

MIPP Software Meeting
01/09/2009

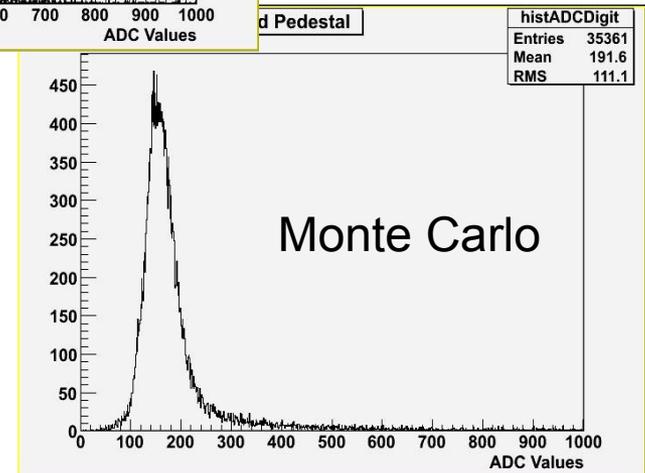
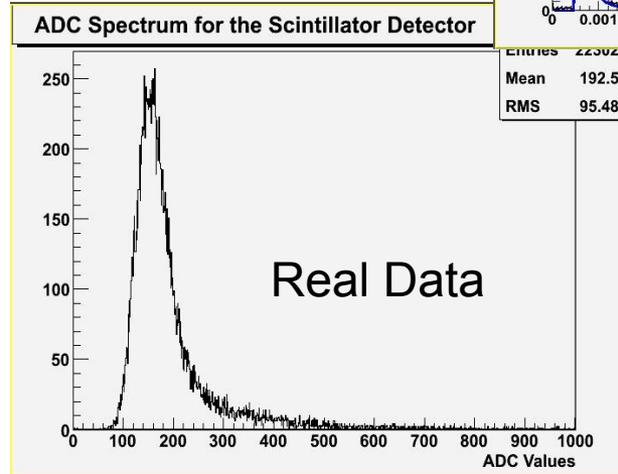
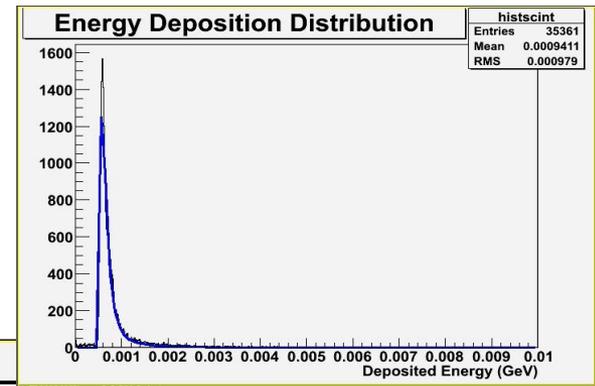


Scintillator Digitizer

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Previous Strategy:

- I looked at the 120 GeV data files ADC distributions and fit a convolution of Landau+Gauss.
- The fit MPV determined the gain constant in the digitizer.
- Shape of the spectrum in the digitizer was given by Geant energy deposition model.
- The shape of the digitized MC data was close to real data, but not exact.



