

TPC dE/dx Update

J.L. Klay, LLNL
25-Aug-2005



MIPP dE/dx PR Plots

Note: Work in Progress. Will update these plots when substantial improvements are made

Tuesday, checked into CVS some first PR Plots:
document/PRPlots/TPC/dEdx

3 representations of
the same data -
take your pick

{ Carbon20GeV.dEdxVsMom_ColorBox.eps
Carbon20GeV.dEdxVsMom_Scatter.eps
Carbon20GeV.dEdxVsMom_ColorContour.eps
Carbon20GeV.dEdx_Slice.eps

They were made with the following cuts:

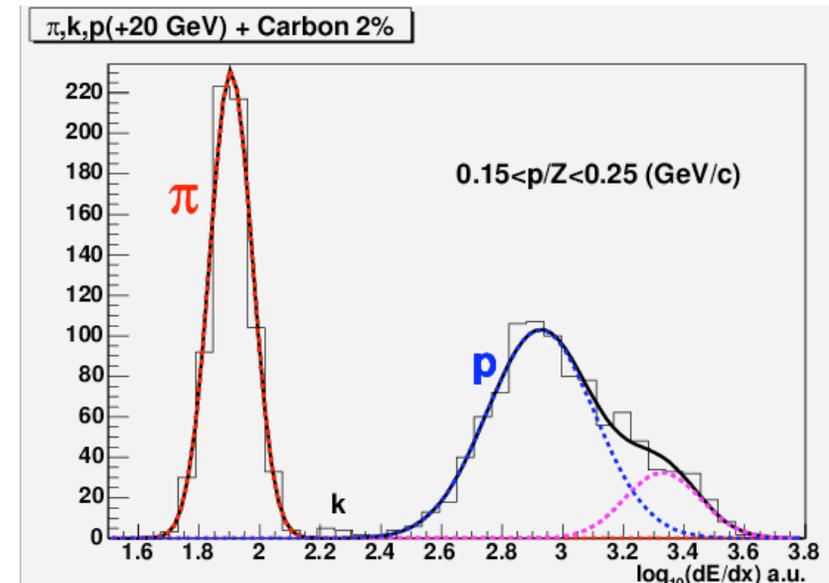
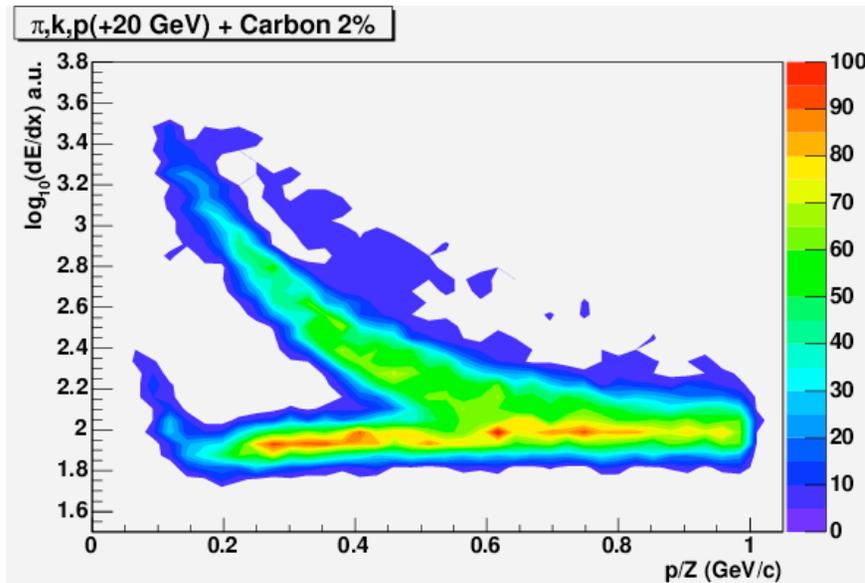
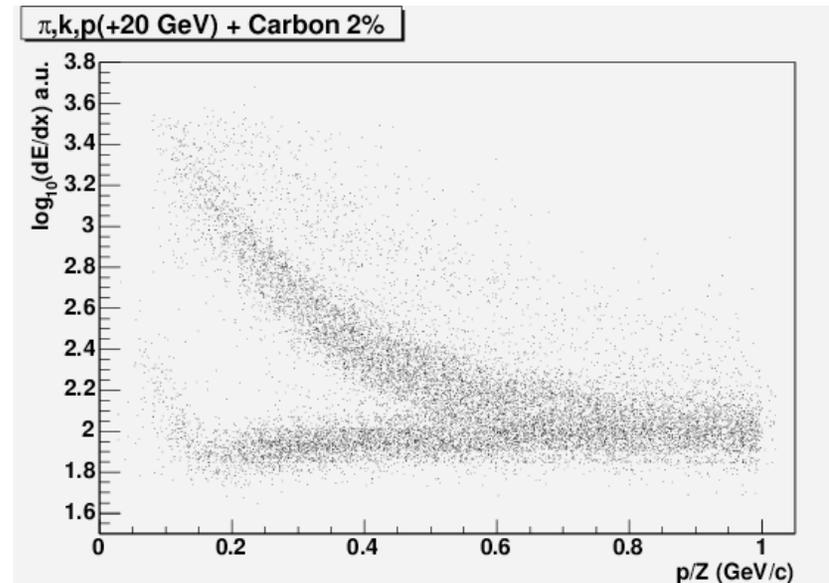
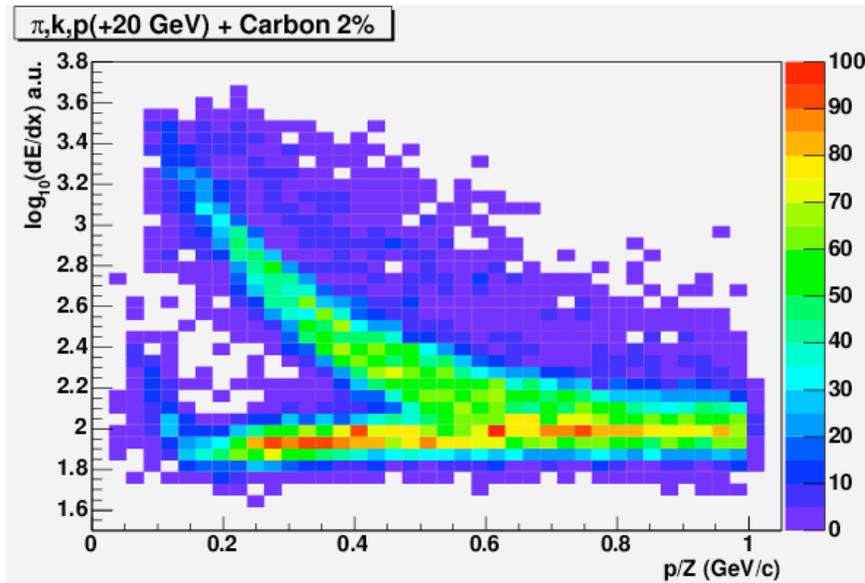
Require a vertex within $|x| < 10\text{cm}$, $|y| < 10\text{cm}$, $-90\text{cm} < z < -60\text{cm}$

