

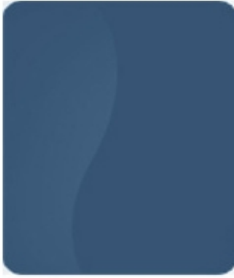
Particle ID in Exclusive Central Meson Production Measurements at CDF

Maria Żurek

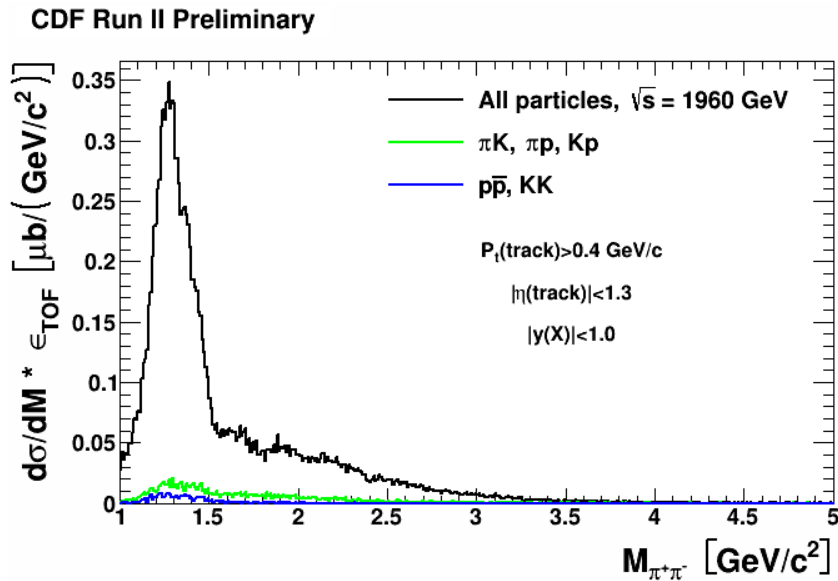
Research Center Jülich
University of Cologne



Non- $\pi^+\pi^-$ background



- PID in CDF: dE/dx and ToF
- Here: Only ToF used



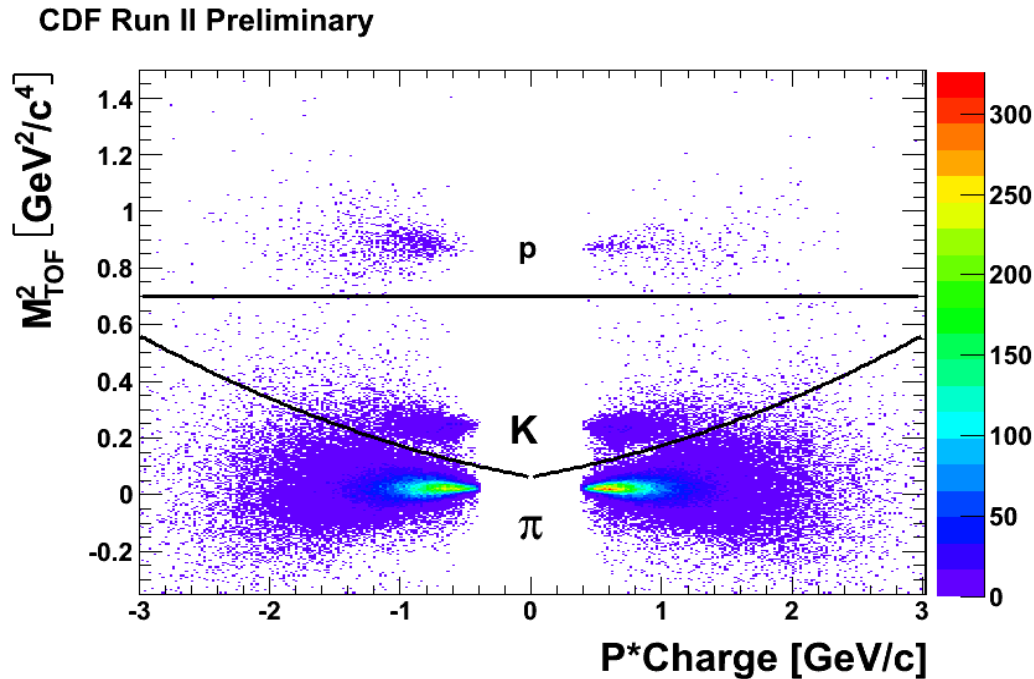
ToF counter information used (coverage in $|\eta| < 0.9$)

For $|\eta| < 1.3$: 67% of the pairs have both particles identified
→ $\pi^+\pi^-$ pairs – 89%

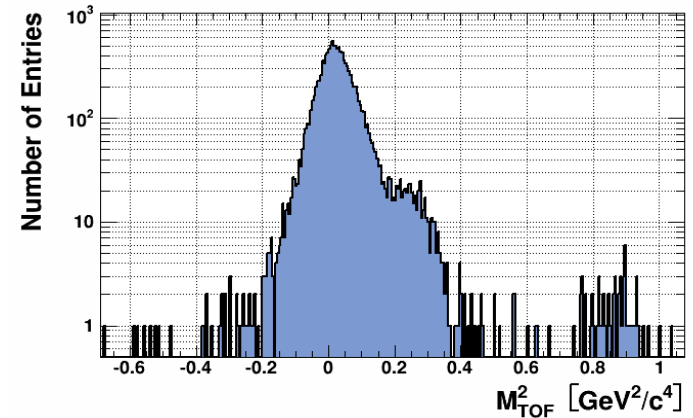
For $|\eta| < 0.7$: 90% of the pairs have both particles identified
→ No significant change in the composition

