

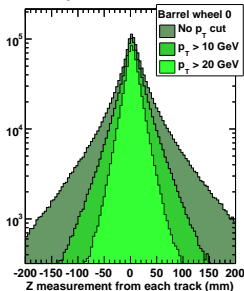
Tracker/muon relative z position measurement



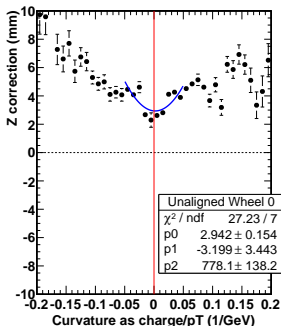
- ▶ Every global Muon track measures tracker/muon displacement, but low-momentum tracks are dominated by multiple scattering (tails)
 - ▶ want to take a mean of the highest-momentum tracks
 - ▶ plot alignment correction versus curvature (q/p_T)
 - ▶ Taylor expansion around point of infinite momentum ($q/p_T = 0$)
 - ▶ quadratic fit: p_0 is misalignment (independent of tracks), p_1 is \vec{B} error (antisymmetric with q), p_2 is multiple scattering (symmetric with q)
- ▶ Moved tracker to $z = -3.8$ mm in GlobalPositionRcd (from two iterations):

[/afs/cern.ch/cms/CAF/CMSALCA/ALCA_MUONALIGN/SWalignment/CRAFTwheeldisk/CRAFT.GlobalPositionRcd.db](https://afs.cern.ch/cms/CAF/CMSALCA/ALCA_MUONALIGN/SWalignment/CRAFTwheeldisk/CRAFT.GlobalPositionRcd.db)

Histogram of track-by-track z residuals



Profile of iteration 0



Profile of iteration 2