Tracks associated to vertex with at least 30 hits

(these are fairly tight, so statistics are not stellar, but the trends are clear and it represents our current best results from physics interactions)



dE/dx PR Plots



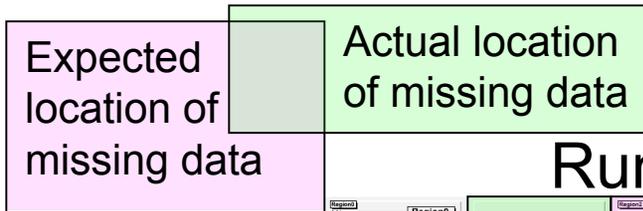
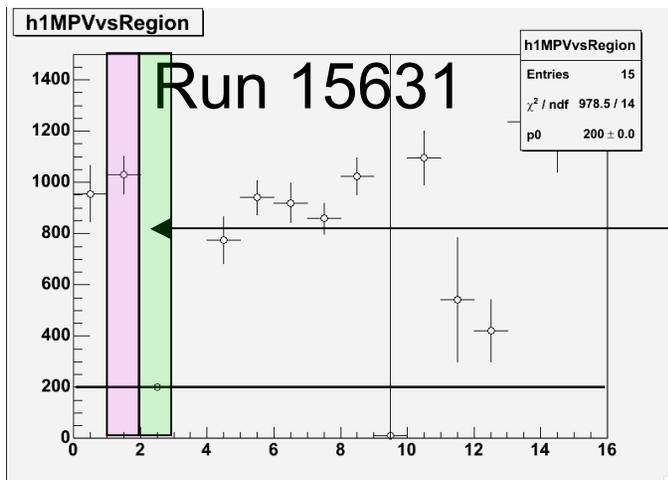
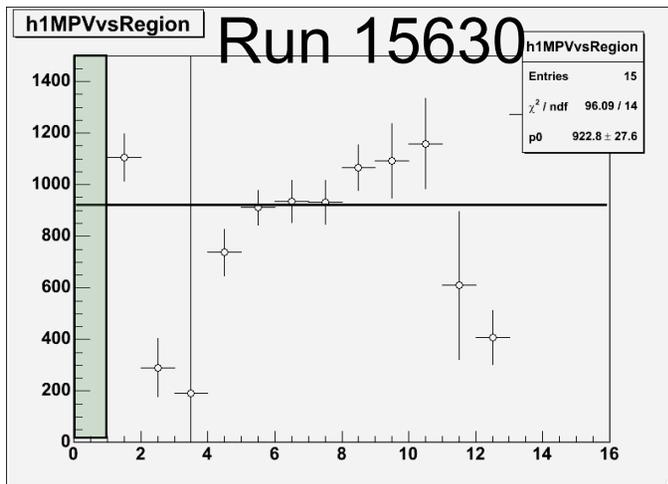
Anode Voltage Studies