No non- $\pi^+\pi^-$ background subtraction

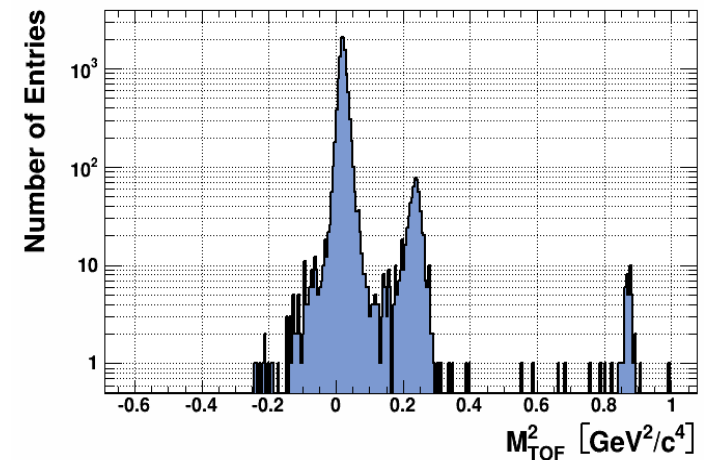
PID in CDF – Time of flight



1 GeV/c < P < 1.2 GeV/c

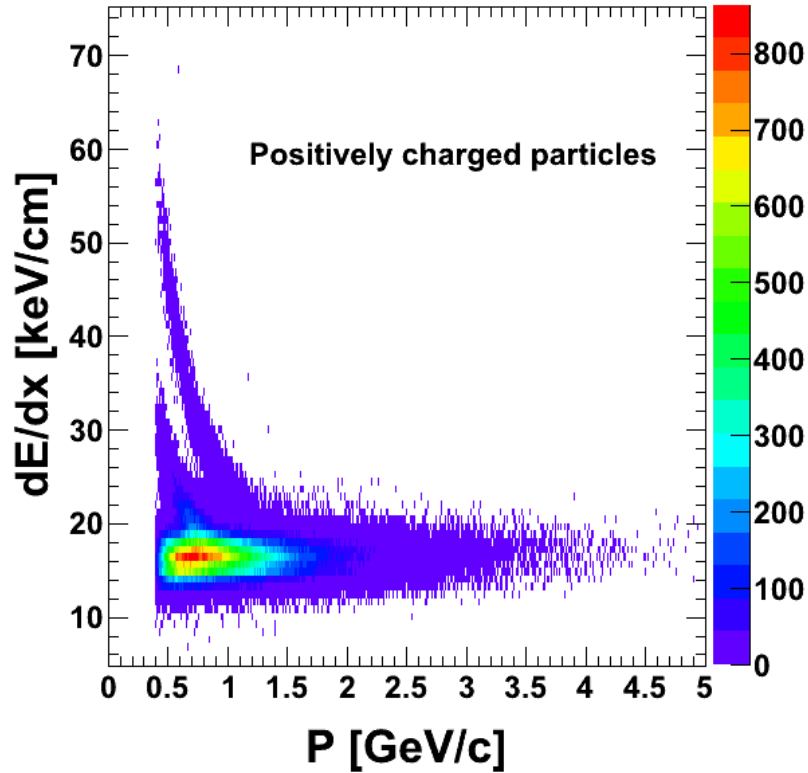


0.4 GeV/c < P < 0.6 GeV/c

