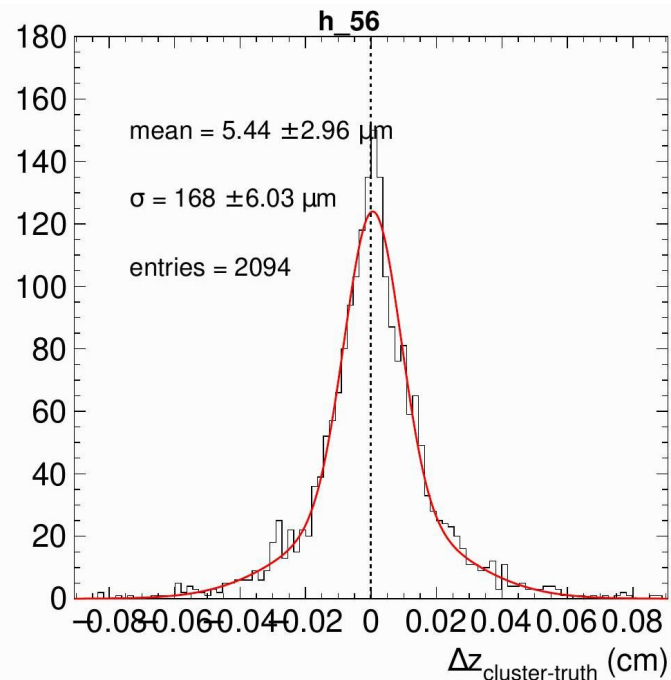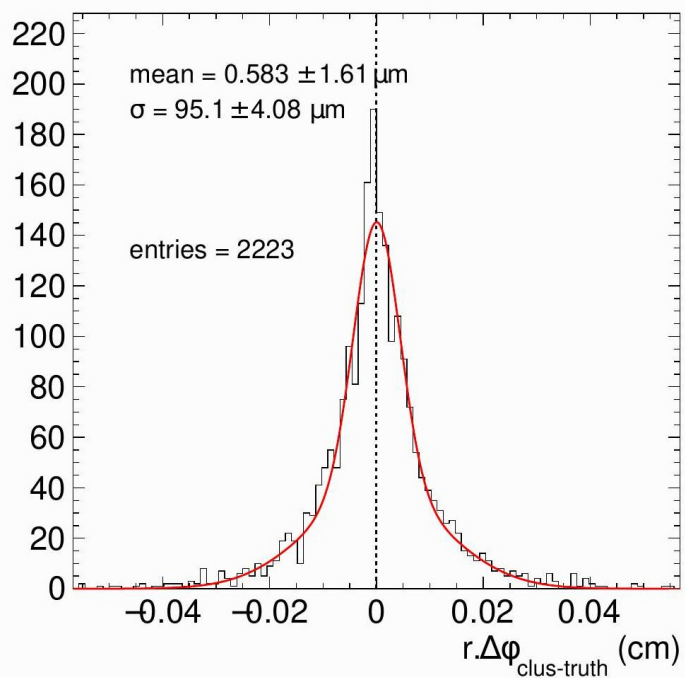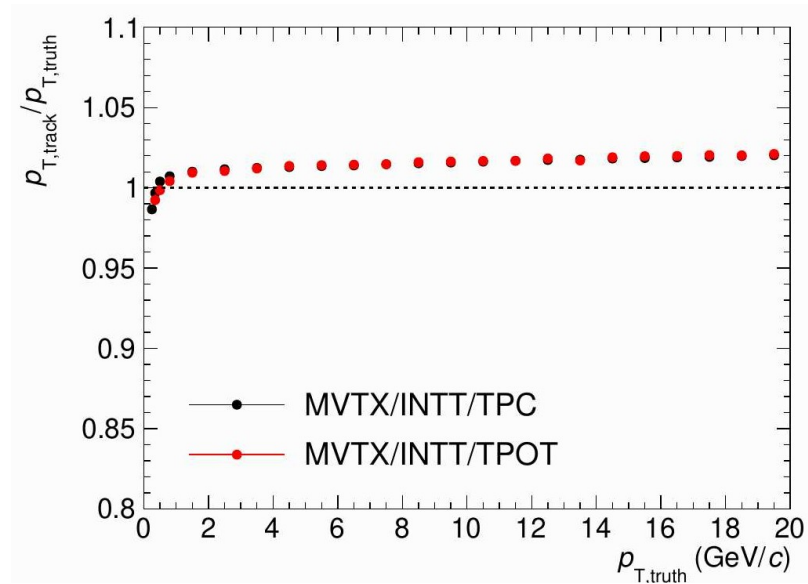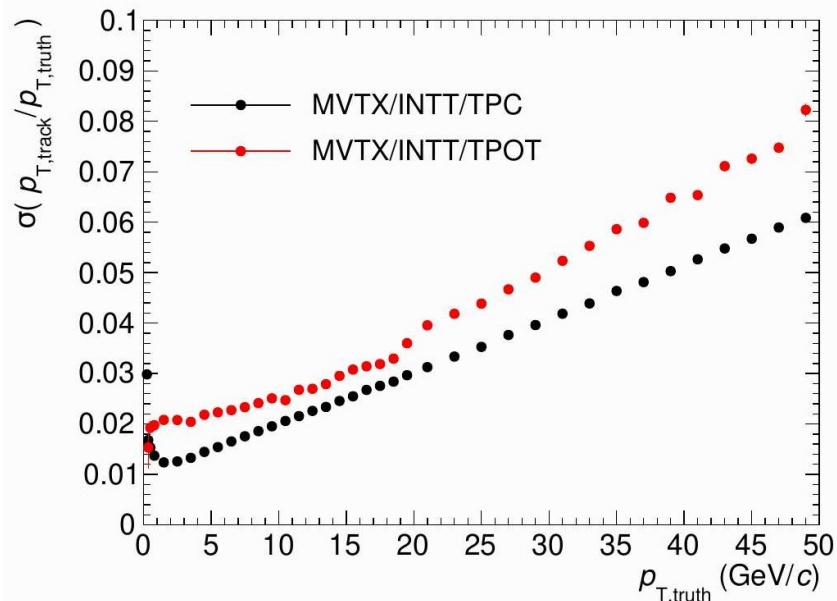# Momentum Resolution with TPOT

