

# HMS PID

## Gas Cherenkov Detector

Shuo Jia

# HMS Gas Cherenkov Detector

ZZ<sub>0.5</sub>

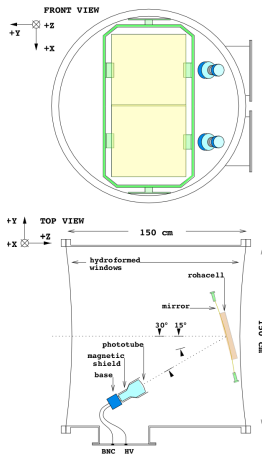
A

Large  
cylindrical  
tank,

$\phi_{in} =$   
59",

$L =$   
60",

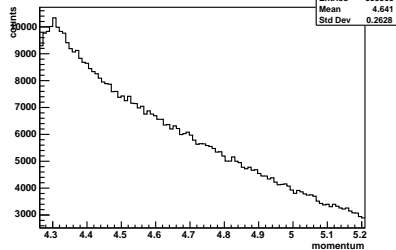
containing  
two mir-



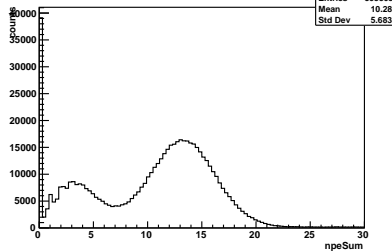
The tank is filled with pure gas, CO<sub>2</sub>, at Pressure 1Atm

no cal pion cut,  $\text{hms}_p = 4.736$

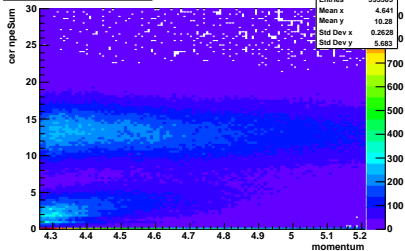
HMS momentum



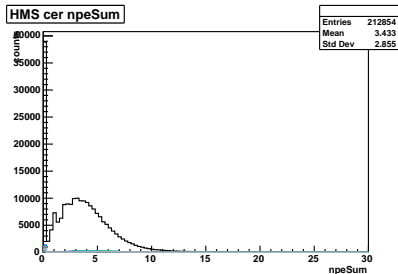
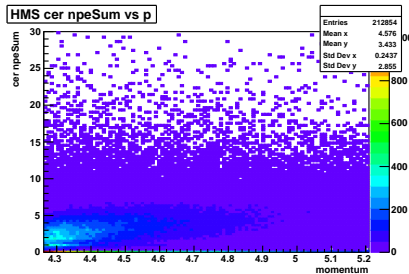
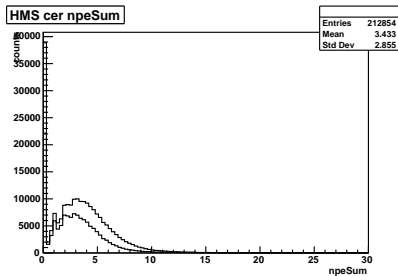
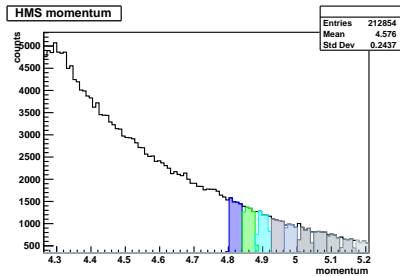
HMS cer npeSum



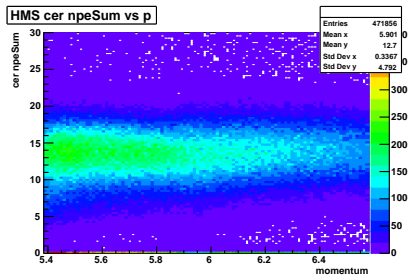
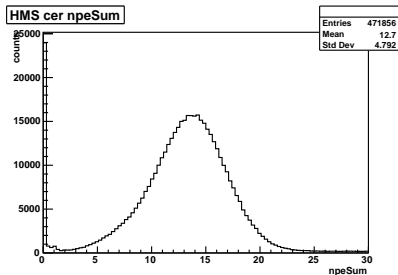
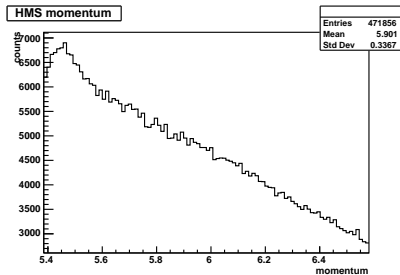
HMS cer npeSum vs p