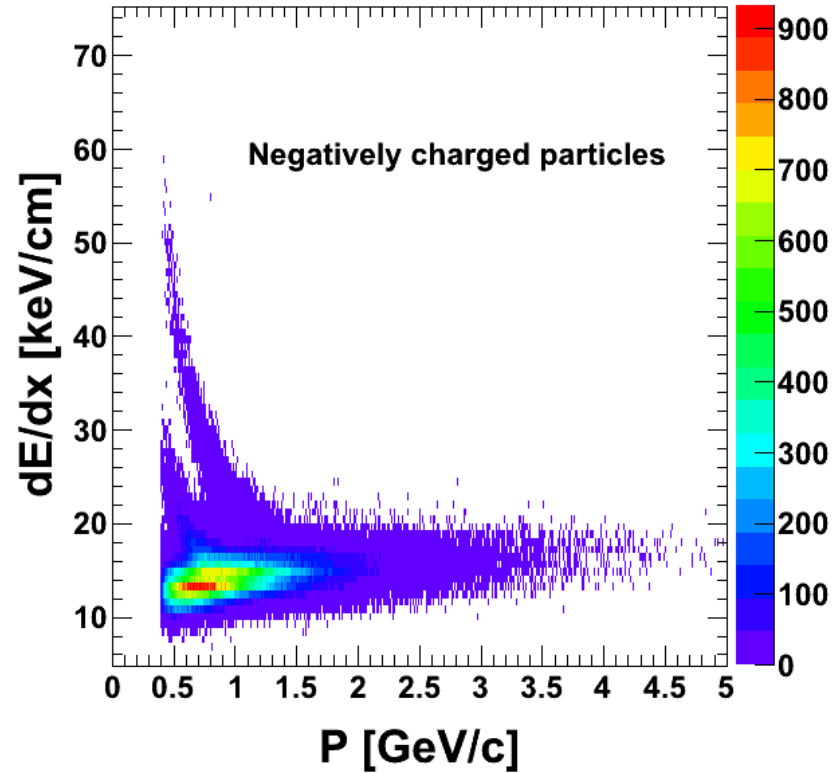


PID in CDF – dE/dx

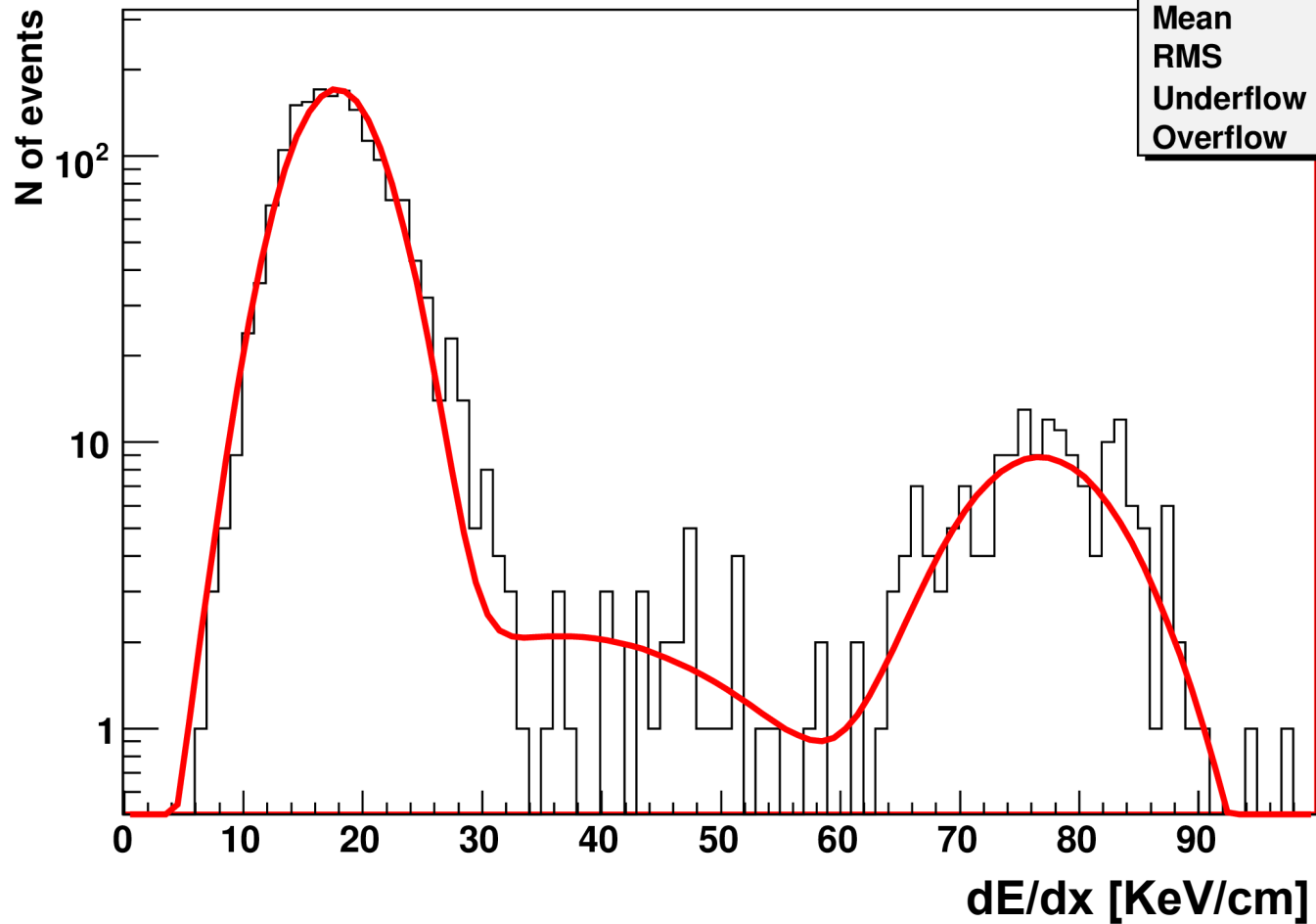
CDF Run II Preliminary



CDF Run II Preliminary

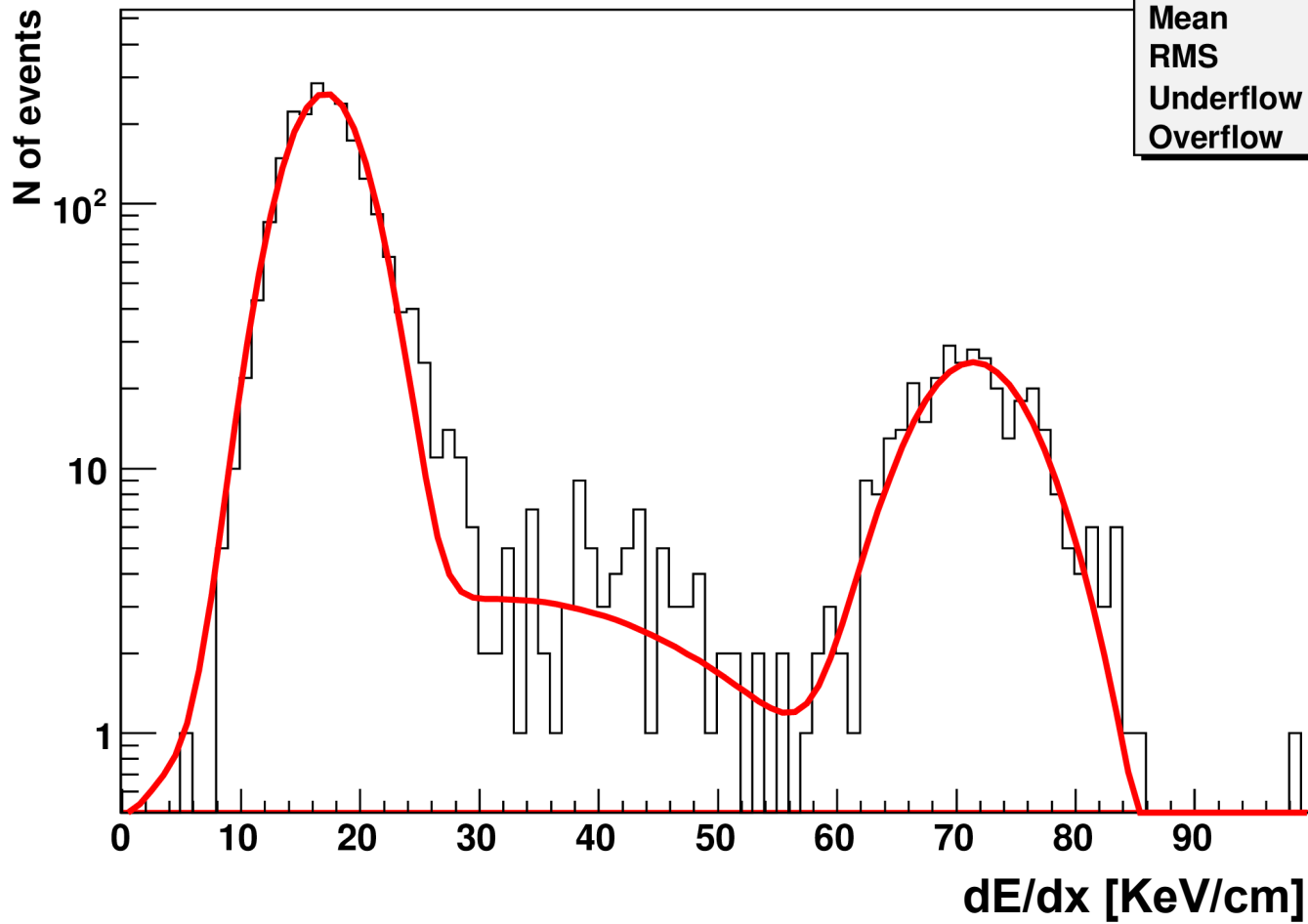


