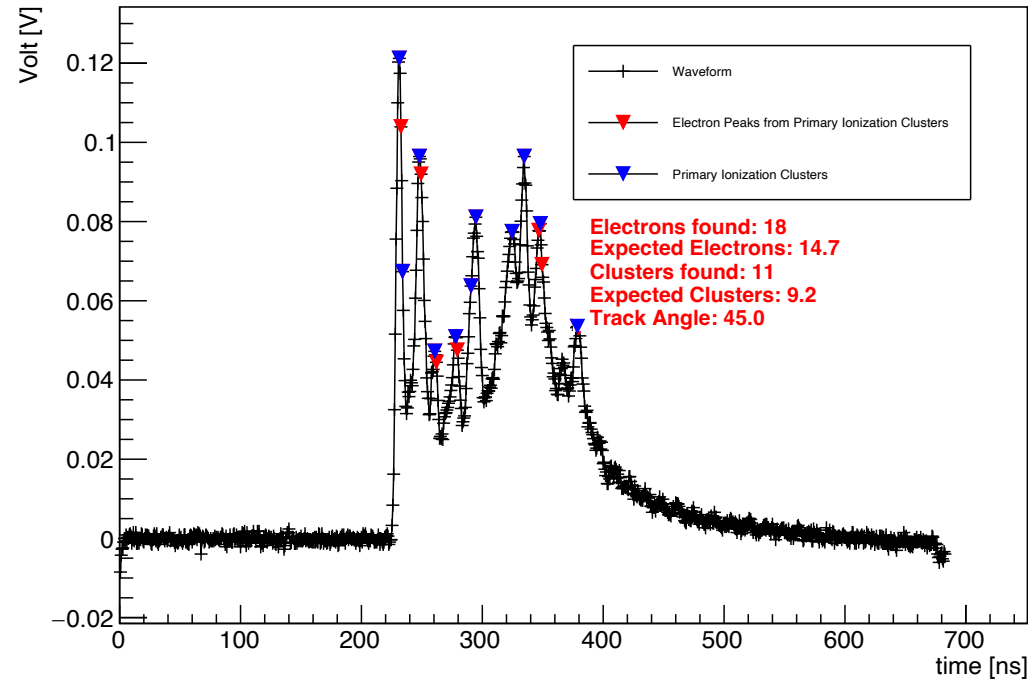


Test beam analysis update
using RTA algorithm

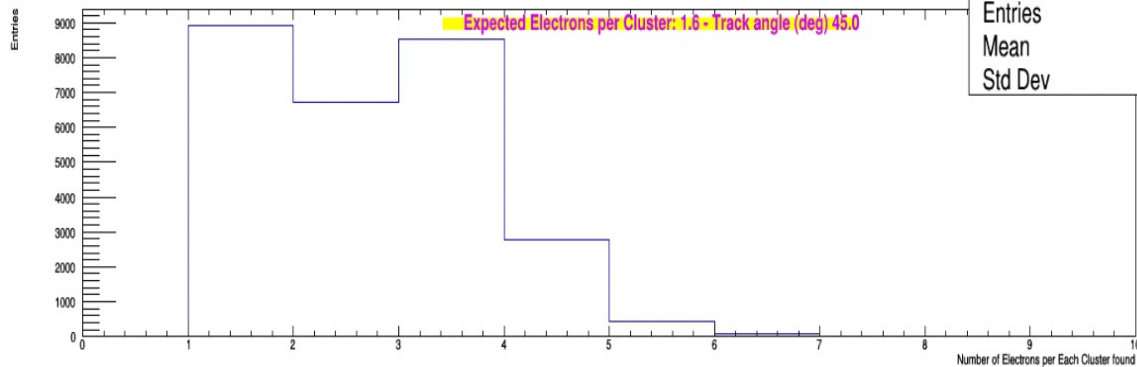
1- Optimize the number of electrons per cluster:

Waveform signal Ch5 - Event 6 - Sense Wire Diameter 20 μm - Cell Size 1.0 cm - Track Angle 45.0 - run_16 - 1.5 GSa/s - Gas Mixture 80/20 0 - 90/10 1 - 85/15 0

