

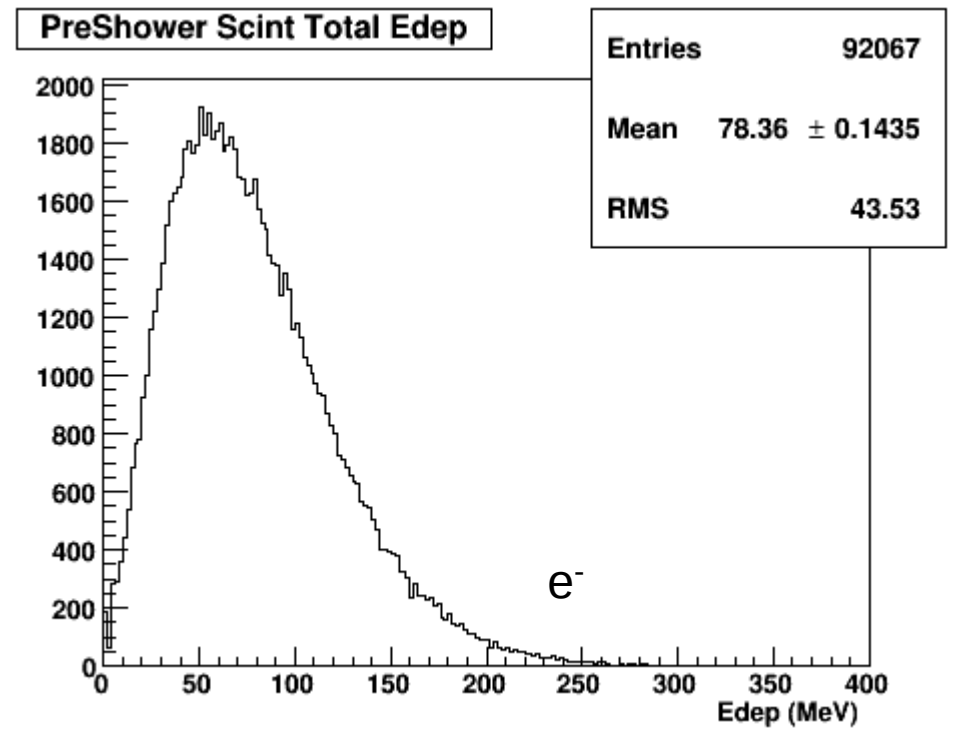
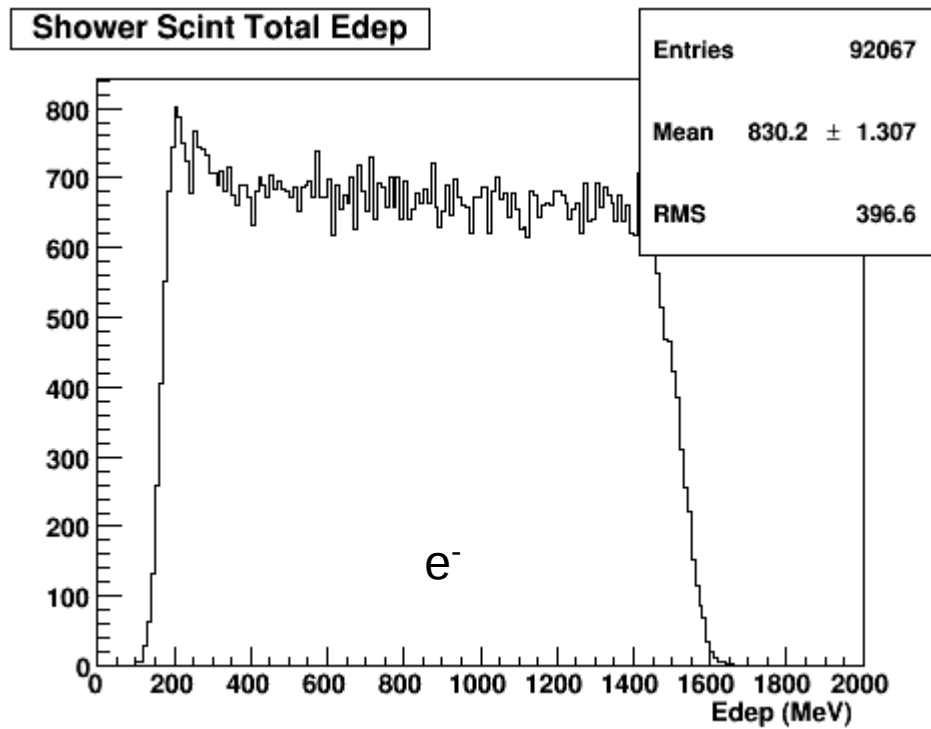
ECAL Resolution and PID Efficiency

Update 4

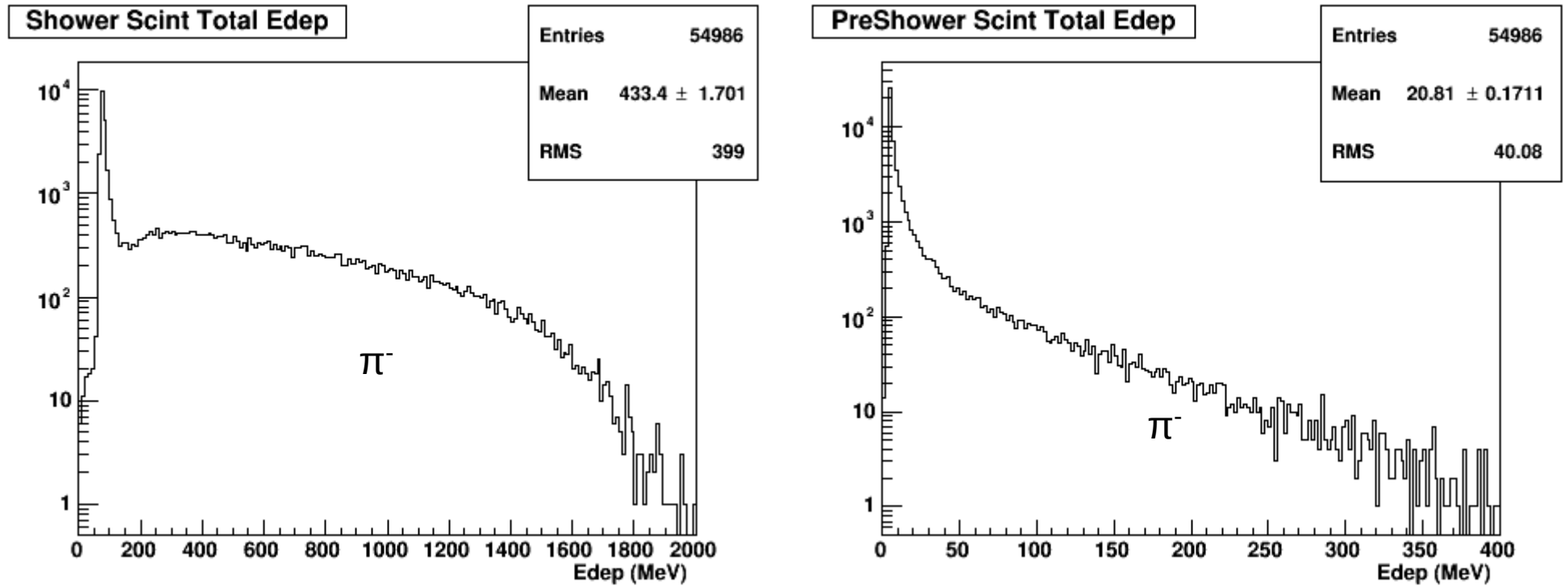
Simulation Overview

- Uniform electrons and Pions distributions incident on ECAL
- Backgrounds are hadron only (pions)