$-0.65 < \text{Log}_{10}(P) < -0.55$

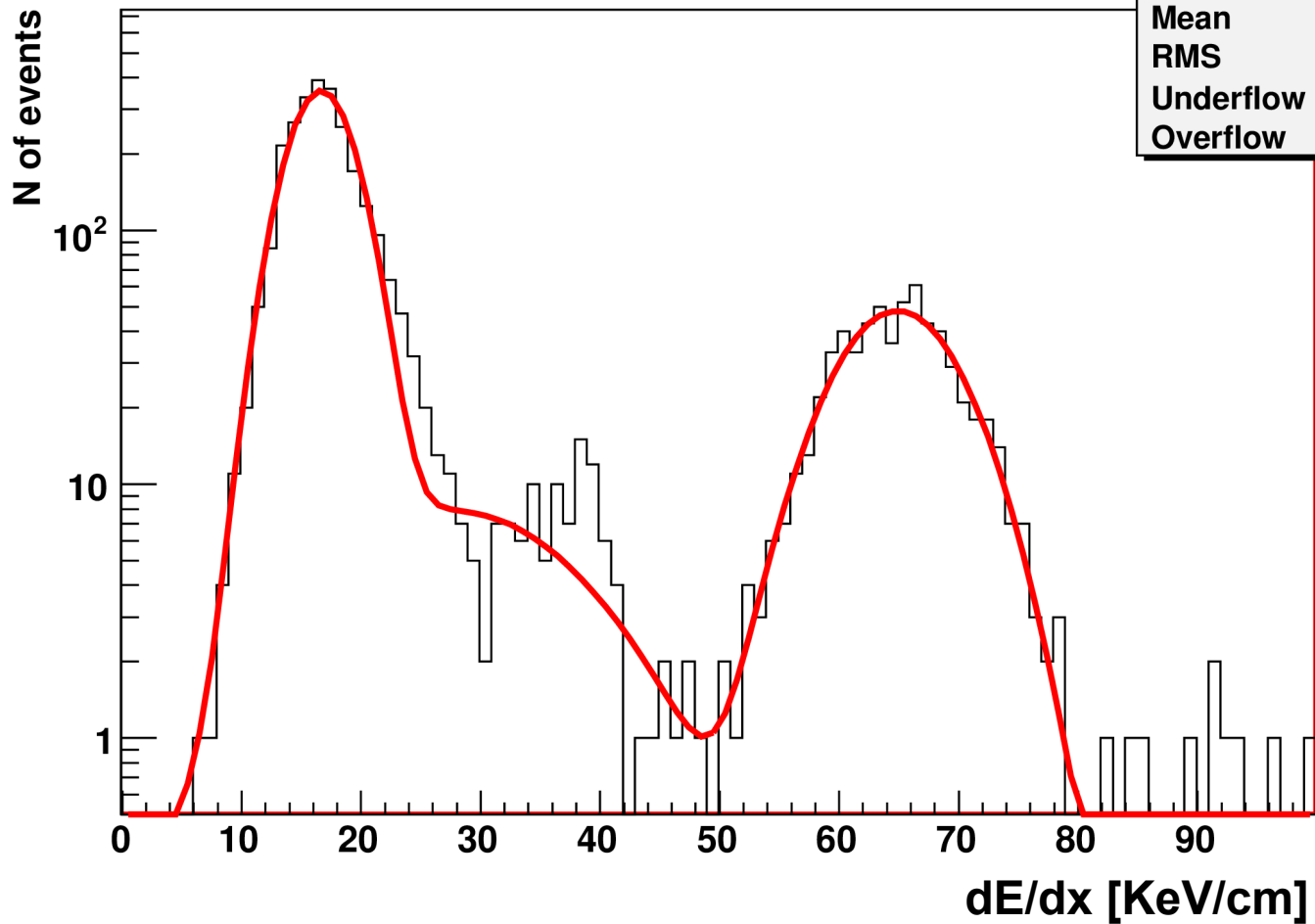


log10P_60_55M	
Entries	1908
Mean	23.94
RMS	17.72
Underflow	0
Overflow	2

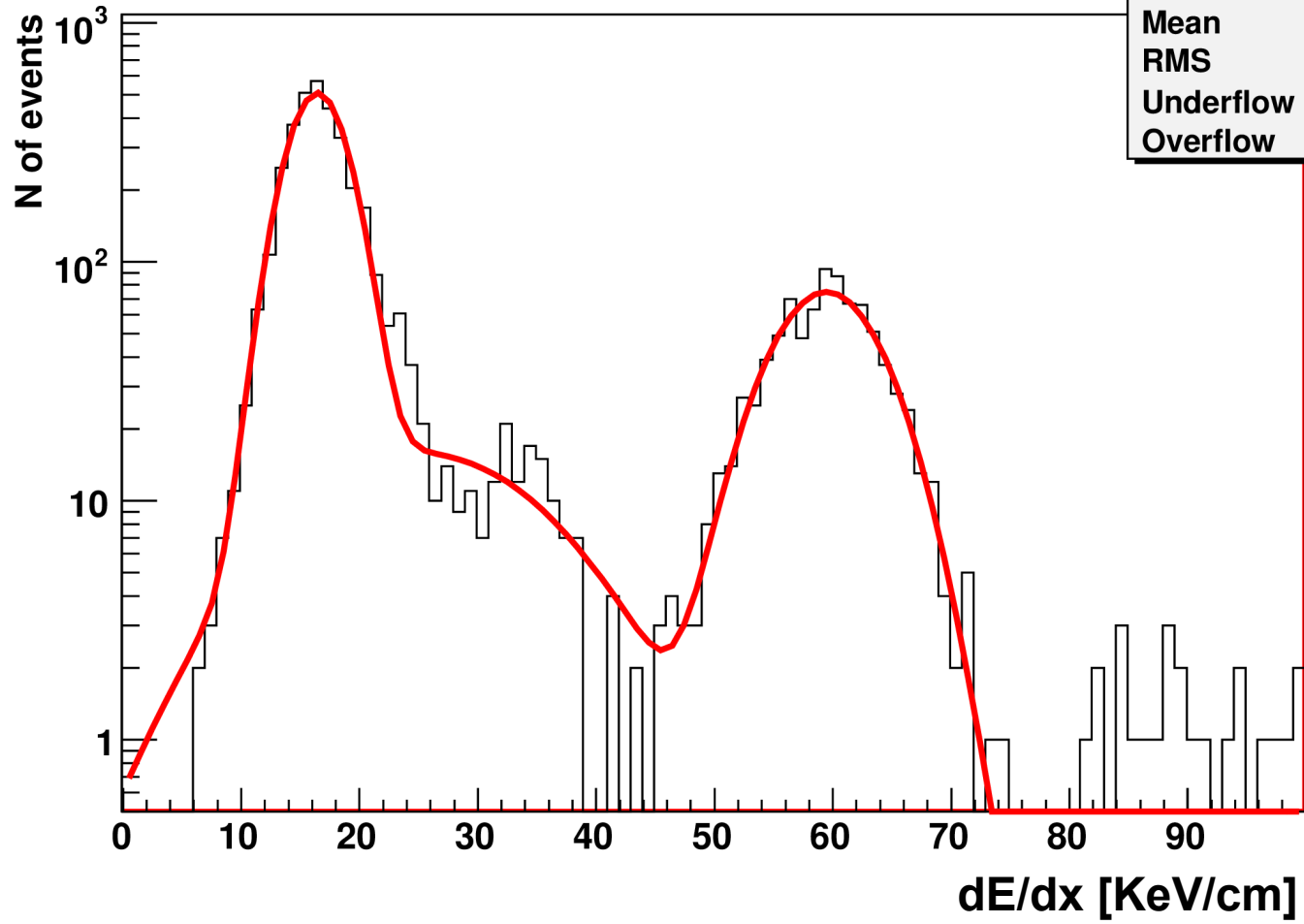
$-0.55 < \text{Log}_{10}(P) < -0.50$