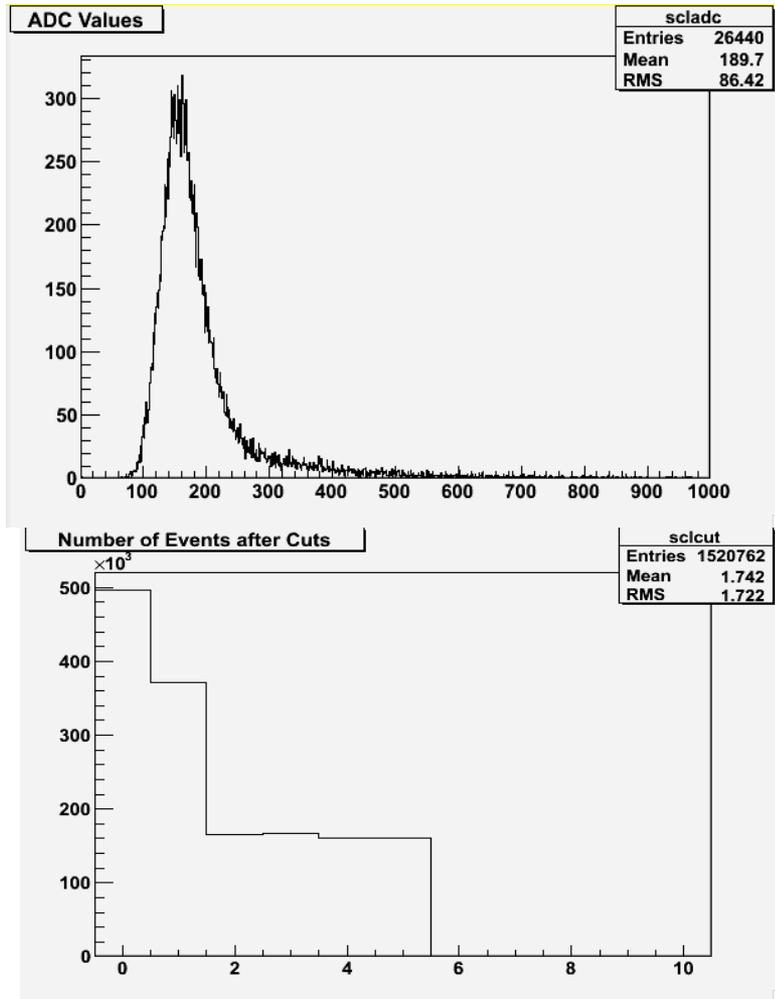
New Strategy:

Sample the real ADC spectrum for 1 MIP particles for each particle track in MC.

In detail:

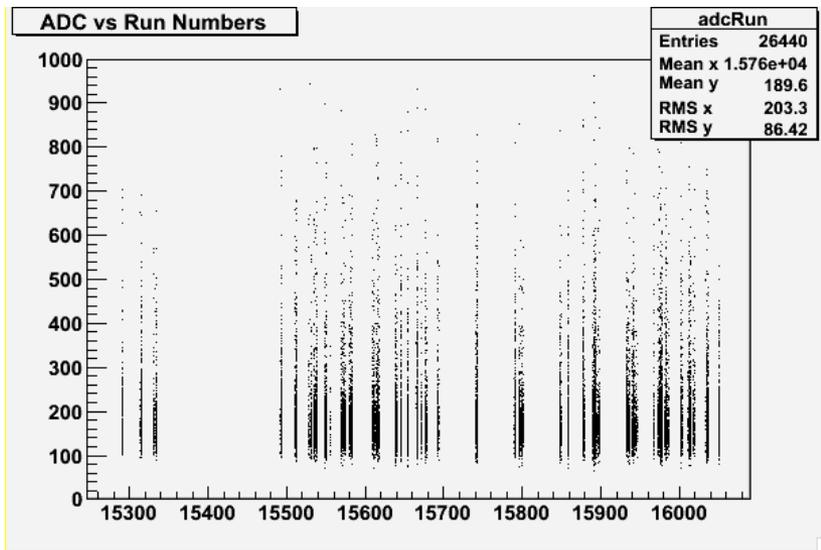
- Ignore Geant hit information, just use the fact that a particle crossed through path length of ScInt. Detector
- Sample the data ADC histogram for 1 MIP particles of beam particles
- Multiply ADC value with path length divided by ScInt thickness (pathlength of beam particles in Scint counter)
- Repeat for all tracks, adding up the ADC values.
- Add pedestal
- Write out one digit

First task for new strategy:



- Get very clean 1 MIP ADC spectrum from data
- makeOneMIP.cc
- Cuts used:
 - 1- Single beam tracked was chosen
 - 2-The beam track is passing through the scintillator counter was checked
 - 3-Outgoing track was checked
 - 4- Checked track time is in time
 - 5-Check the total number of hits on TPC match the hits on the track
- Effect of cuts are on the bottom plot.

To Do



- Need to worry about gain shifts over runs?
- Investigating now.