Electron Edep on ECAL

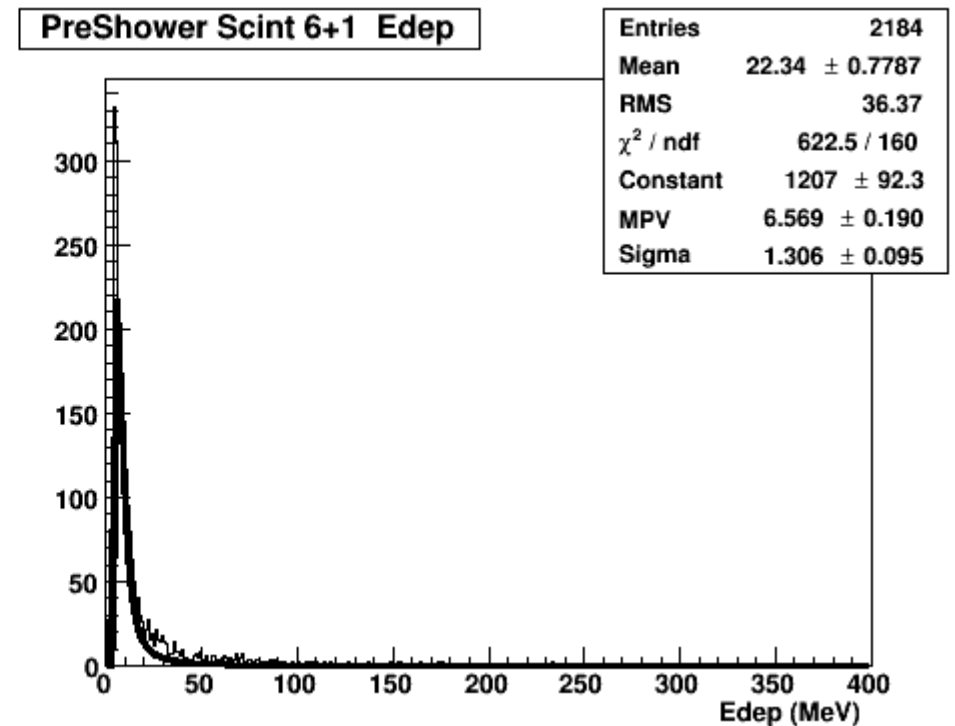
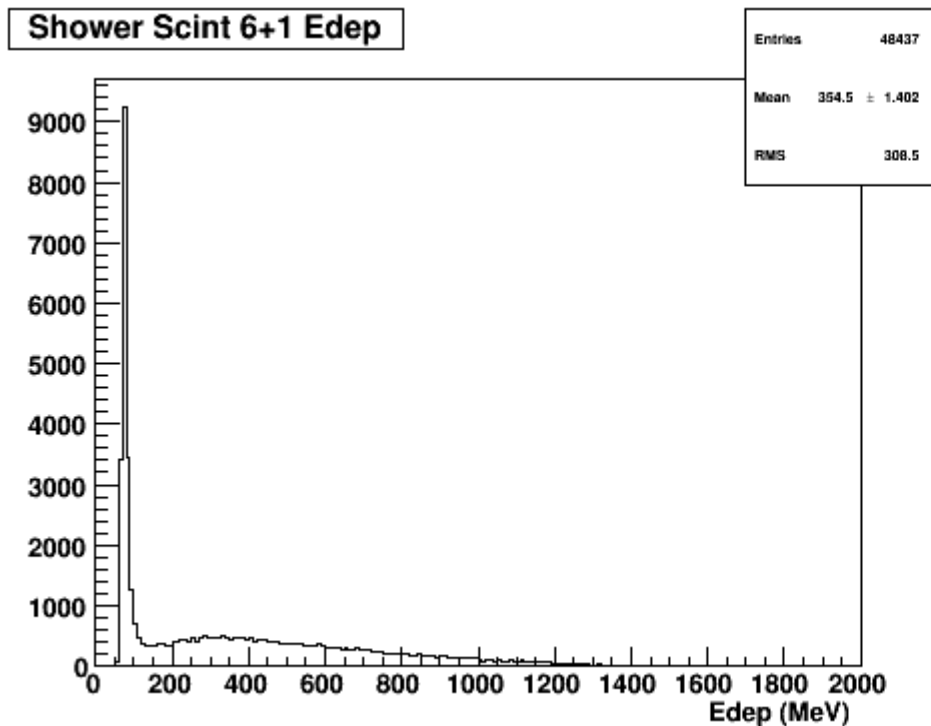


Pion Edep on ECAL



PID Cut Summary

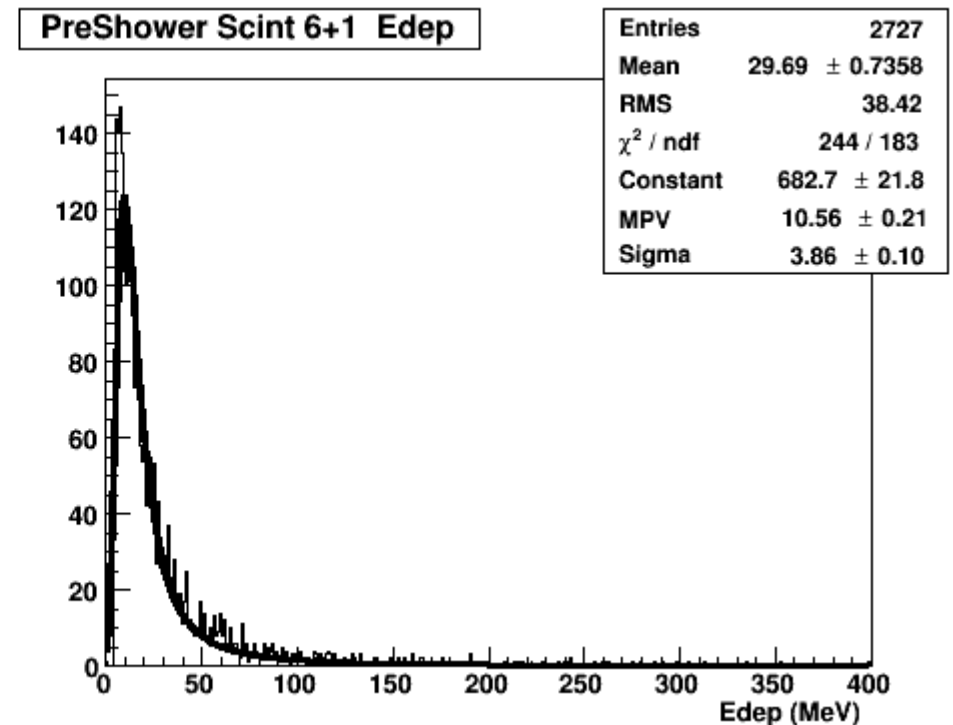
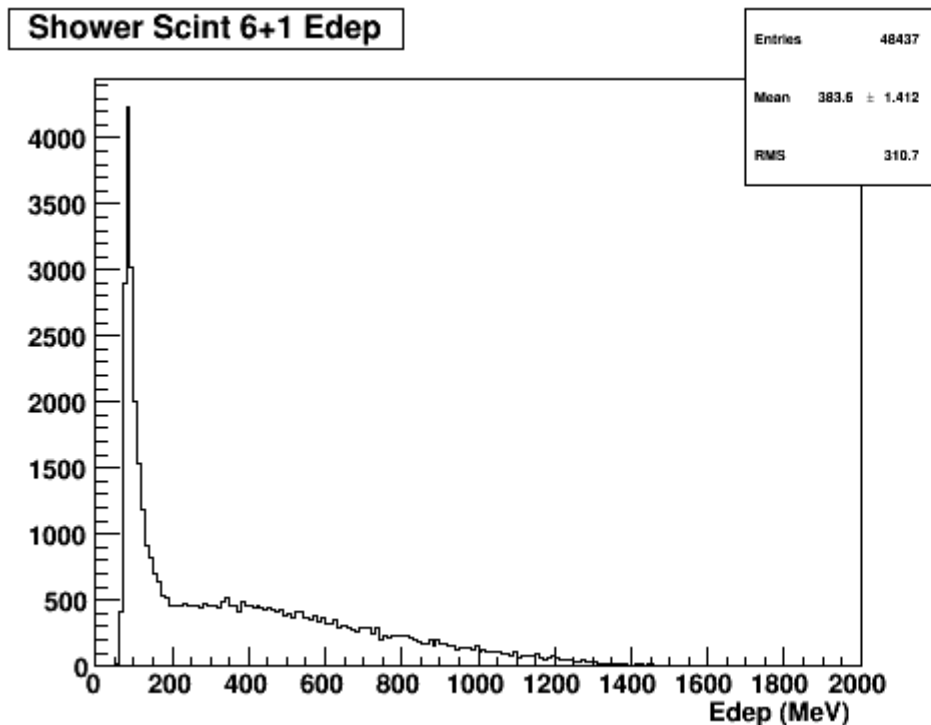
Pre-Shower Cut based on pions