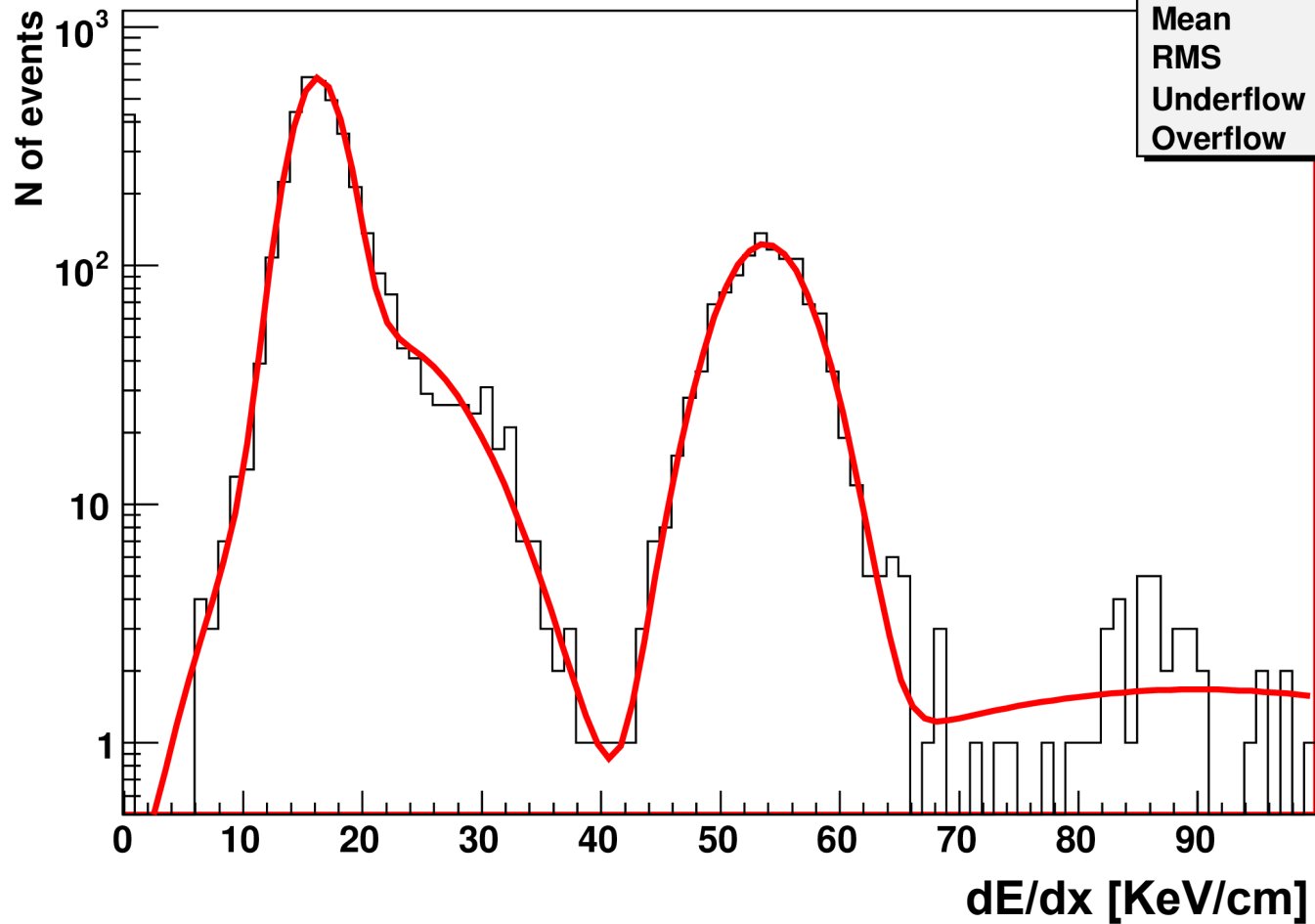
$-0.50 < \text{Log}_{10}(P) < -0.45$



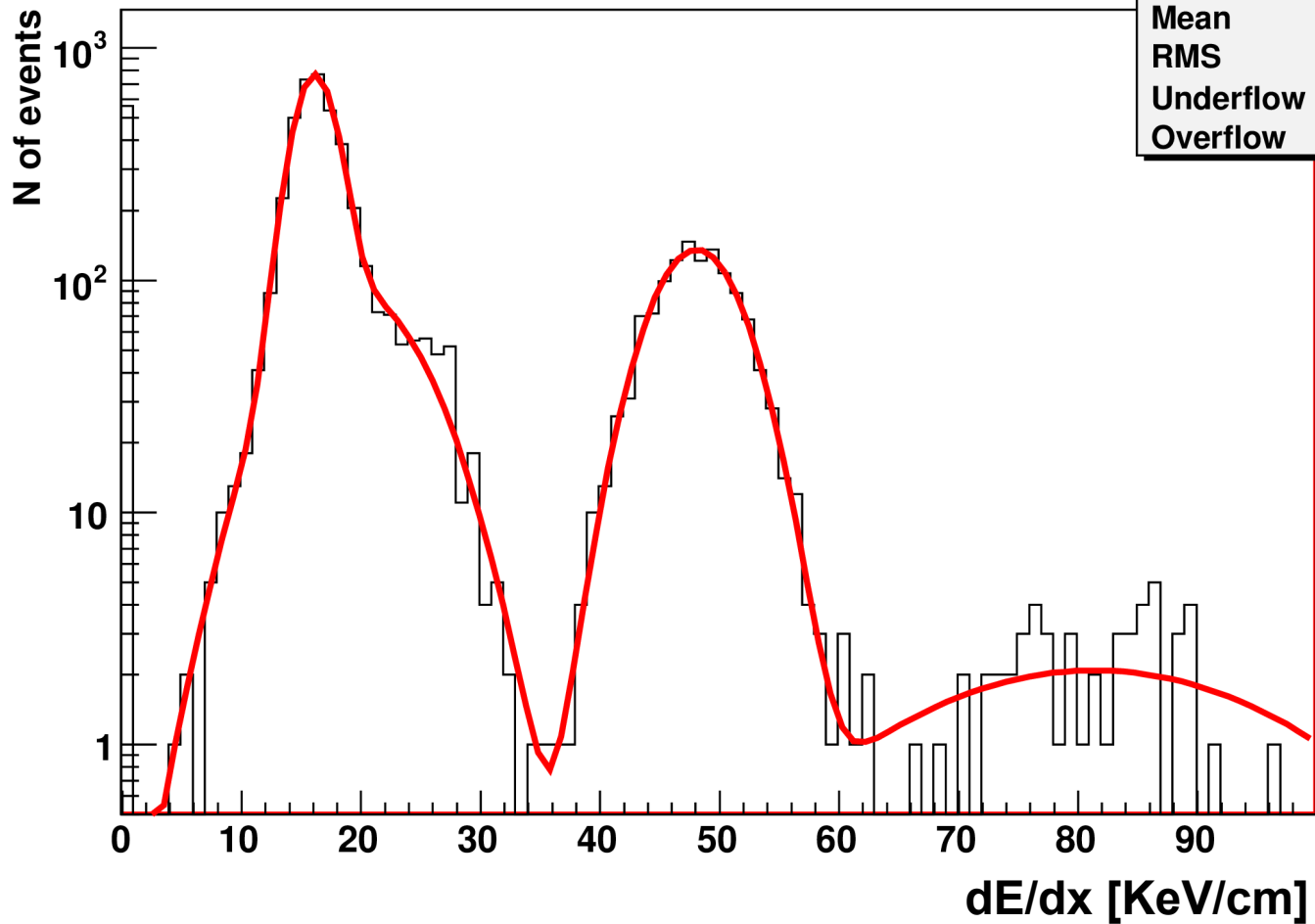
$-0.45 < \text{Log}_{10}(P) < -0.40$



$-0.40 < \text{Log}_{10}(P) < -0.35$

