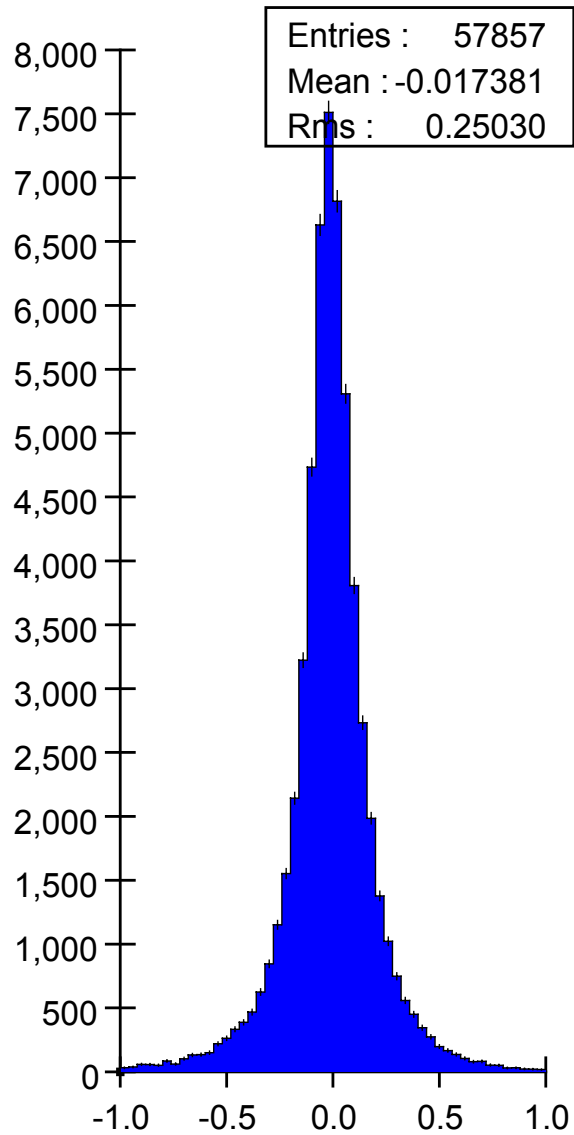


# Observations

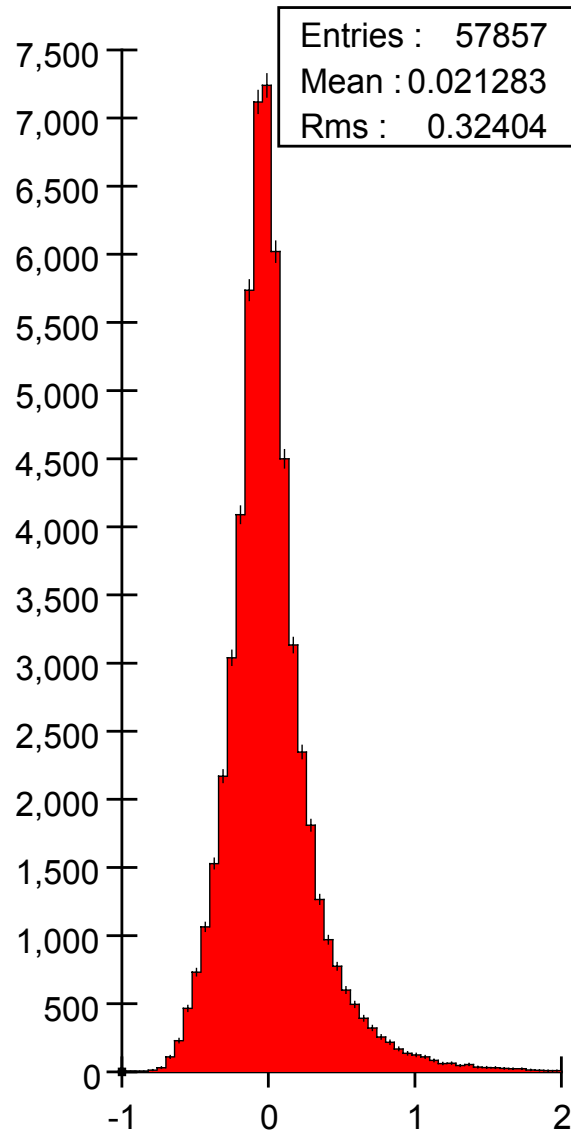
- Sampling fraction lower than SiD00
- Endcap sampling fraction  $\sim 3\%$  lower than barrel
- Tried using single gamma data and obtained similar results
- Apply these sampling fractions to Zpole and ttbar events