Shower and pre-shower energy deposit only for edep over p ratio > 0.9

PID Cut Summary

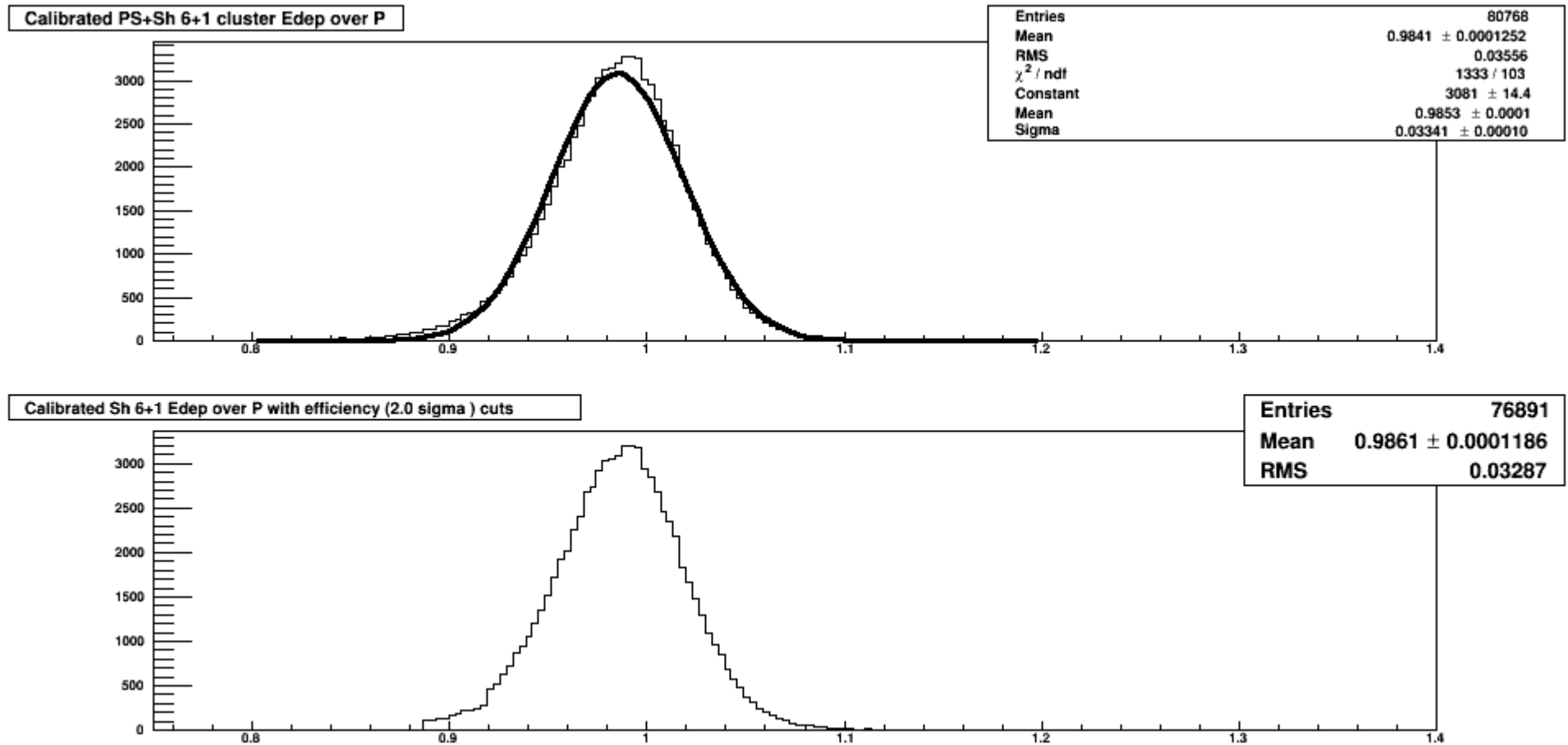
Pre-Shower Cut based on pions + backgrounds



Shower and pre-shower energy deposit only for edep over p ratio > 0.9

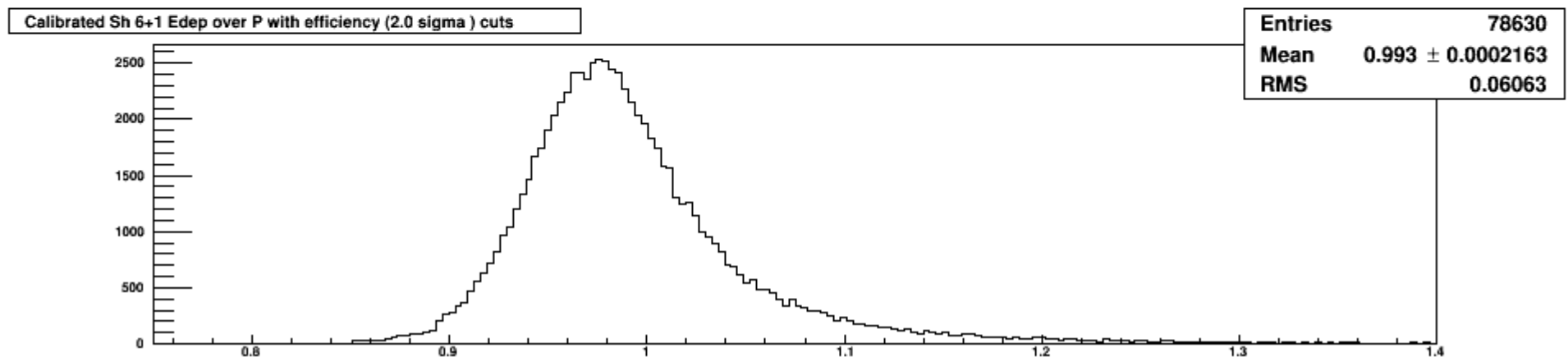
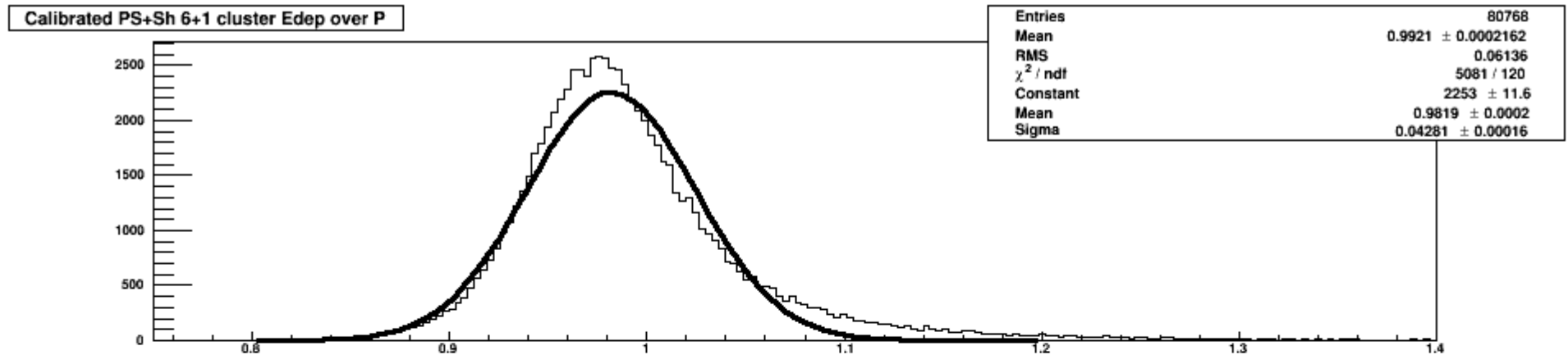
PID Cut Summary