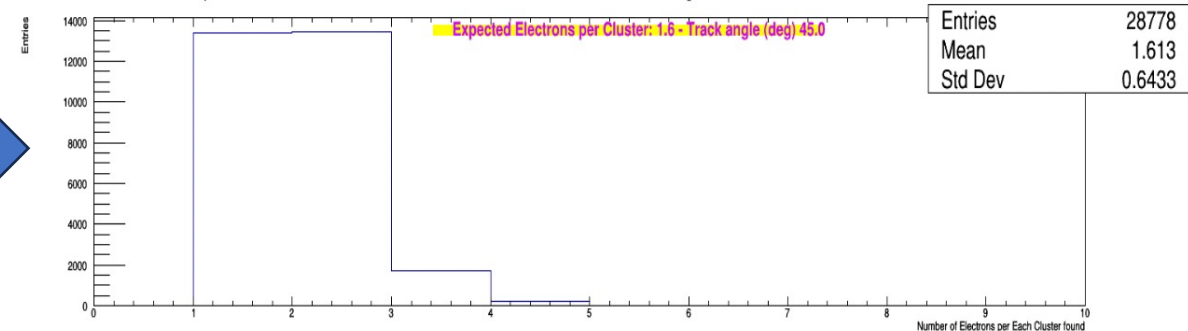


From 29 Apr

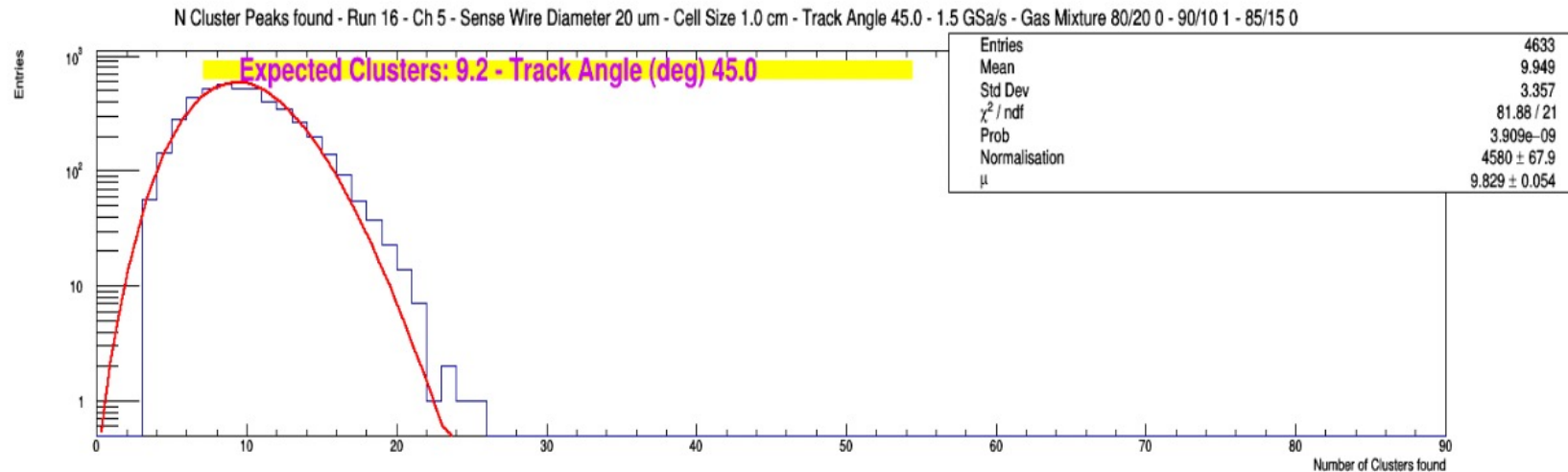
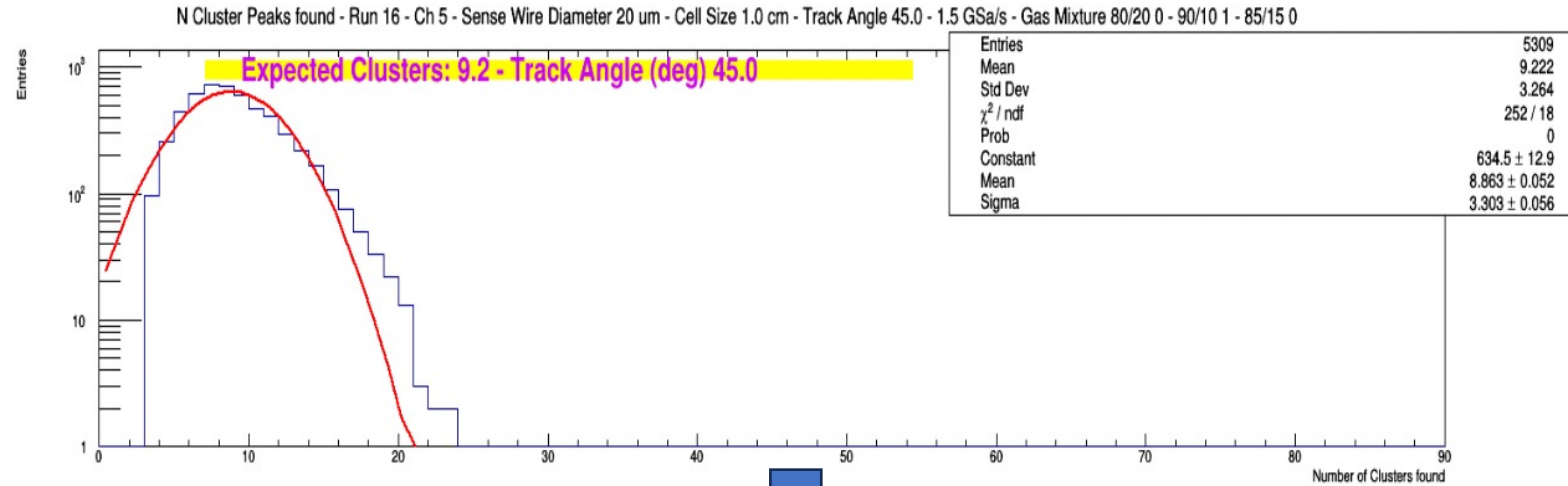
N Electrons per Each Cluster found - Run 16 - Ch 10 - Sense Wire Diameter 25 μm - Cell Size 1.0 cm - Track Angle 45.0 - 1.5 GSa/s - Gas Mixture 80/20 0 - 90/10 1 - 85/15 0