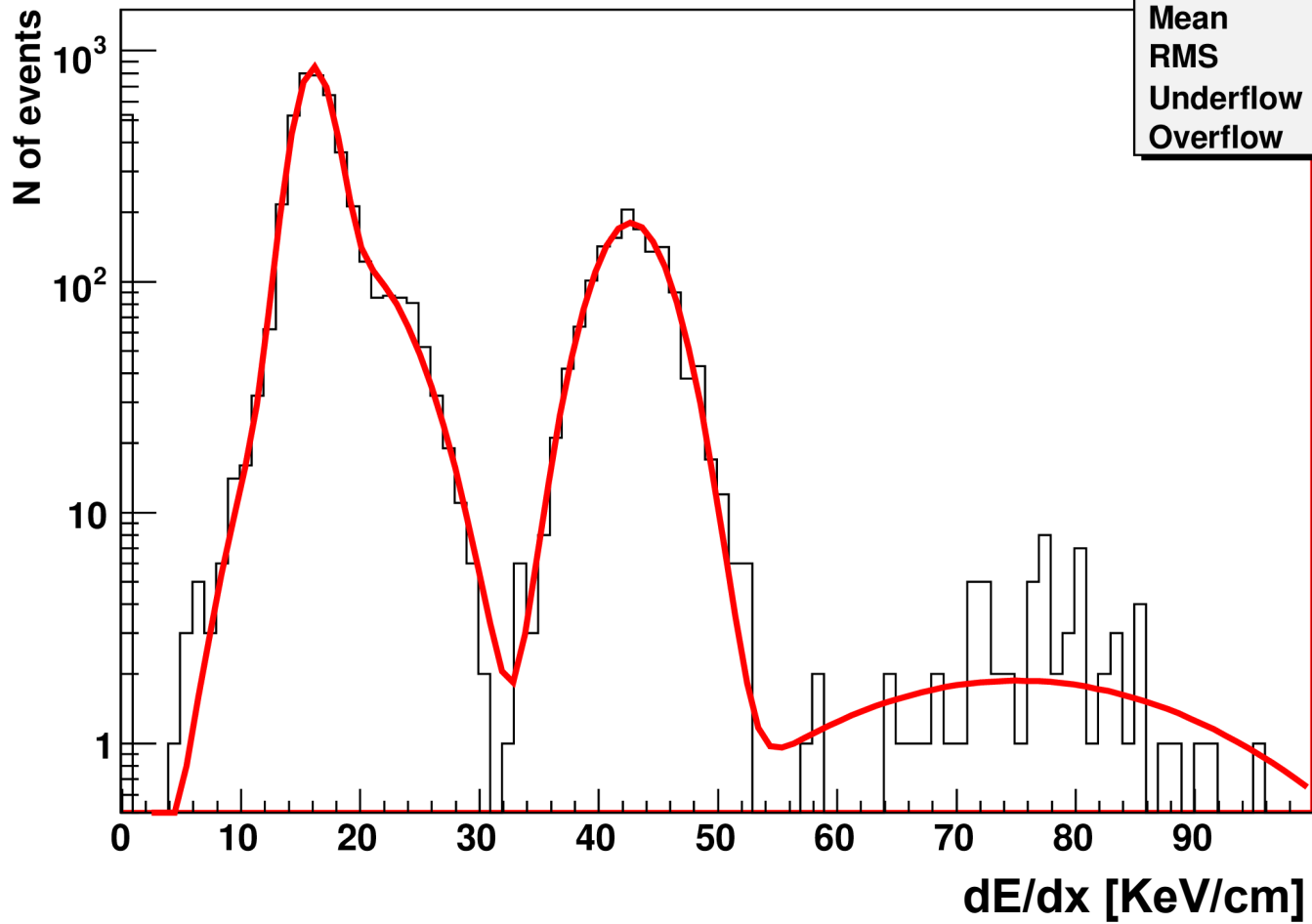


$-0.35 < \text{Log}_{10}(P) < -0.30$

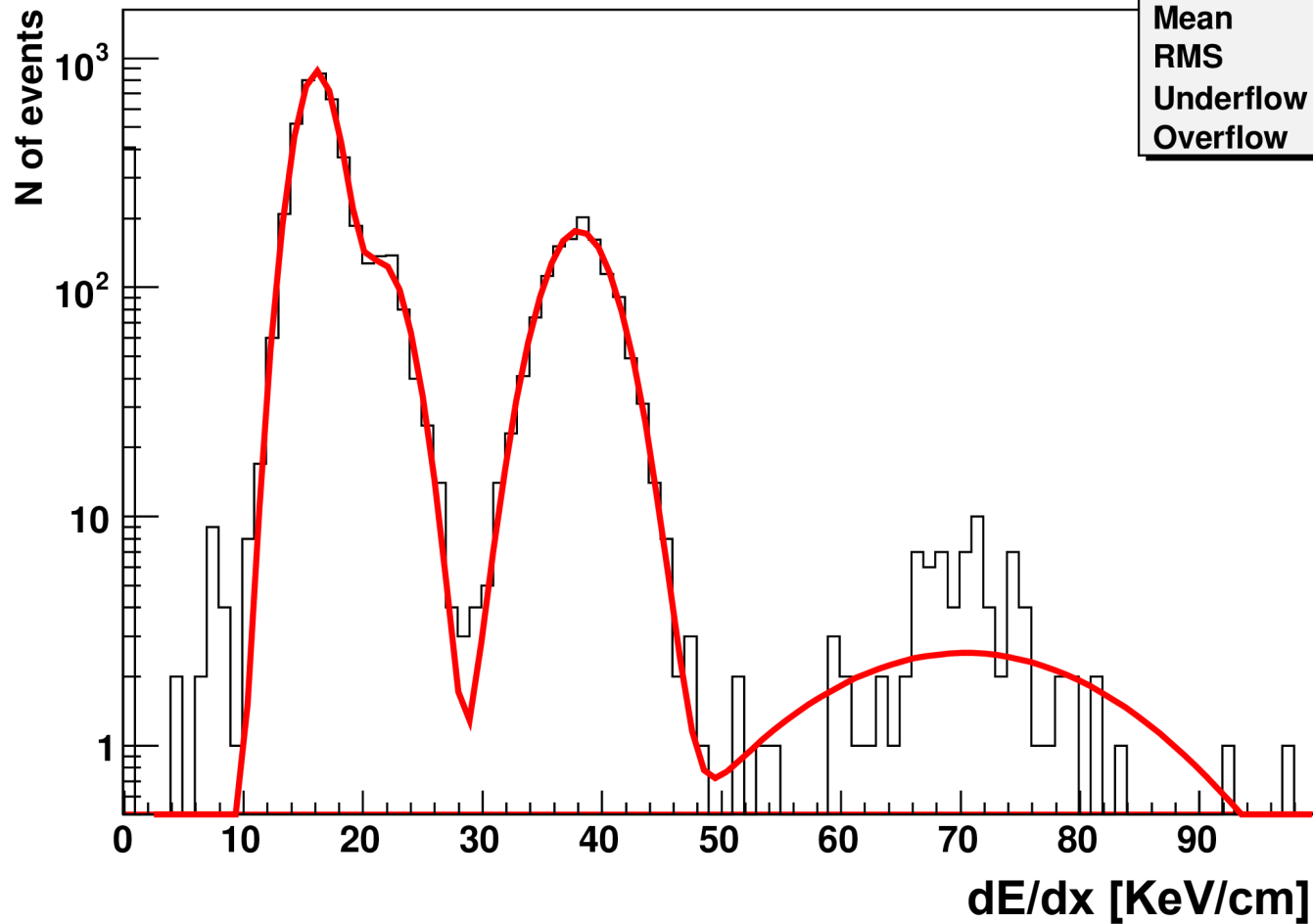


log10P_35_30M	
Entries	5944
Mean	22.46
RMS	15.64
Underflow	0
Overflow	0

$-0.30 < \text{Log}_{10}(P) < -0.25$