Shower Cut edep over p ratio



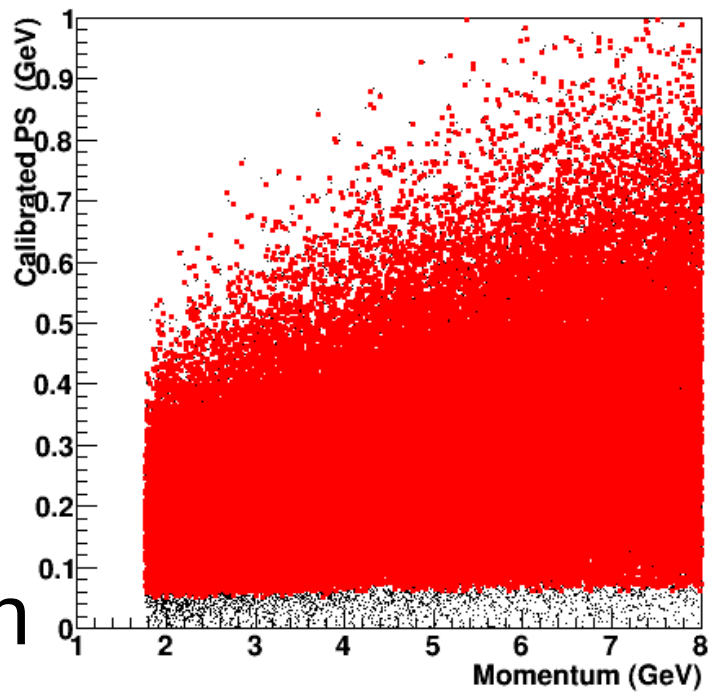
PID Cut Summary

Shower Cut edep over p ratio with backgrounds

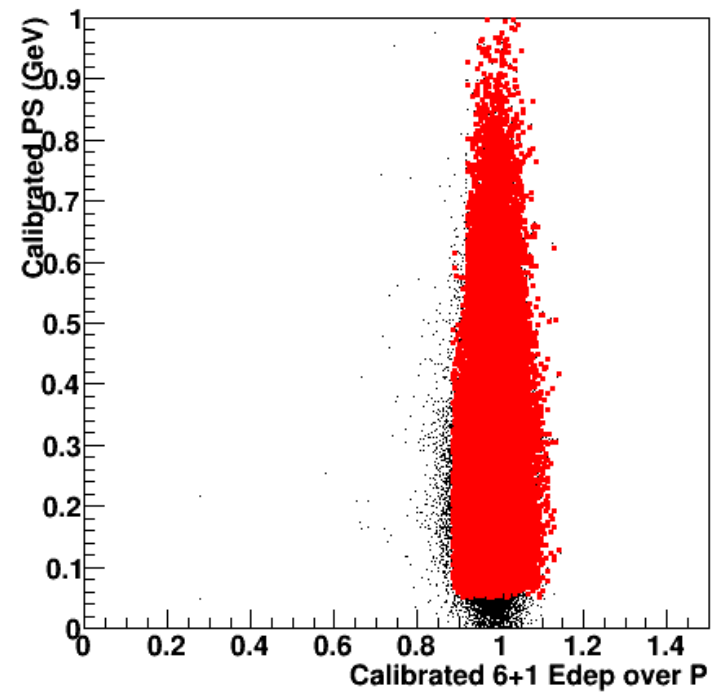


Electron Efficiency with no Backgrounds

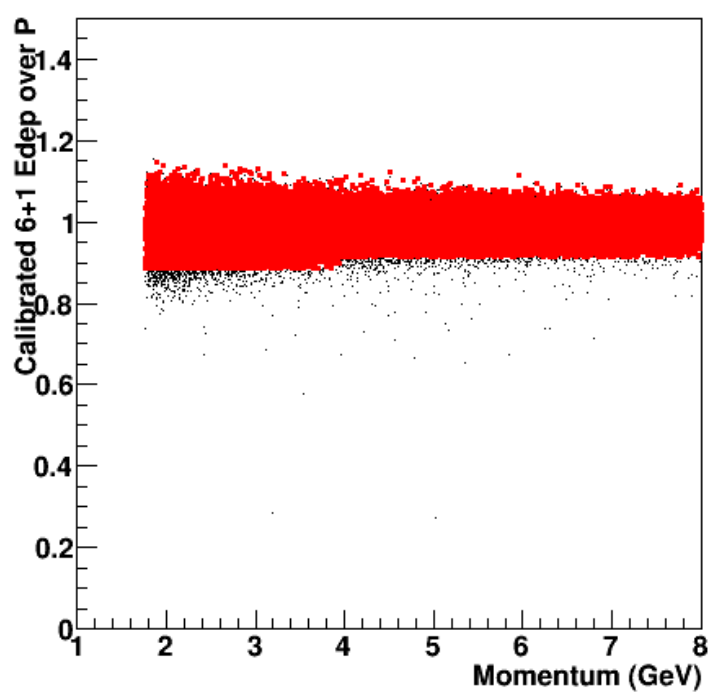
ECAL 6+1 Energy PS vs. Momentum



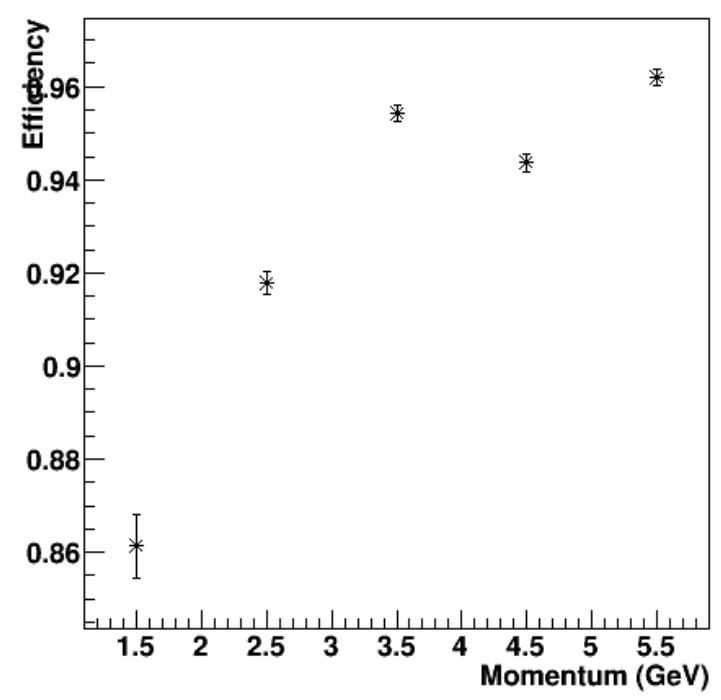
ECAL 6+1 Energy PS vs. Edep(6+1) over P



Calibrated PS+Sh 6+1 Edep over Pf Ratio

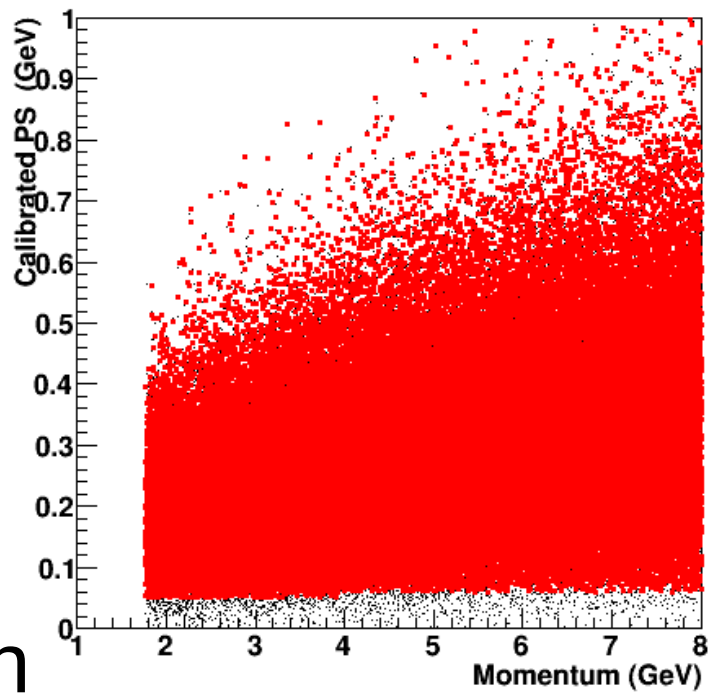


