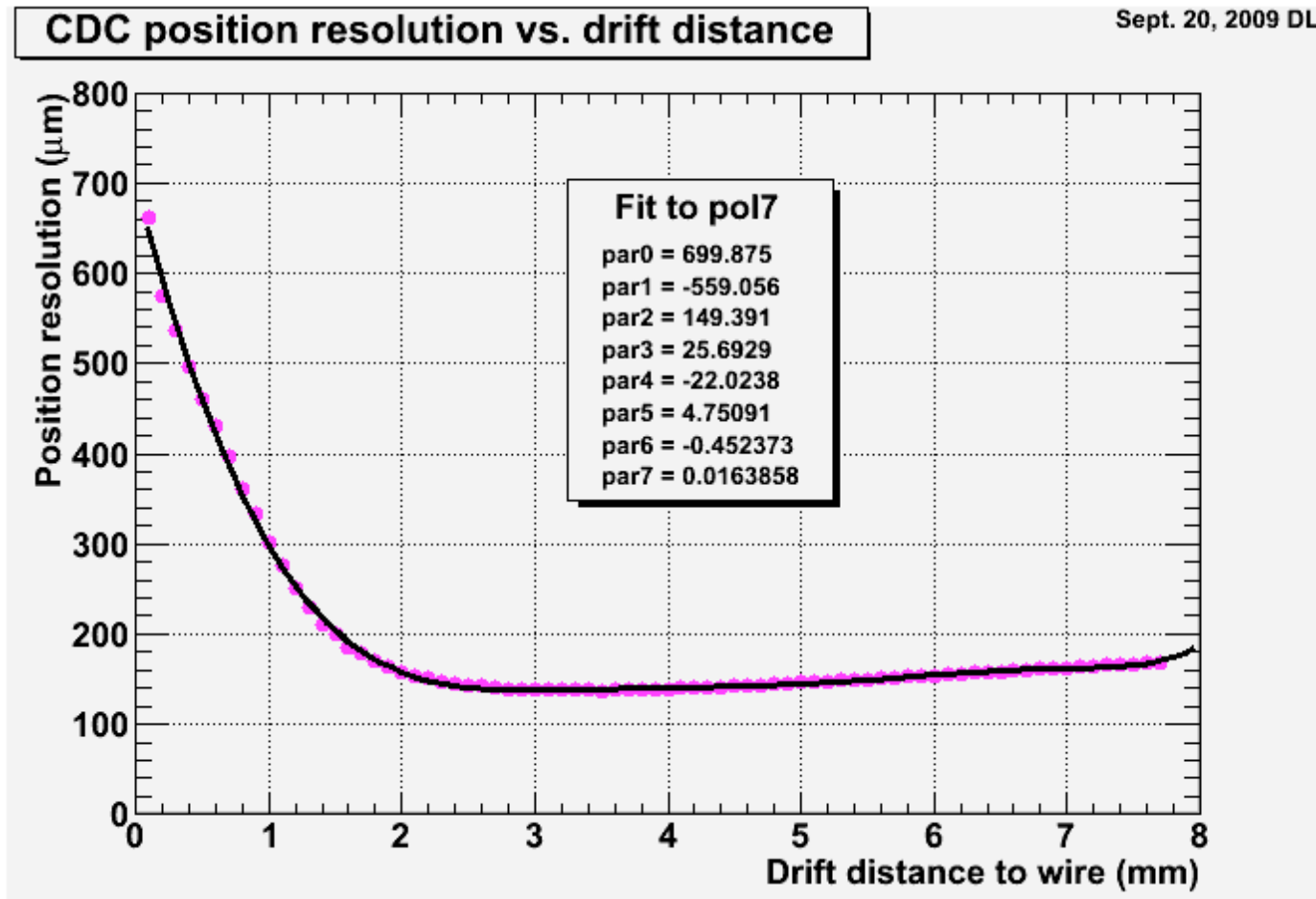# Brief Tracking Update

Sept. 21, 2009

David Lawrence
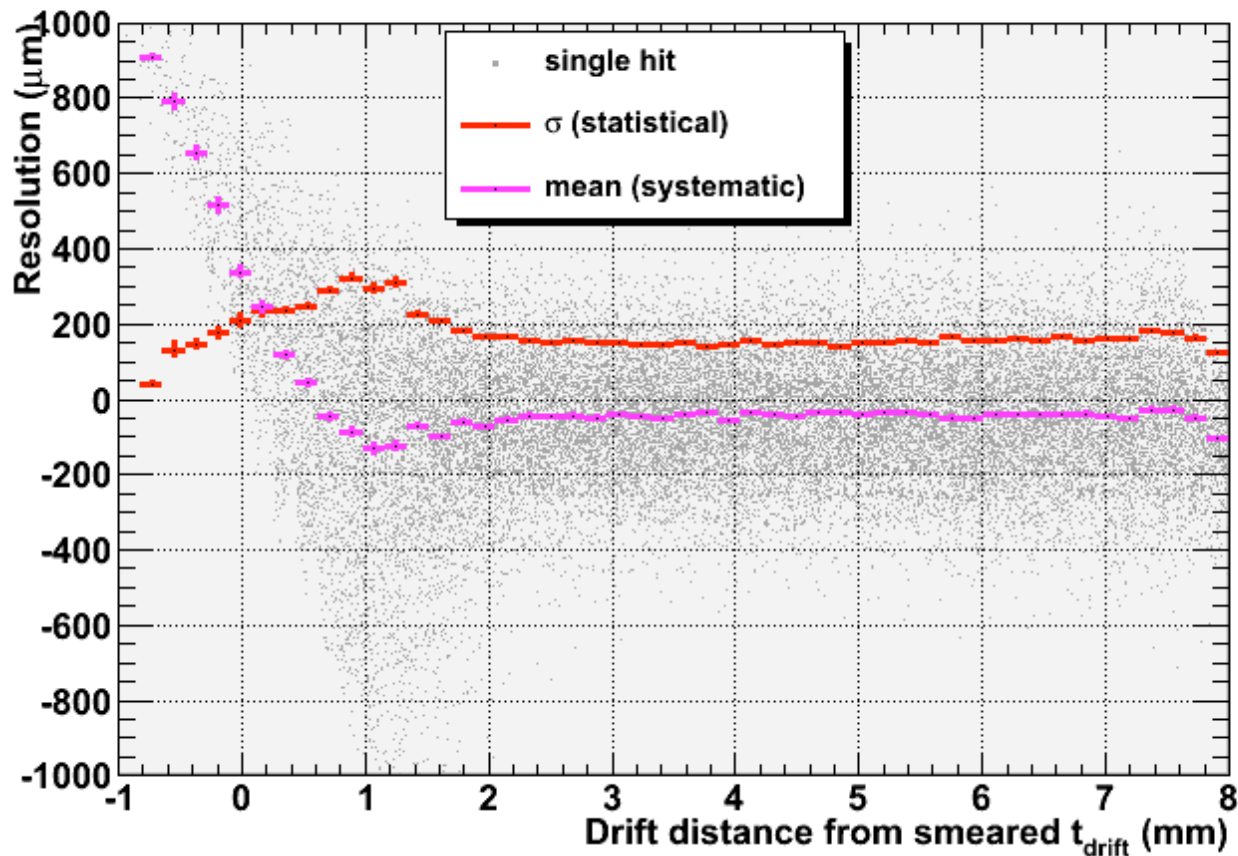
Fit Yves' resolution function to 7th order polynomial

CDC position resolution vs. drift distance   Sept. 20, 2009 DL

Fit to pol7

par0 = 699.875
par1 = -559.056
par2 = 149.391
par3 = 25.6929
par4 = -22.0238
par5 = 4.75091
par6 = -0.452373
par7 = 0.0163858