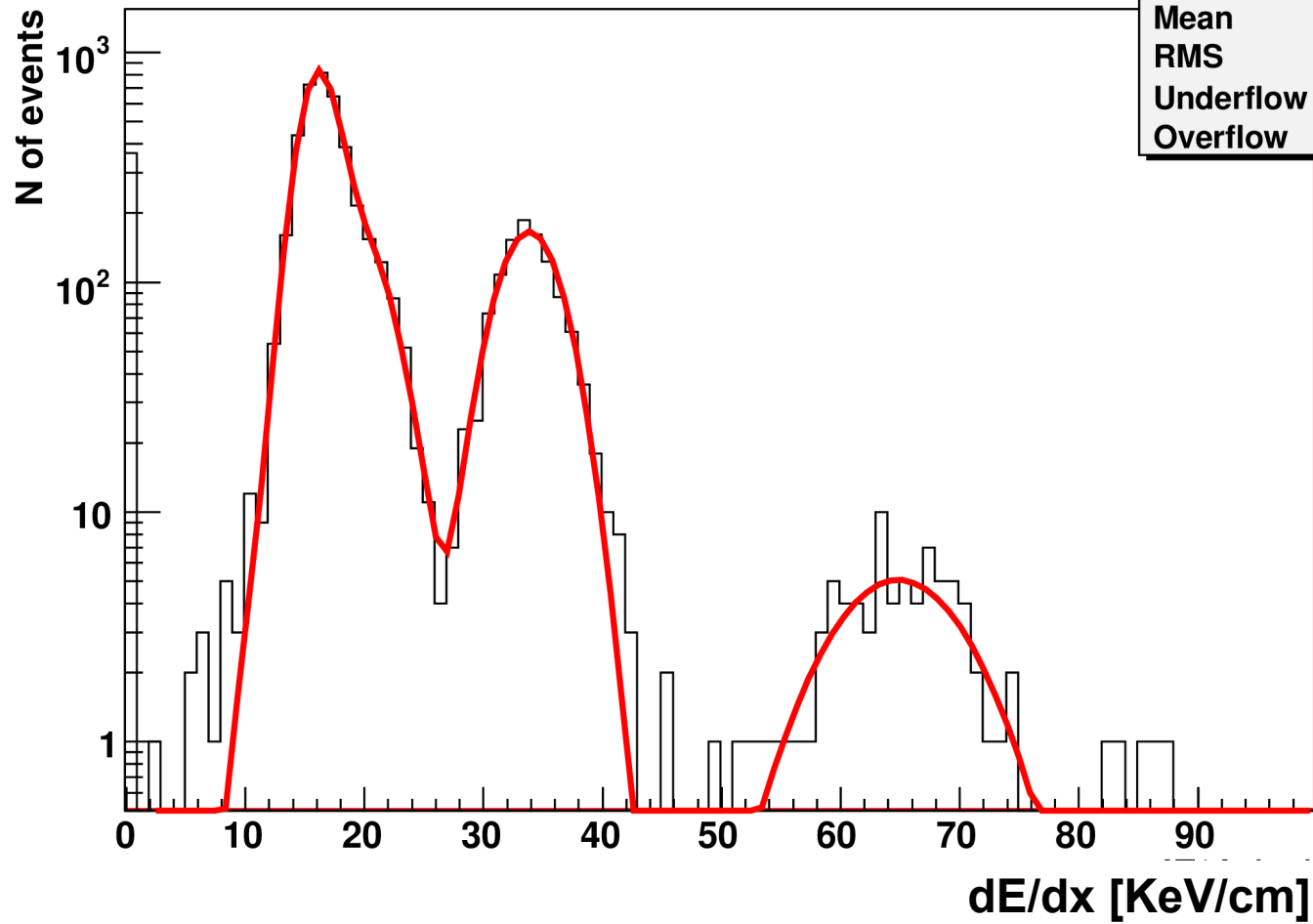


$-0.25 < \text{Log}_{10}(P) < -0.20$



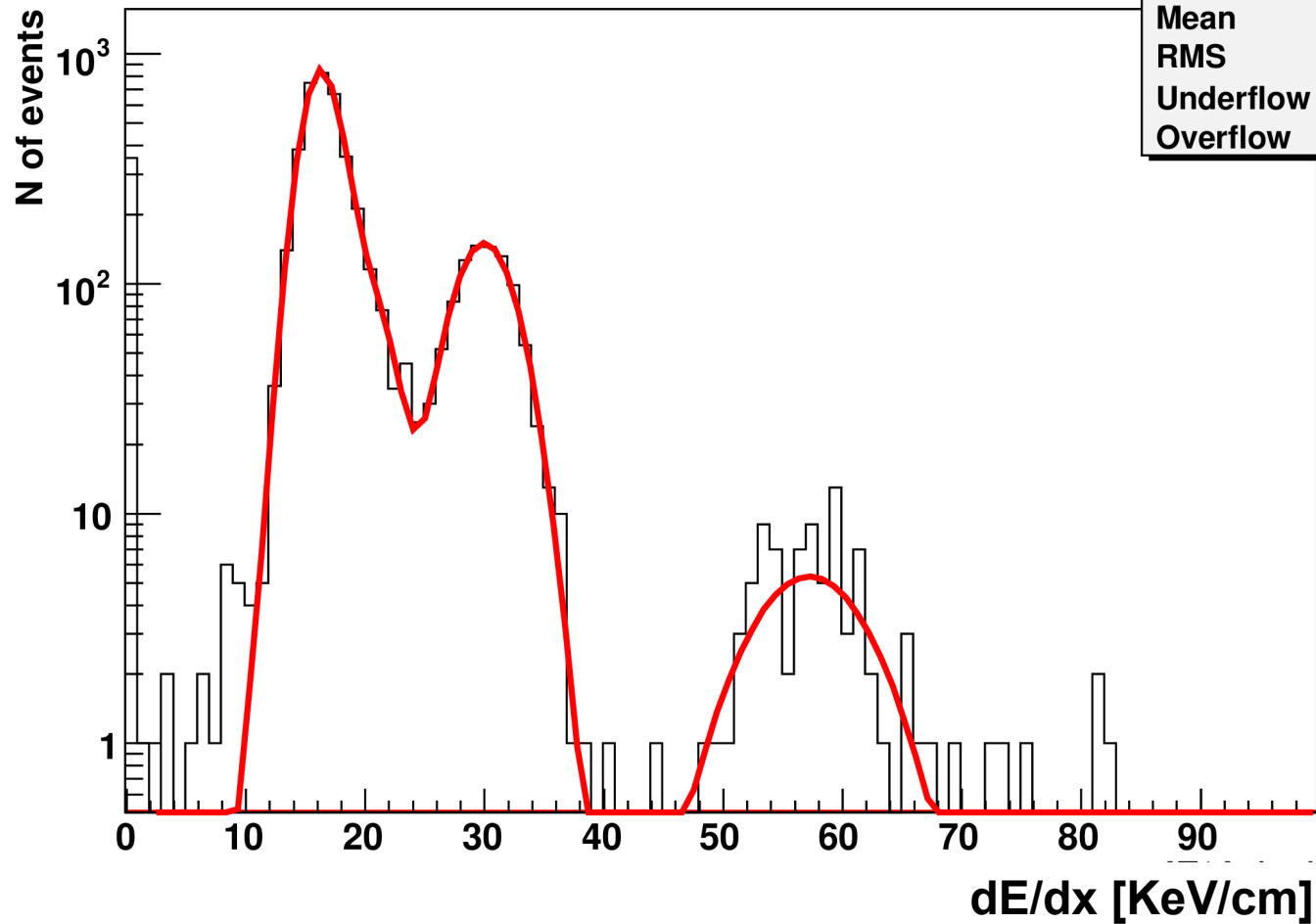
log10P_25_20M	
Entries	6028
Mean	21.01
RMS	12.01
Underflow	0
Overflow	0