N Electrons per Each Cluster found - Run 16 - Ch 10 - Sense Wire Diameter 25 μm - Cell Size 1.0 cm - Track Angle 45.0 - 1.5 GSa/s - Gas Mixture 80/20 0 - 90/10 1 - 85/15 0



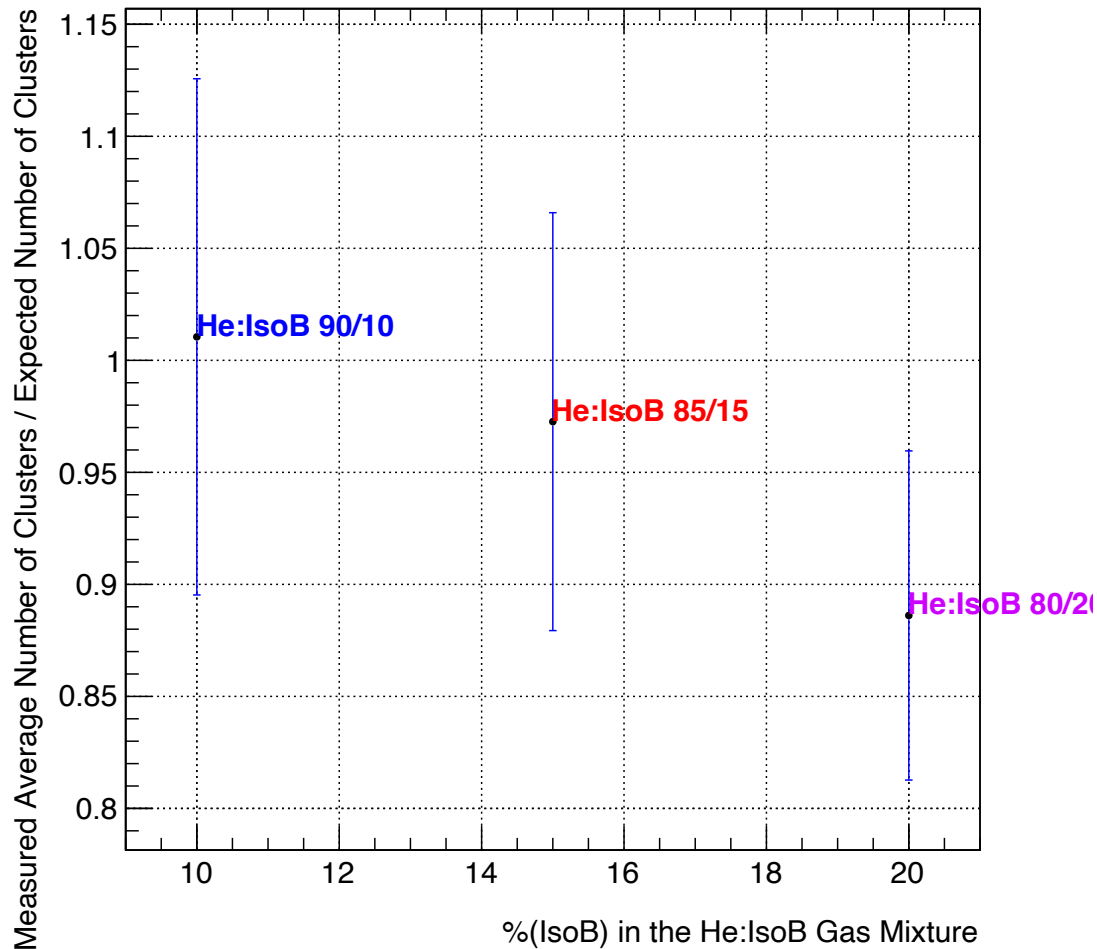
2- Replace the Gaus fit with Poisson



3- Check the performance for different gas Mix:

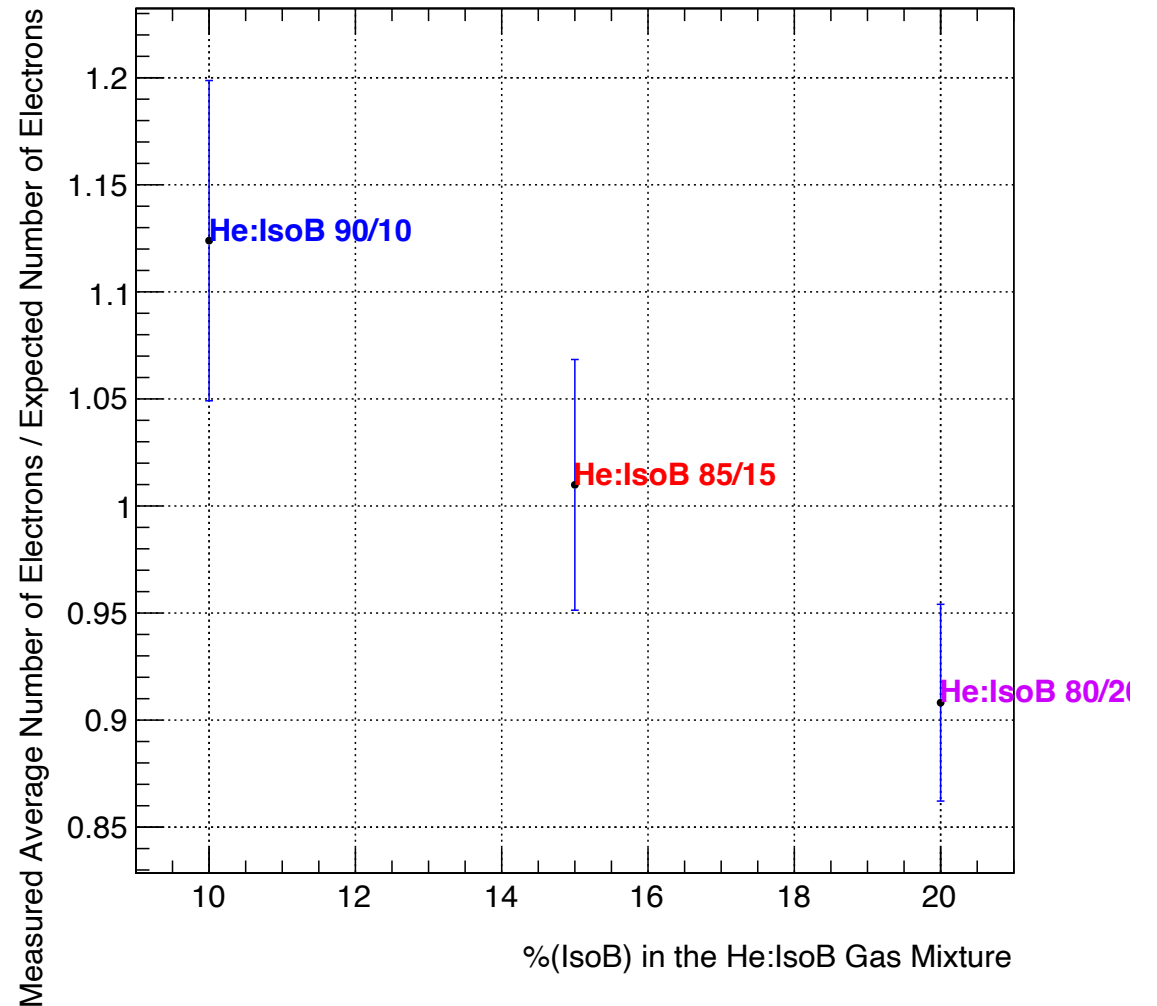
Cluster Finding efficiency

Clusters Finding Efficiency 1 cm cell size Drift Tubes 180 GeV



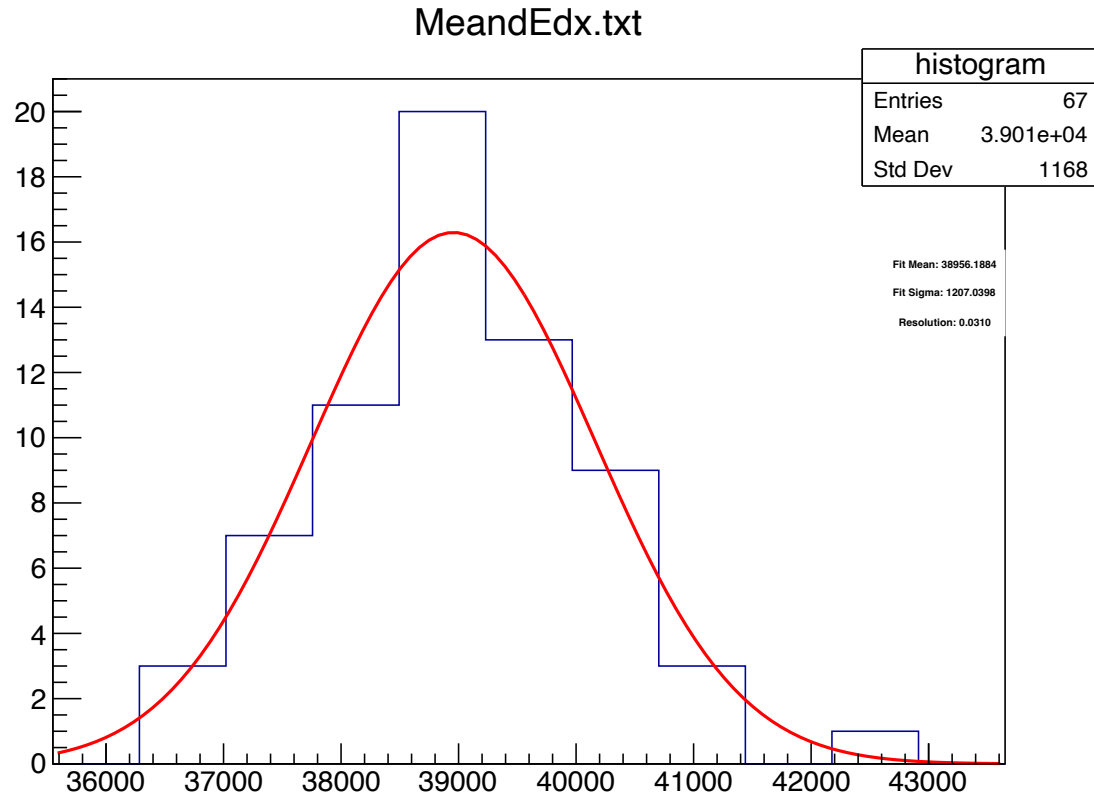