Electron Efficiency for ECAL (PS+SH) using 6+1 Clusters

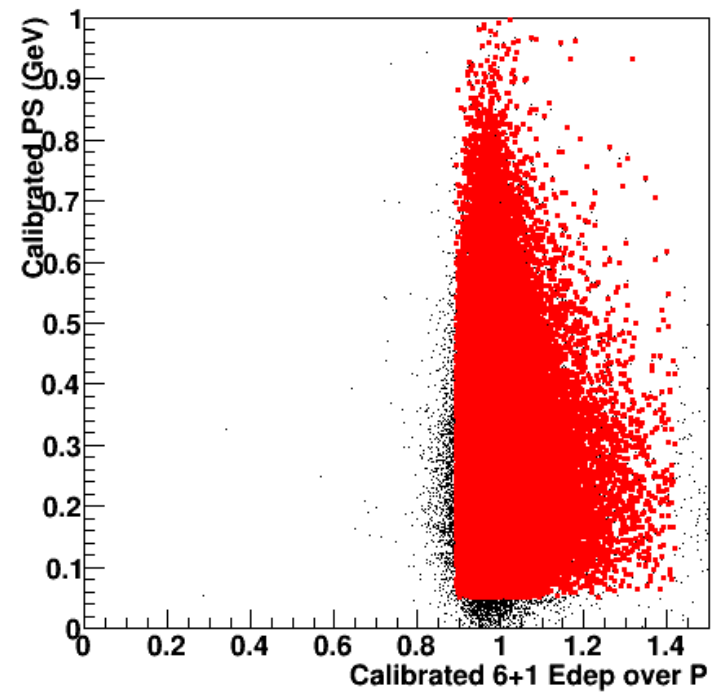


Electron Efficiency with Backgrounds

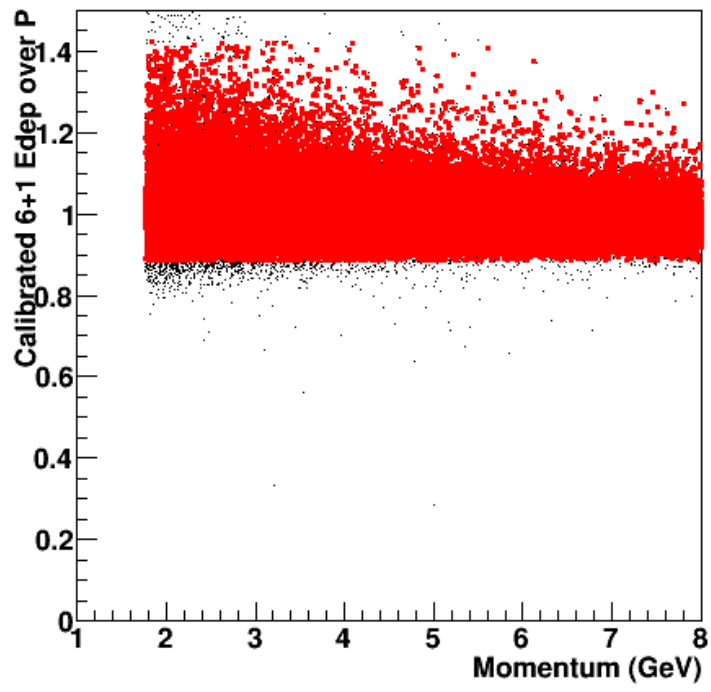
ECAL 6+1 Energy PS vs. Momentum



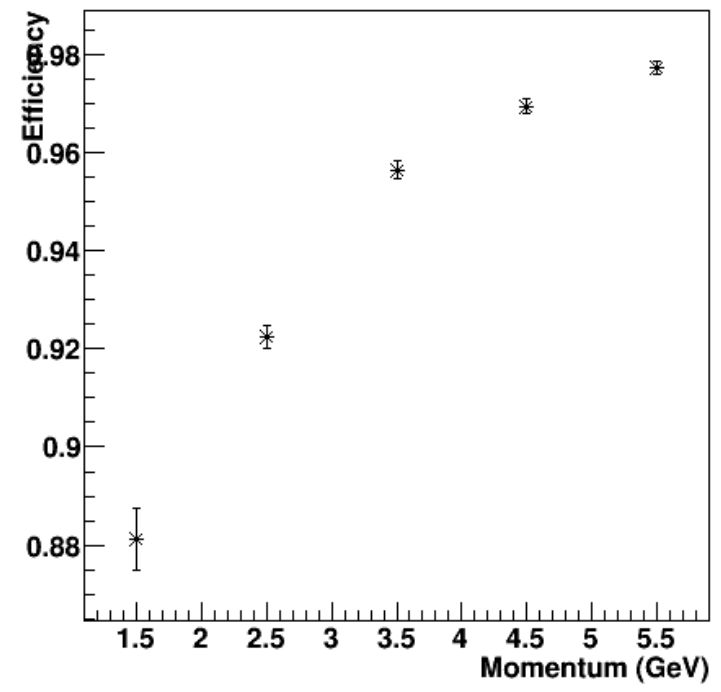
ECAL 6+1 Energy PS vs. Edep(6+1) over P



Calibrated PS+Sh 6+1 Edep over Pf Ratio

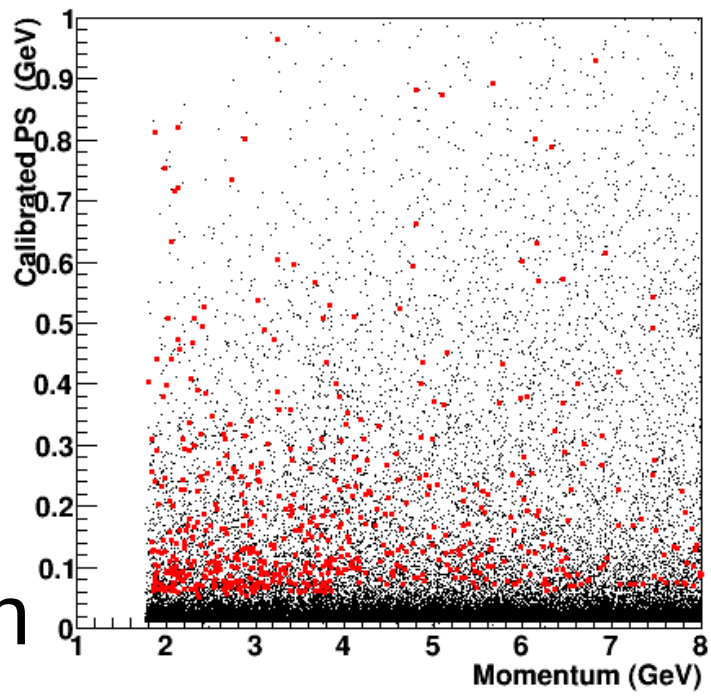


Electron Efficiency for ECAL (PS+SH) using 6+1 Clusters

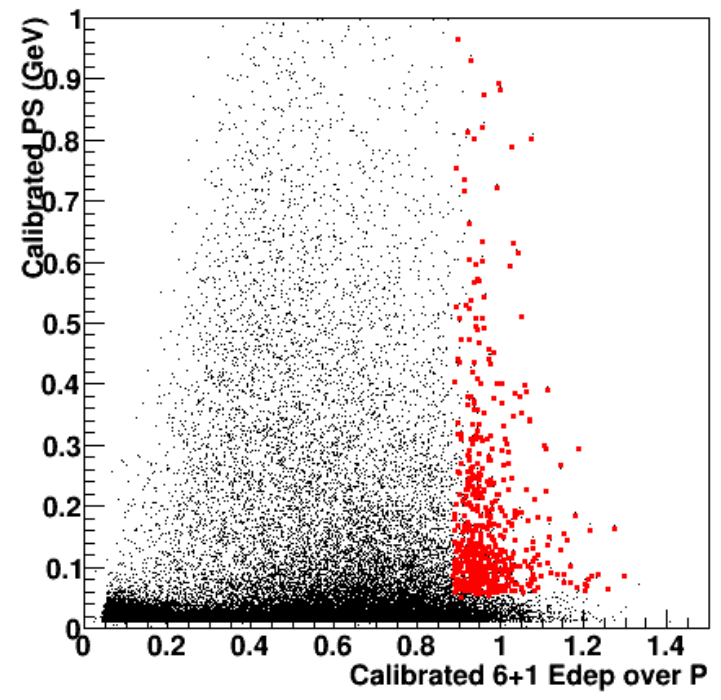