Apply drift distance dependent resolution to hits in *mcsmear*

Previously, no dependence on drift distance
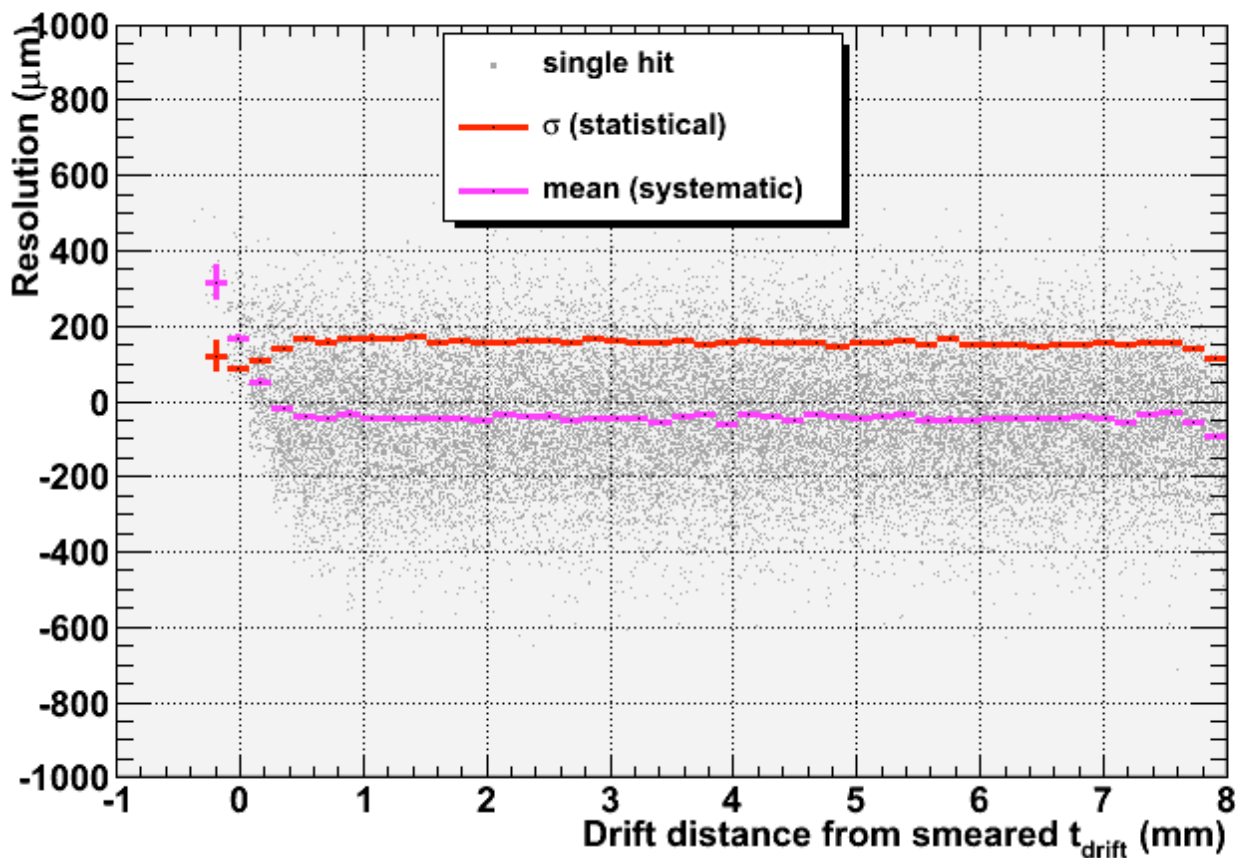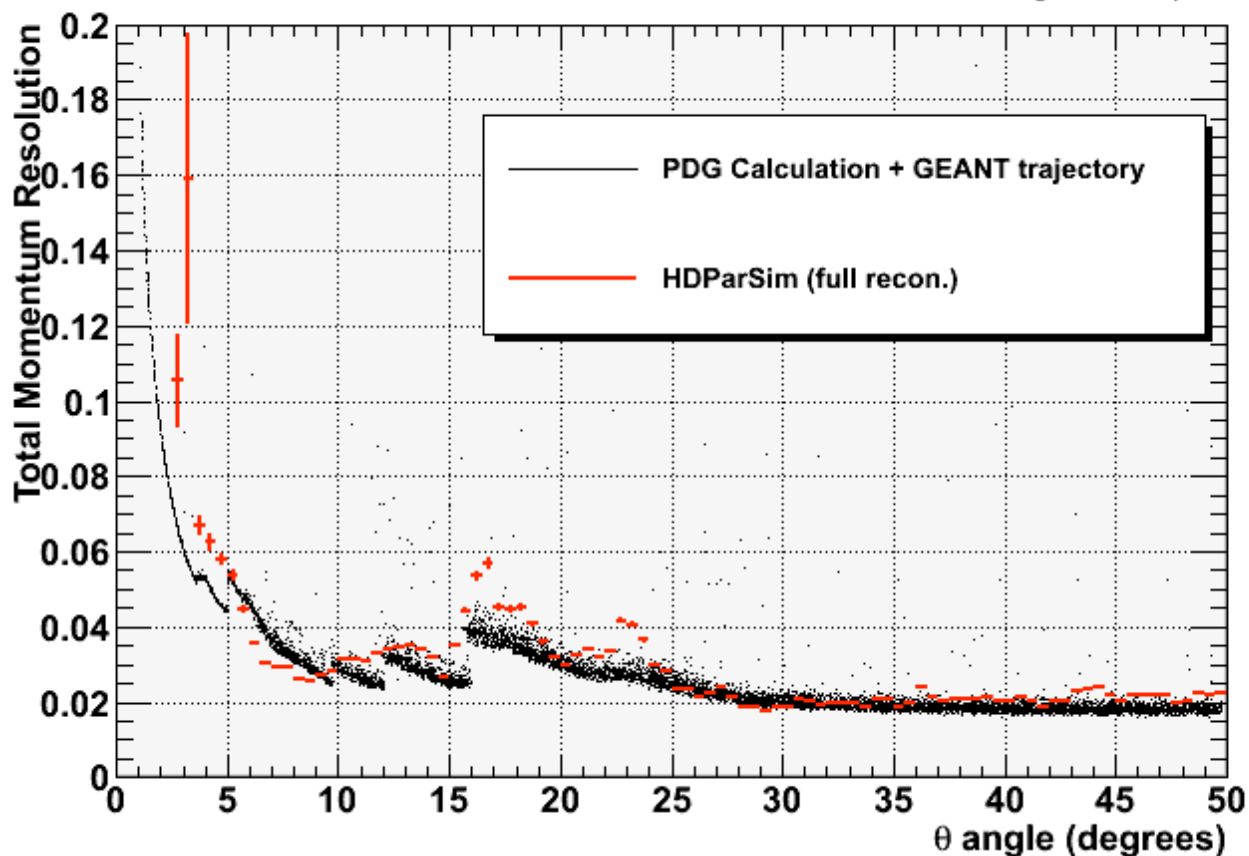
Reconstruction with new and old resolution functions
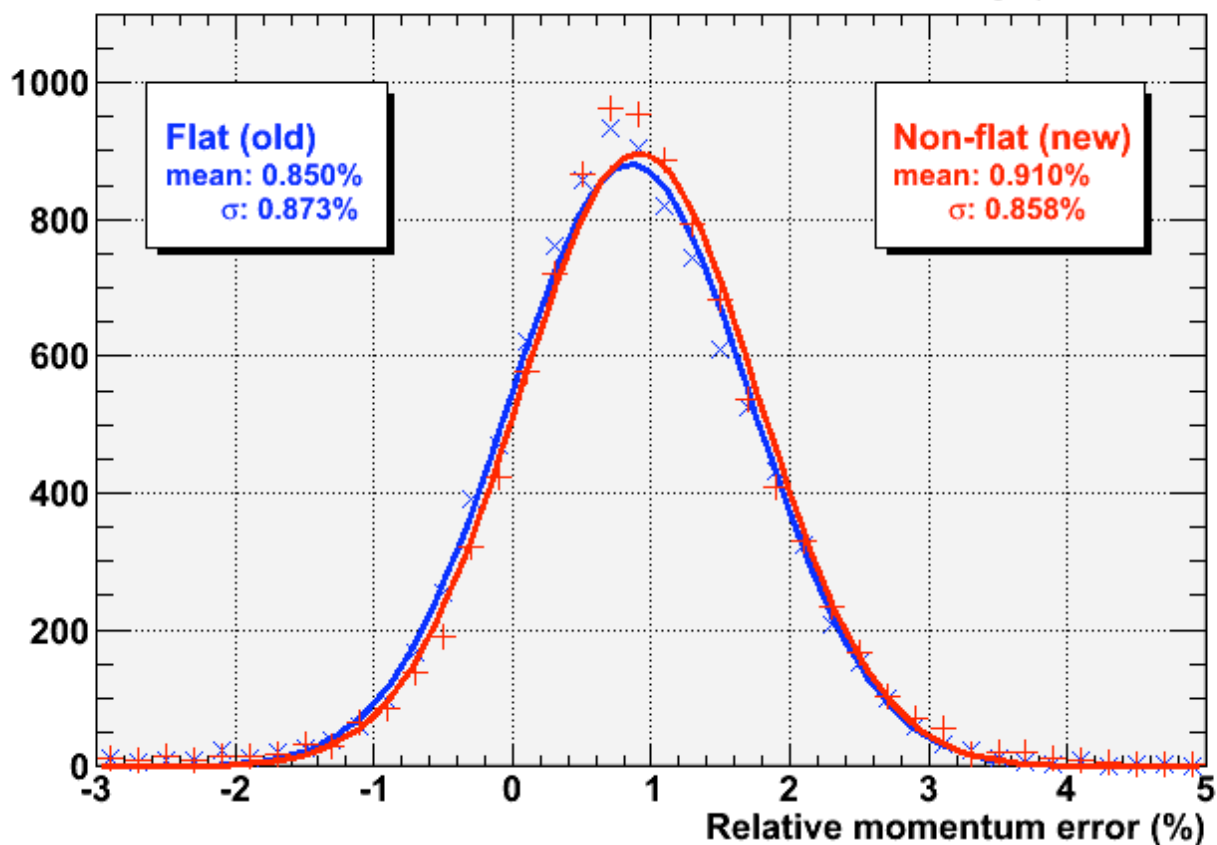
- Single proton events
- 800 MeV/c
- $\theta = 45^o$
- No background
- No ELOSS
- No MULS

Effect seems very minor here. Will be negligible with MULS turned on.

Reconstructed vs. calculated resolution for protons

Summary

- New resolution function based on Yve's calculation is now implemented and checked into repository
- Appears to have negligible effect on momentum resolution
- Momentum resolution from reconstructed protons is consistent with calculation
- Future…
  - Tracking down discrepancy found between plots in shifted-coil B-field study.