$-0.20 < \text{Log}_{10}(P) < -0.15$



log10P_20_15M	
Entries	5453
Mean	19.91
RMS	10.47
Underflow	0
Overflow	0

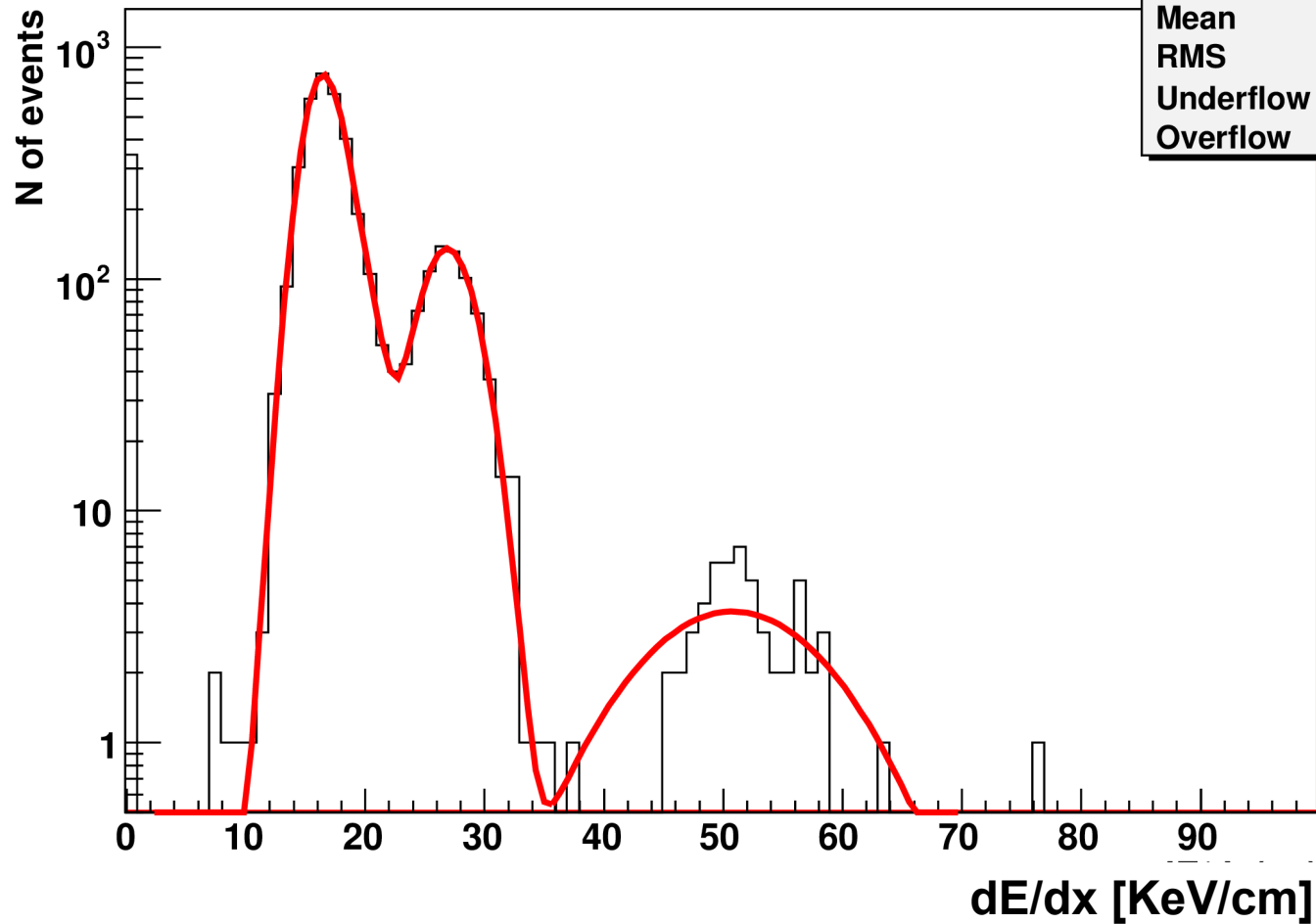
$-0.15 < \text{Log}_{10}(P) < -0.10$



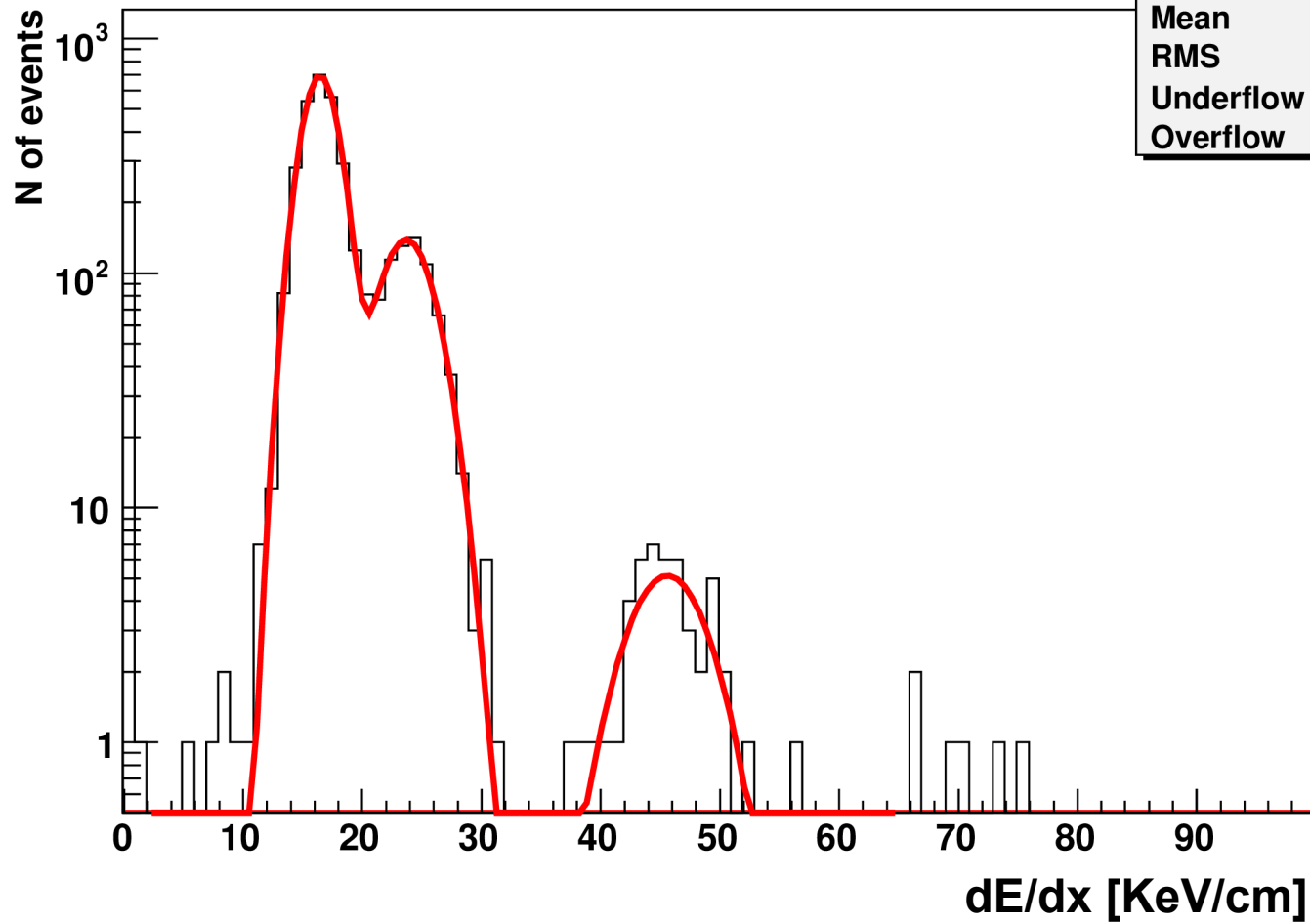
log10P_15_10M	
Entries	5070
Mean	18.78
RMS	9.18
Underflow	0
Overflow	0

$-0.10 < \text{Log}_{10}(P) < -0.05$

log10P_10_5M	
Entries	4351
Mean	17.68
RMS	7.681
Underflow	0
Overflow	0



$-0.05 < \text{Log}_{10}(P) < 0$



log10P_5_0M	
Entries	3752
Mean	17.14
RMS	7.14
Underflow	0
Overflow	0

$0 < \text{Log}_{10}(P) < 0.05$