Pion Efficiency with no Backgrounds

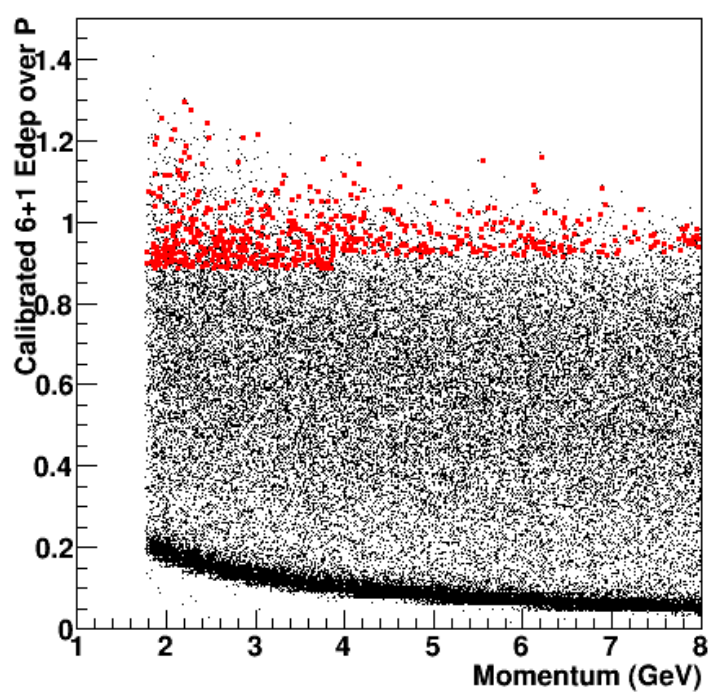
ECAL 6+1 Energy PS vs. Momentum



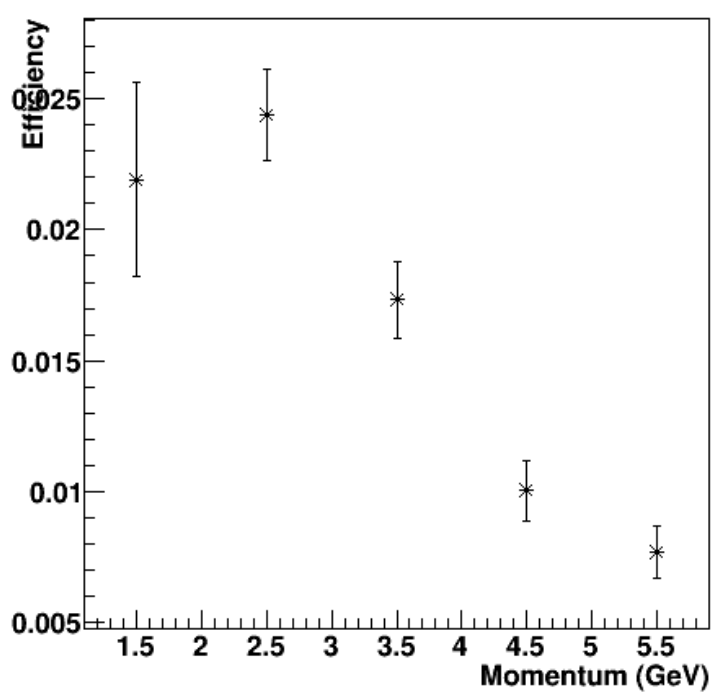
ECAL 6+1 Energy PS vs. Edep(6+1) over P



Calibrated PS+Sh 6+1 Edep over Pf Ratio

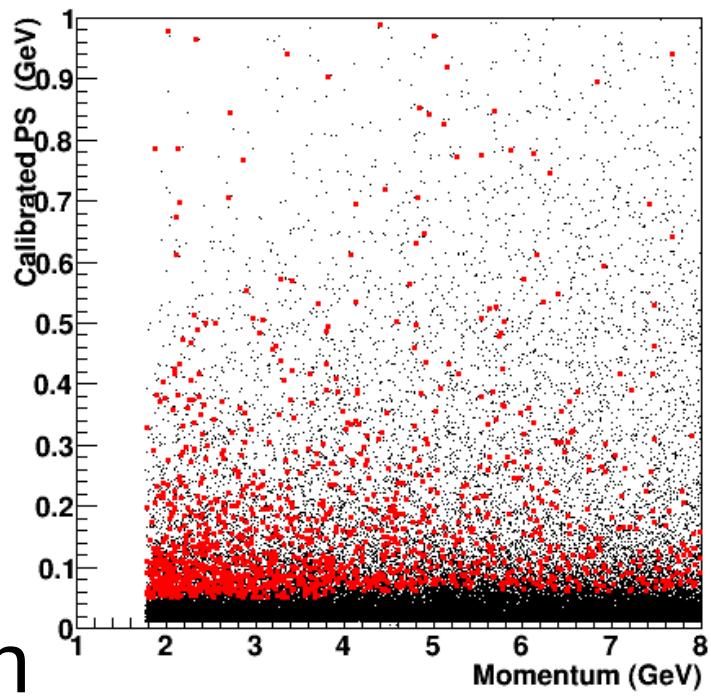


Pion Efficiency for ECAL (PS+SH) using 6+1 Clusters

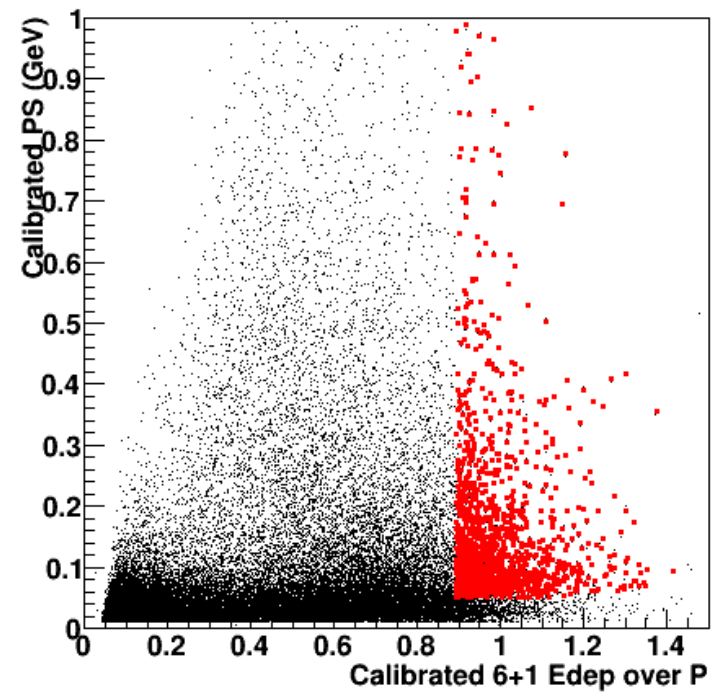


Pion Efficiency with Backgrounds

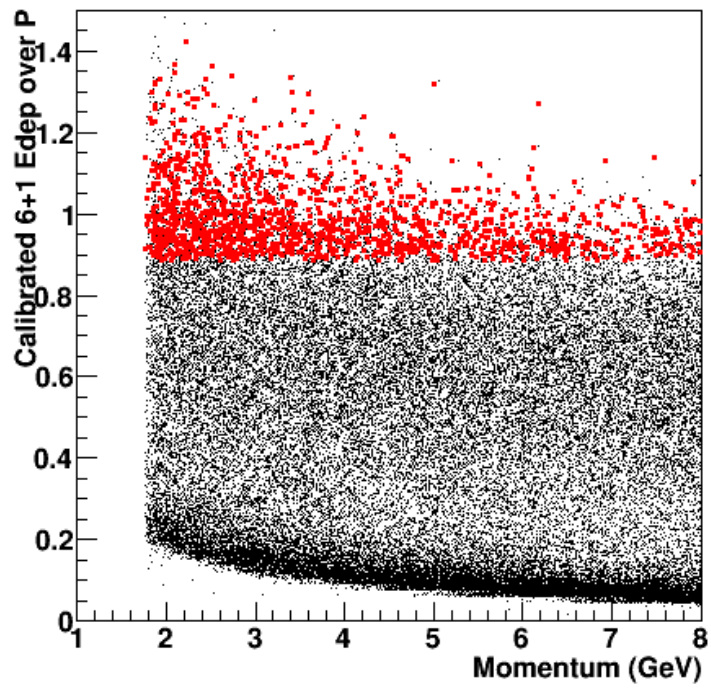