Electron Finding efficiency

Electrons Finding Efficiency 1 cm cell size Drift Tubes 180 GeV

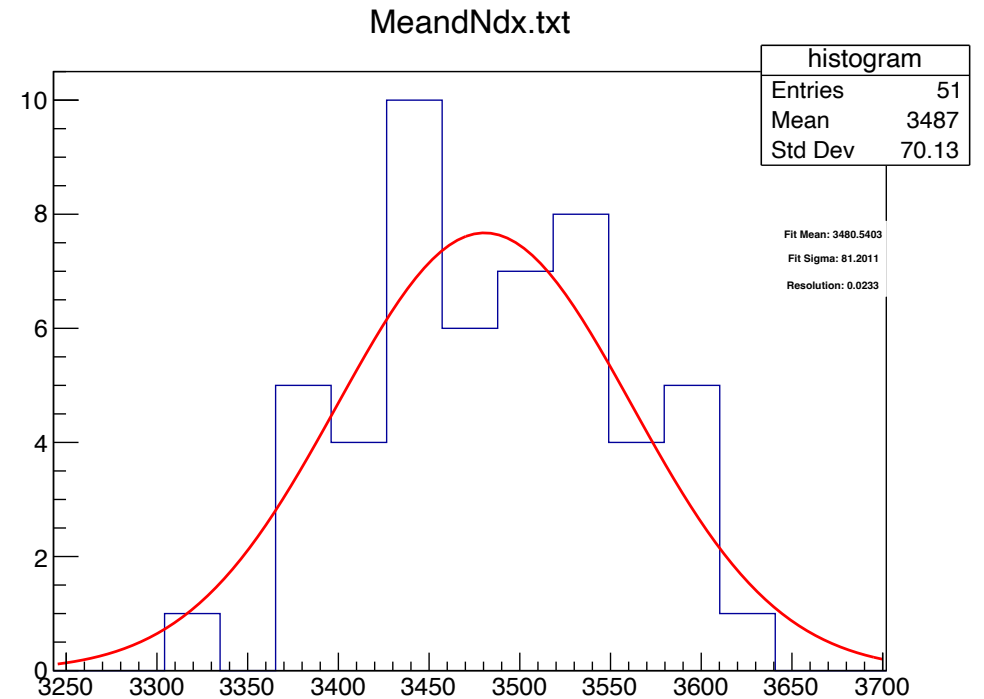