Hugo Pereira Da Costa (LANL),
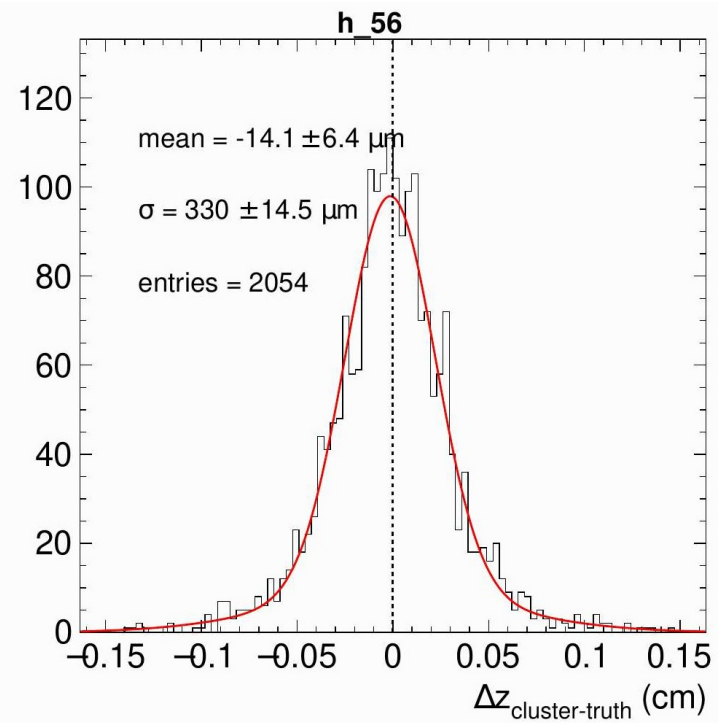October 7, 2022