ECAL 6+1 Energy PS vs. Momentum



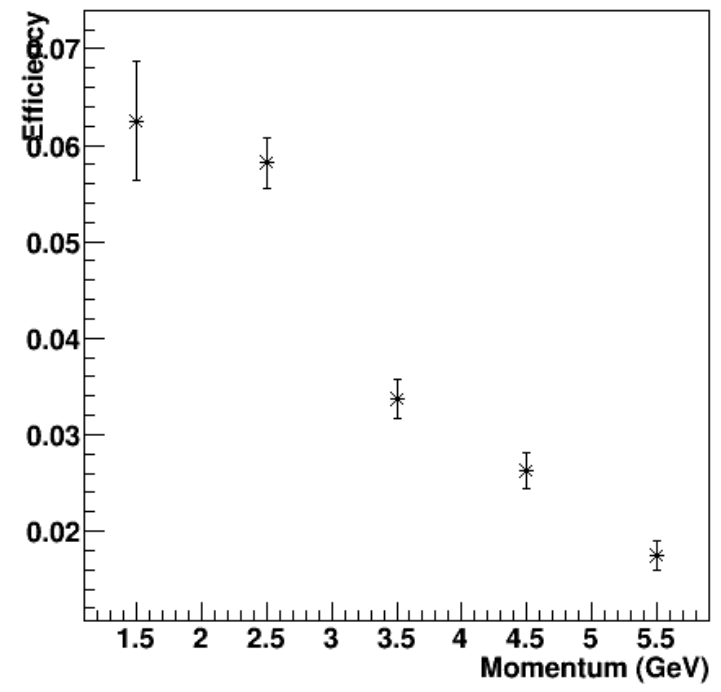
ECAL 6+1 Energy PS vs. Edep(6+1) over P



Calibrated PS+Sh 6+1 Edep over Pf Ratio



Pion Efficiency for ECAL (PS+SH) using 6+1 Clusters



PID Efficiency Summary

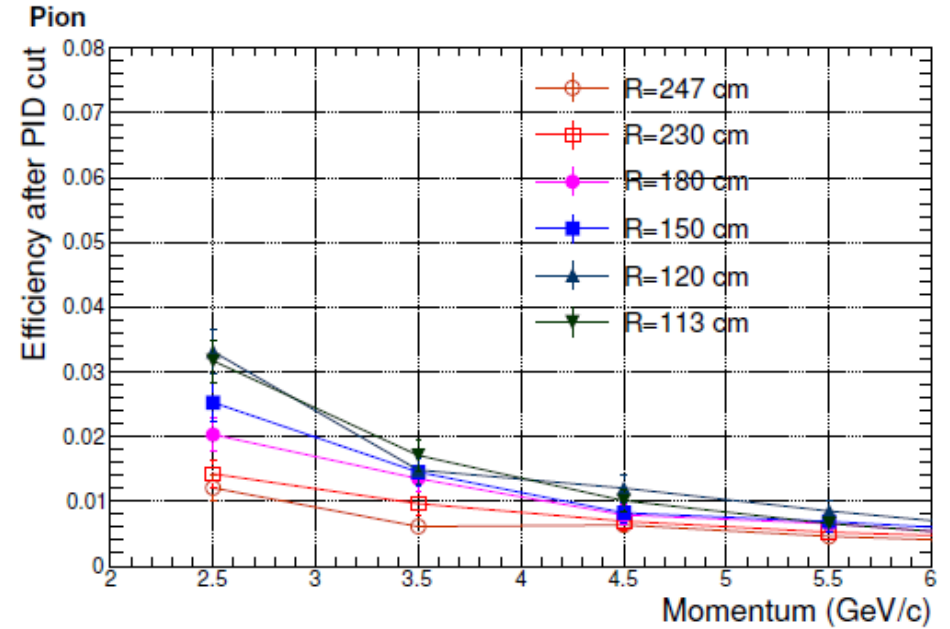
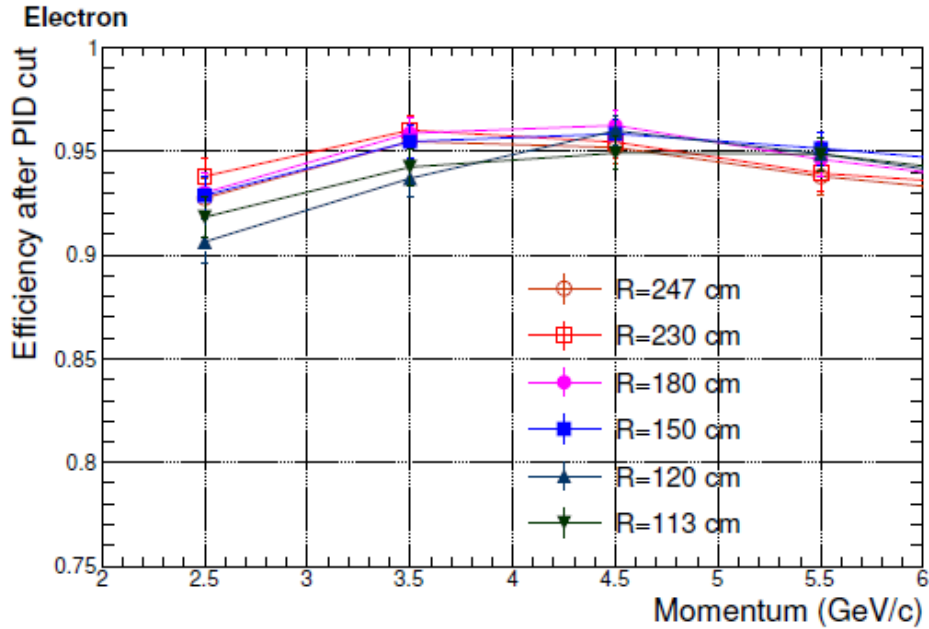
Electron Efficiency with no Backgrounds		
Momentum (GeV)	Efficiency	Error
1.5	0.861	0.007
2.5	0.918	0.002
3.5	0.954	0.002
4.5	0.944	0.002
5.5	0.962	0.002