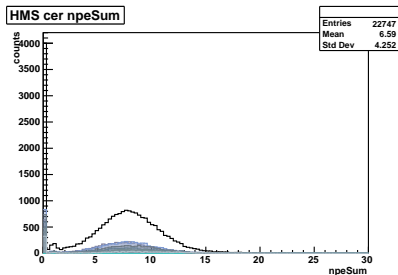
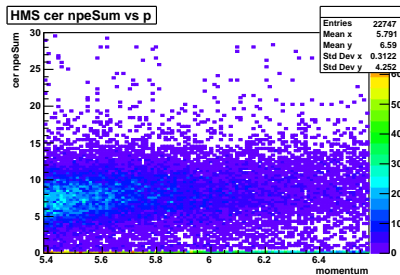
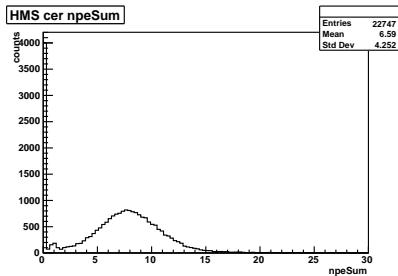
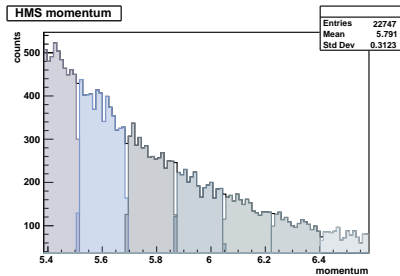
# cal pion cut 0.3



no cal pion cut,  $\text{hms}_p = 5.983$

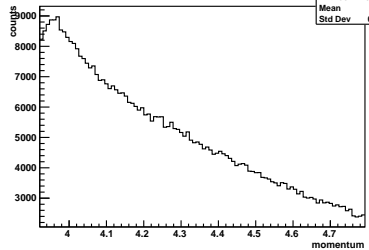


# cal pion cut 0.3

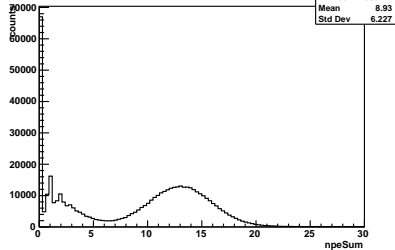


no cal pion cut,  $\text{hms}_p = 4.357$

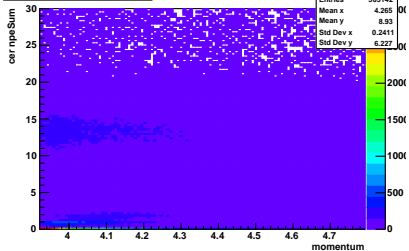
HMS momentum



HMS cer npeSum



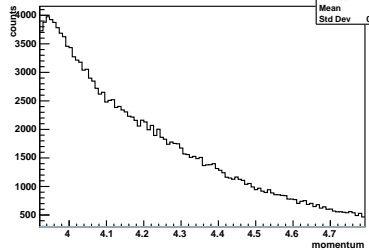
HMS cer npeSum vs p





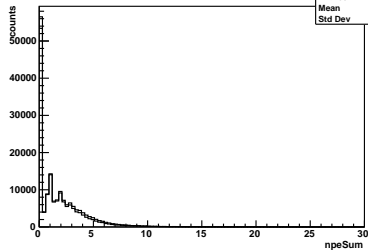
# cal pion cut 0.3

HMS momentum



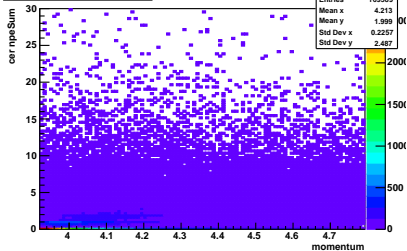
Entries 169589  
Mean 4.213  
Std Dev 0.2257

HMS cer npeSum



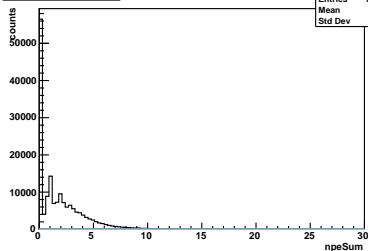
Entries 169589  
Mean 1.999  
Std Dev 2.487

HMS cer npeSum vs p



Entries 169589  
Mean x 4.213  
Mean y 1.999  
Std Dev x 0.2257  
Std Dev y 2.487

HMS cer npeSum



Entries 169589  
Mean 1.999  
Std Dev 2.487