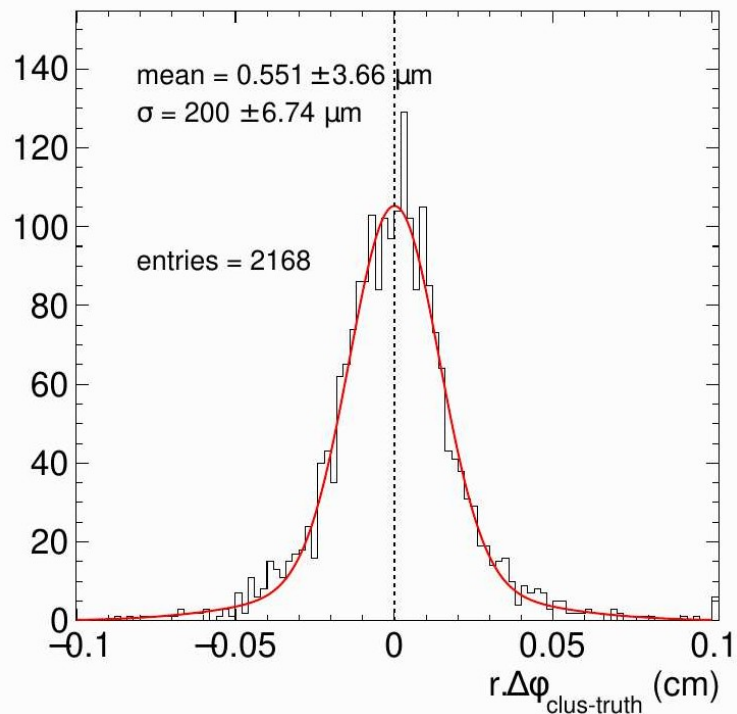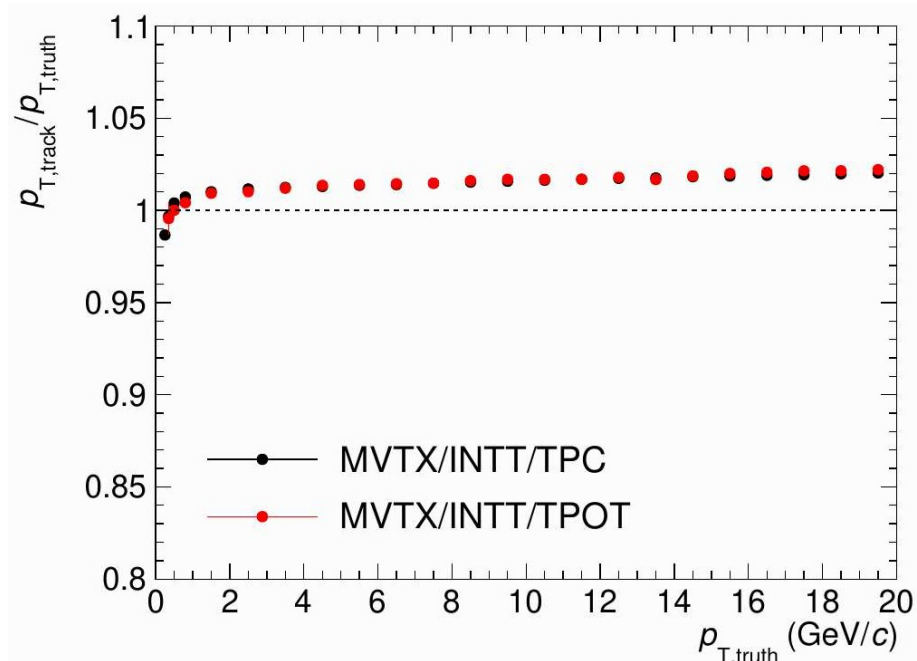# Residuals (clusters - truth) in TPOT
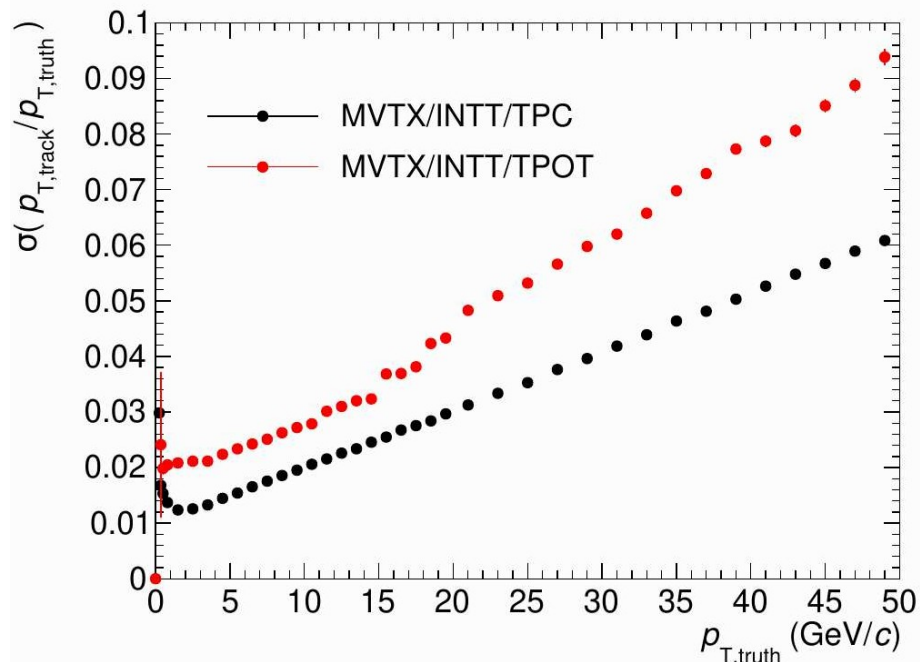
Momentum resolution

This is with over optimistic TPOT spacial resolution (100um in phi and 170um in z)
For some reason the resolution I get with INTT MVTX and TPC are slightly worse than those of the QA
Ignoring the TPC and using only INTT, MVTC and TPOT to get the momentum, in TPOT acceptance, results in a momentum resolution deterioration of ~40%
Momentum scale is unchanged

Smeared residuals in TPOT

Adding smear factors in MicromegasHitReco to have more realistic spatial resolution

Momentum resolution (cont.)

This is with realistic TPOT spacial resolution (200um in phi and 320um in z)
Ignoring the TPC and using only INTT, MVTC and TPOT to get the momentum, in TPOT
acceptance, results in a momentum resolution deterioration of ~65%
Momentum scale is unchanged