# ZPole

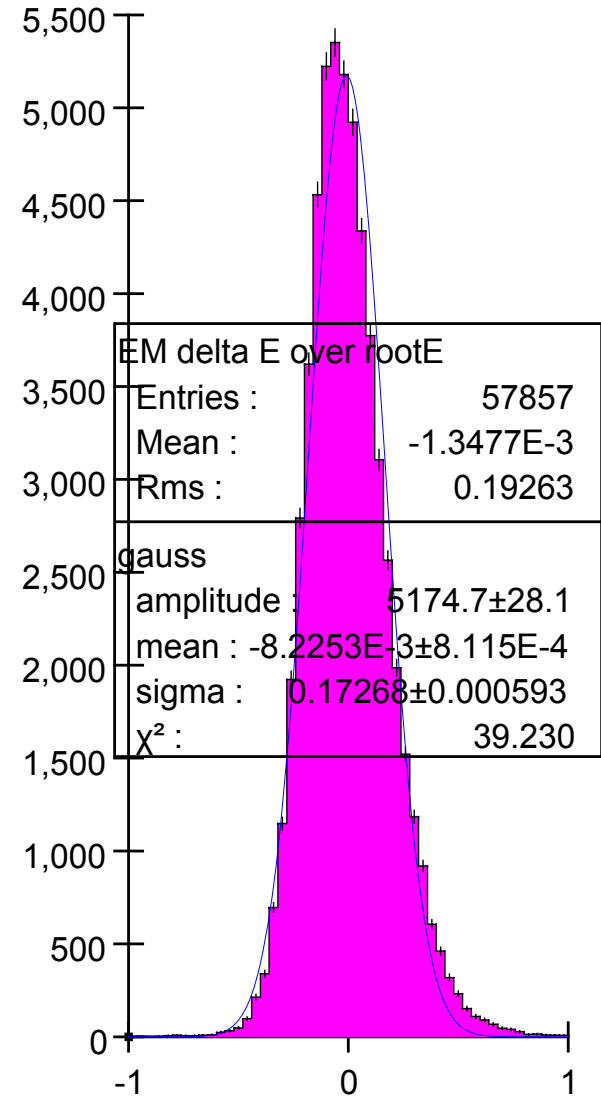
## EM delta E



## EM delta E over E

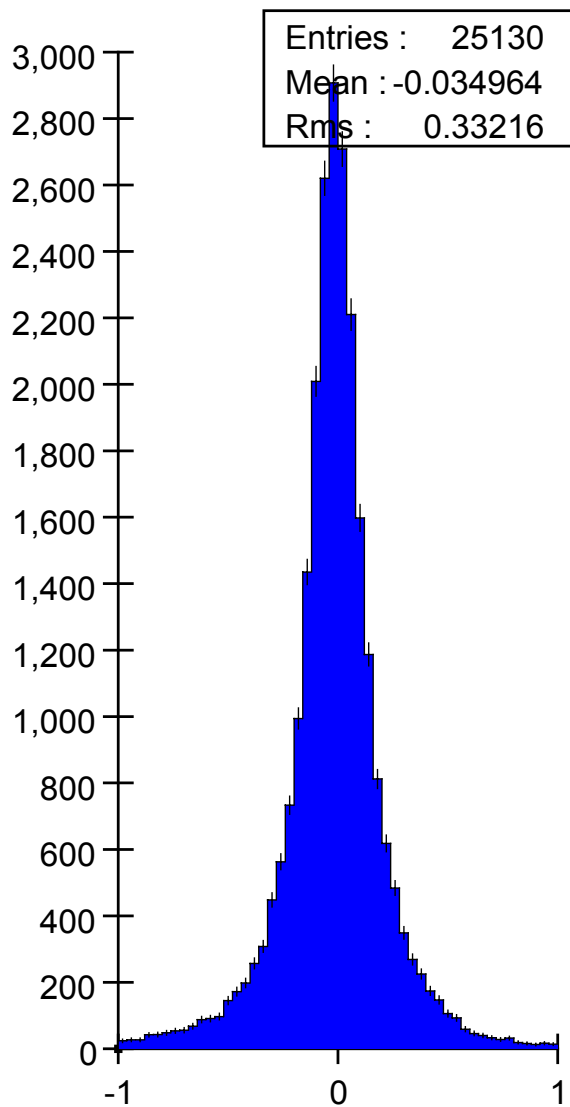


EM delta E over rootE  
gauss

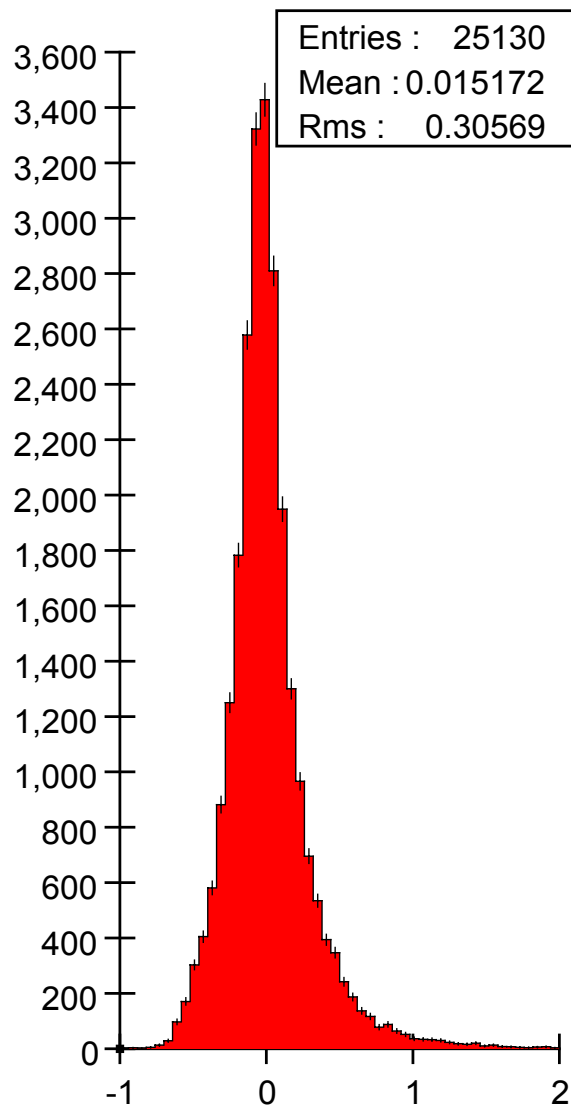


# ttbar

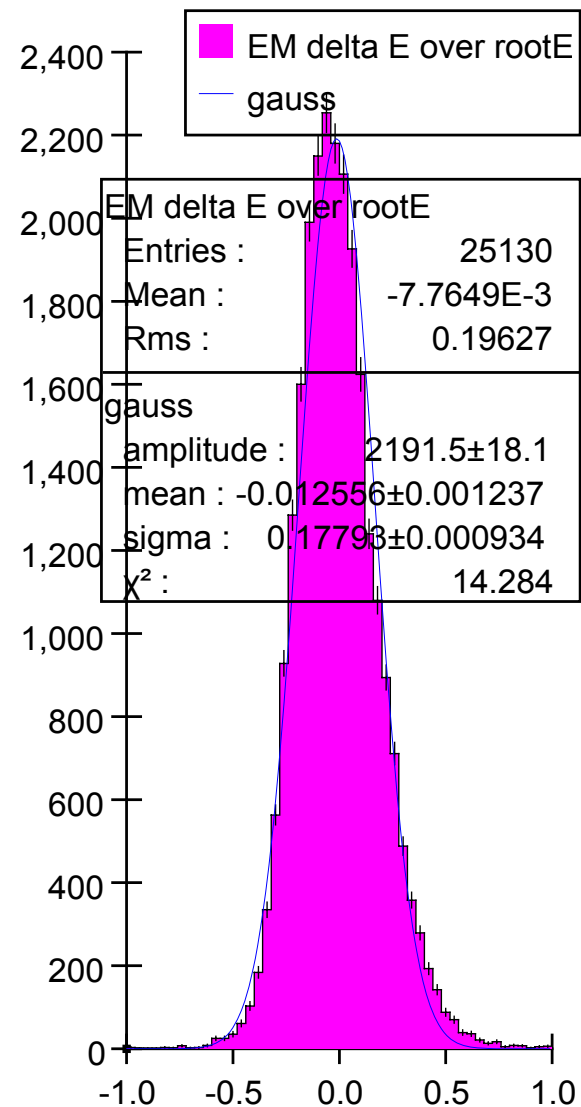
## EM delta E



## EM delta E over E



## gauss



# In progress

- Trying to fit for L0-19 and L20-29 sampling fractions independently
- All attempts so far want a significantly higher sampling fraction for L20-29. This results in too small a mean value as the energy increases
- Now going back to isolated detectors to try to understand the responses