Pion Efficiency with no Backgrounds			
Momentum (GeV)	Efficiency	Error	Pi/e ratio
1.5	0.022	0.004	39.1
2.5	0.024	0.002	38.3
3.5	0.017	0.001	56.1
4.5	0.01	0.001	94.4
5.5	0.008	0.001	120.3

Electron Efficiency with Backgrounds		
Momentum (GeV)	Efficiency	Error
1.5	0.881	0.006
2.5	0.922	0.002
3.5	0.956	0.002
4.5	0.969	0.002
5.5	0.977	0.001

Pion Efficiency with Backgrounds			
Momentum (GeV)	Efficiency	Error	Pi/e ratio
1.5	0.063	0.006	14.0
2.5	0.058	0.003	15.9
3.5	0.034	0.002	28.1
4.5	0.026	0.002	37.3
5.5	0.017	0.001	57.5

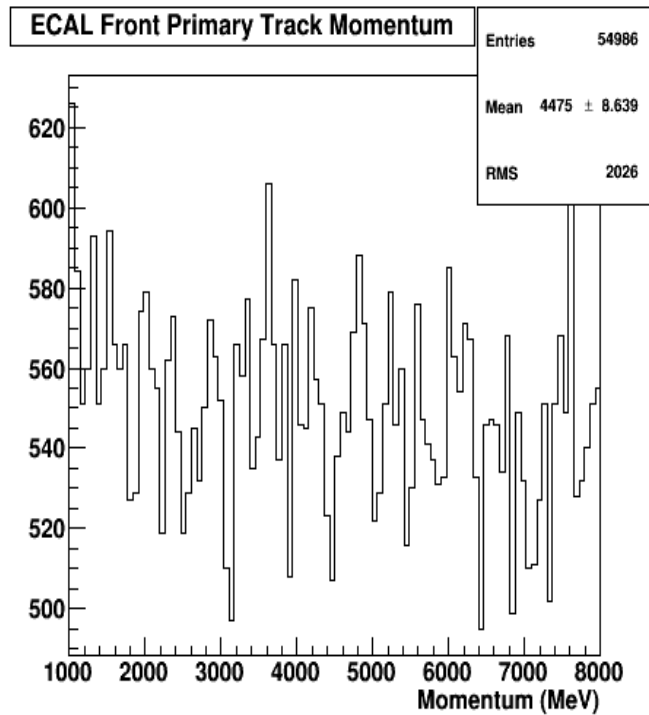
From preCDR



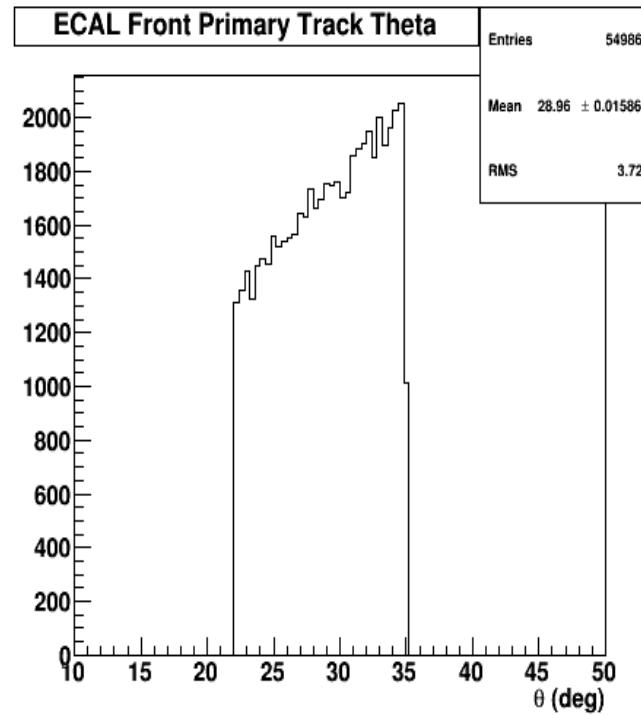
Efficiency with Backgrounds From PreCDR			
Momentu m (GeV)	Electron Efficiency	Pion Efficiency	Pi/e ratio
2.5	0.91	0.03	30.3
3.5	0.94	0.017	55.3
4.5	0.96	0.01	96.0
5.5	0.95	0.008	118.8

End

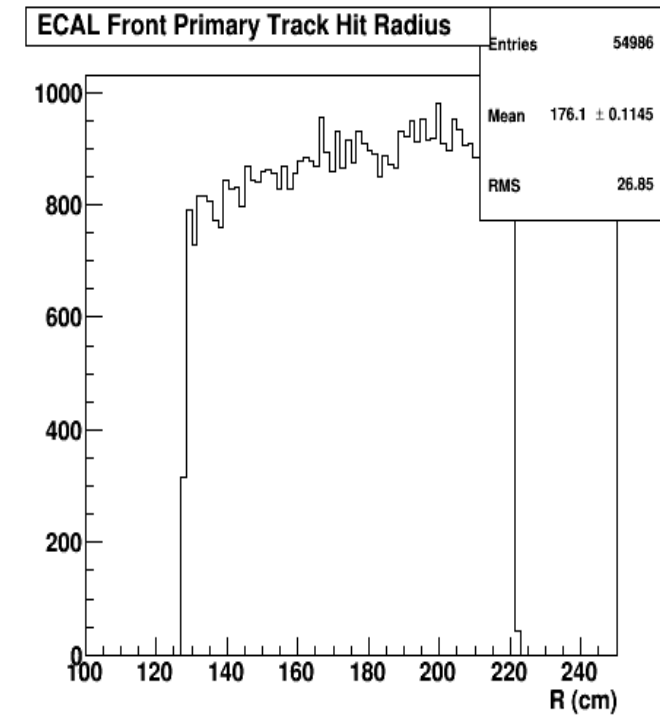
Input Flat Distribution



Input Momentum



Input Angle



Input Radius