4- dN/dx & dE/dx Resolution comparision @ 45⁰

@2m long track we have dN/dx resolution 3.1%



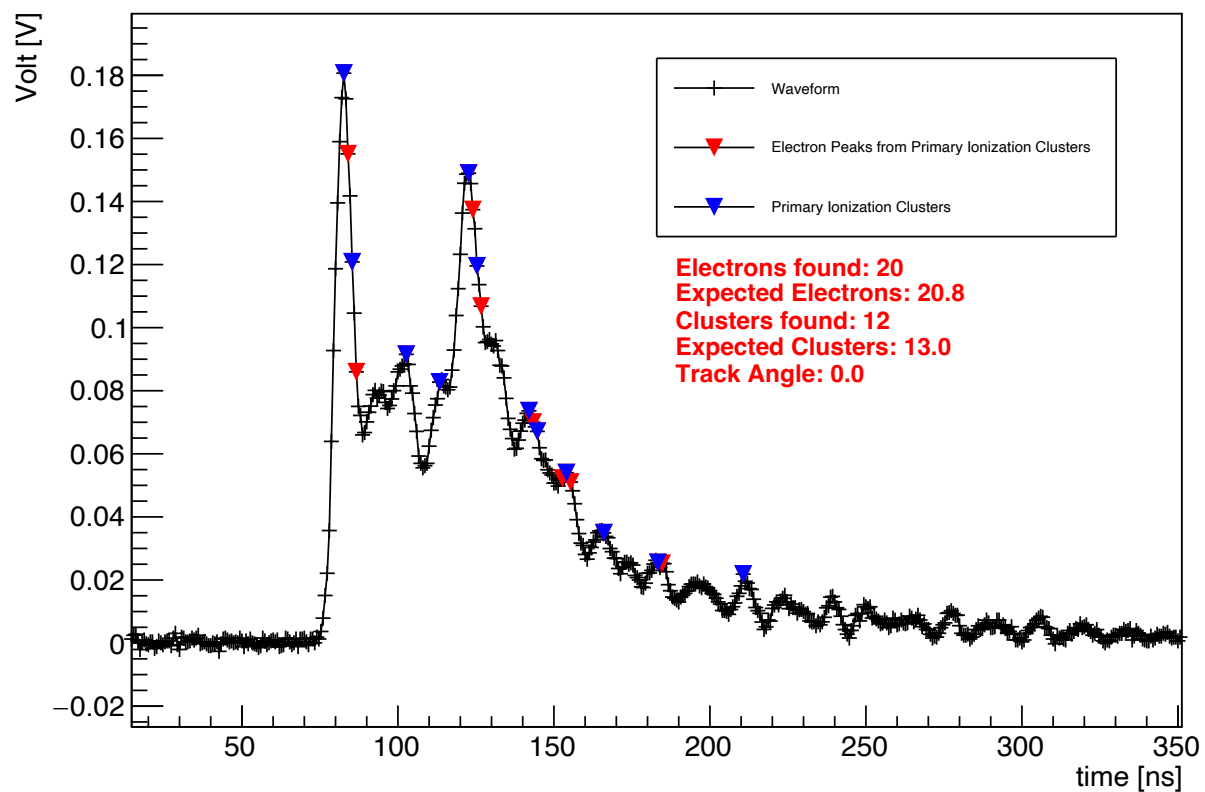
@2m long track we have dN/dx resolution 2.3%