Found a mismatch between SlowControl Anode Number and location in TPC:

Run 15630: Turn off Anode M1C12-0

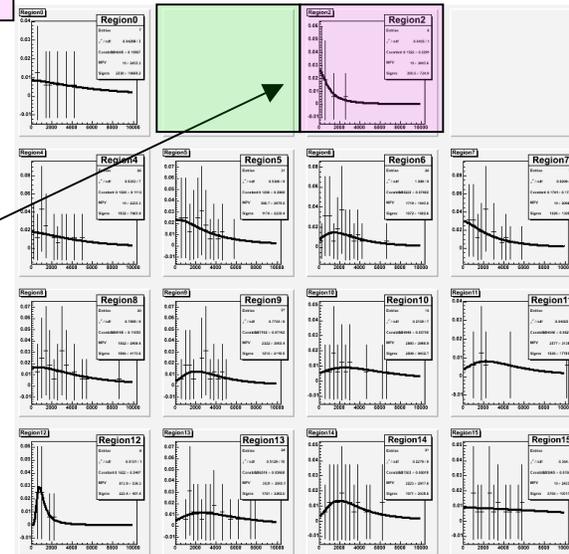
Run 15631: Turn off Anode M1C12-1

Run 15633: Turn off Anode M1C12-2



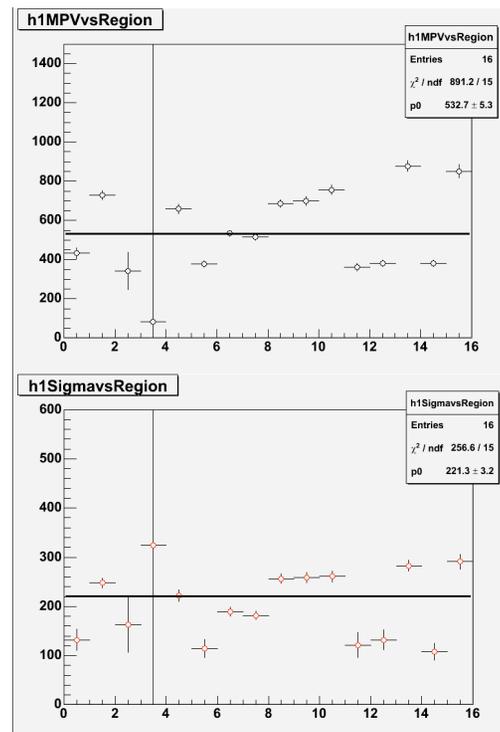
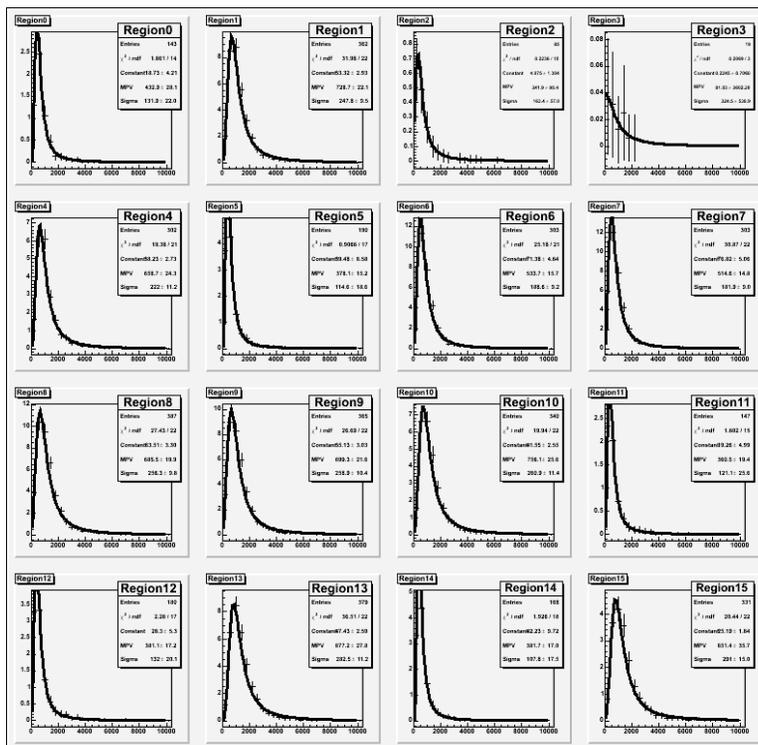
Run 15633

Two anodes switched



Plan for AVV Calibration

- Module which does the Landau fits for beam tracks on a run-by-run basis, stores gain constants to DB, applies correction before next pass...



Question:
Use sigma of
Landau for
uncertainty on
correction?



dEdx Resolution

Investigating resolution and effects of gain calibrations...

Work in progress...