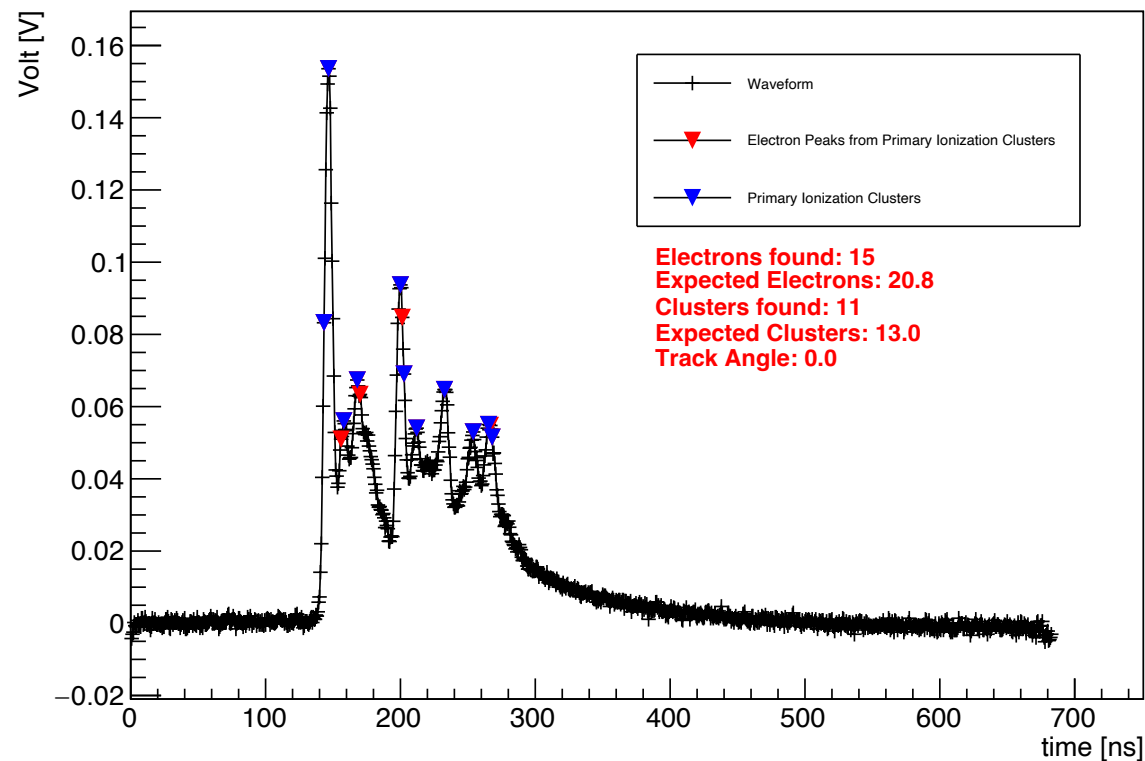
Performance @ 0°

Overall we have 40% in efficiency @ 0°

Waveform signal Ch5 - Event 2 - Sense Wire Diameter 20 μm - Cell Size 1.0 cm - Track Angle 0.0 - run_13 - 1.5 GSa/s - Gas Mixture 80/20 0 - 90/10 1 - 85/15 0

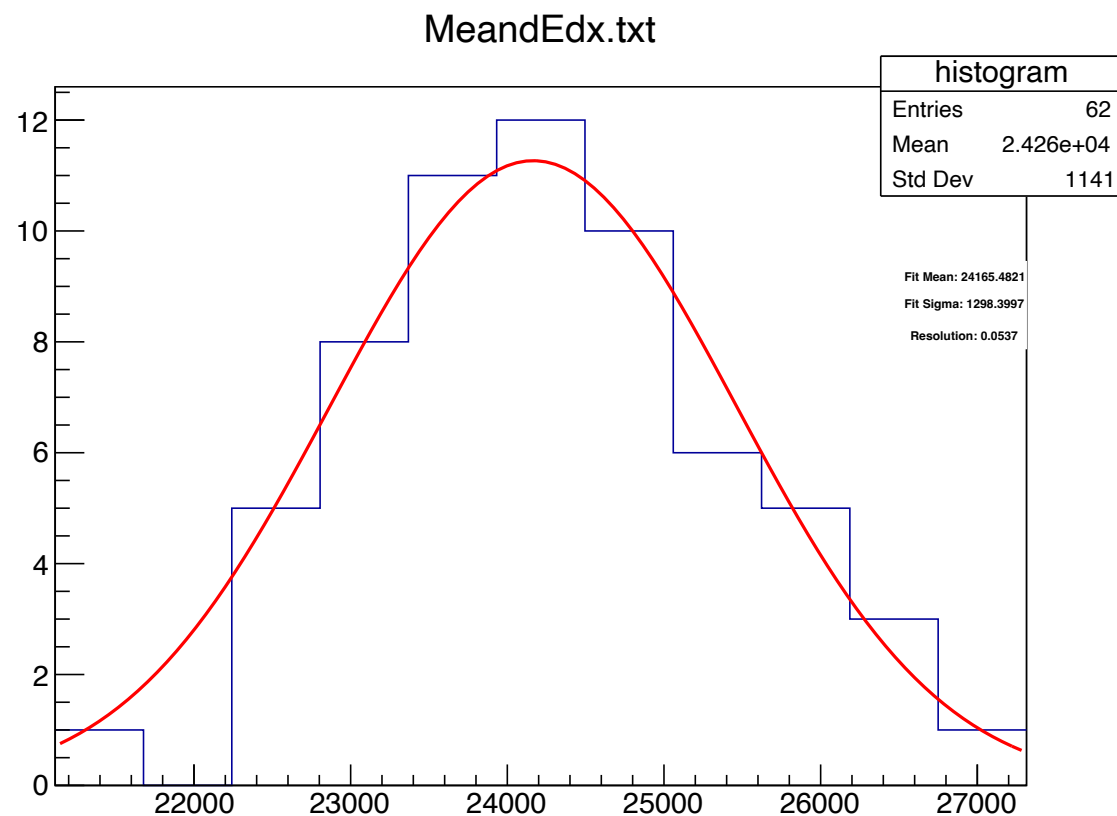


Waveform signal Ch6 - Event 52 - Sense Wire Diameter 20 μm - Cell Size 1.0 cm - Track Angle 0.0 - run_13 - 1.5 GSa/s - Gas Mixture 80/20 0 - 90/10 1 - 85/15 0



dN/dx & dE/dx Resolution comparison @ 0°

@2m long track we have dN/dx resolution 5.3%



@2m long track we have dN/dx resolution 2.9%

