



Update on PHG4KalmanPatRec

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Current status and next

- Force use truth vertex
 - try to use some BBC resolution Need testing
- Seeding using Alan's Hough: helix param. and a pack of clusters
 - layers choice
 - min nlayer cut
 - seed merging} Implemented
Needs fine tuning
- Initial Kalman Fitting: assign Kalman status to all clusters

- Track propagation
 - current: consecutively inside-out
 - next: optional inside-out or outside-in, do it twice?
- Implementing

- Full fitting
 - Fatal exception handling Needs to dig out exception location,
shouldn't be too hard

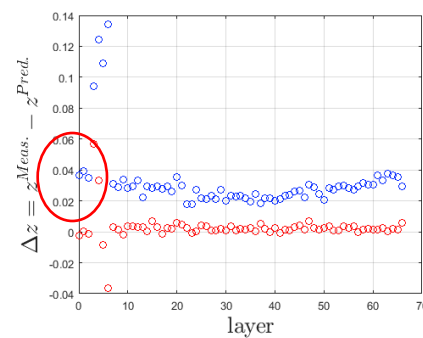
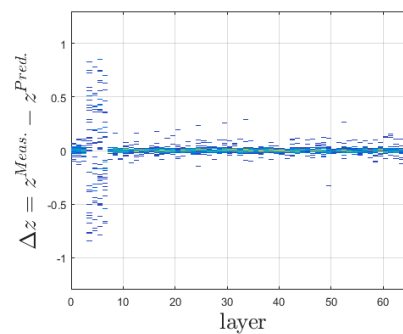
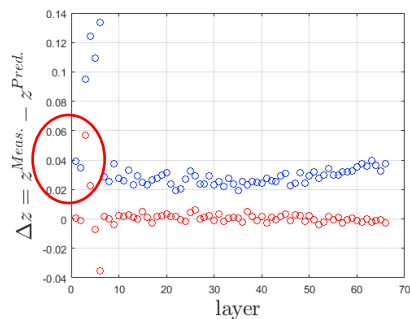
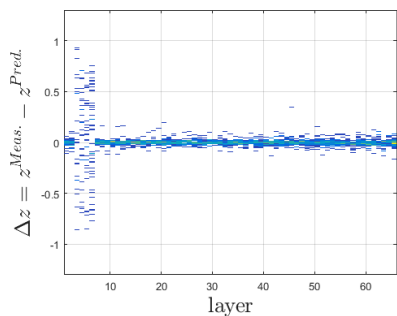
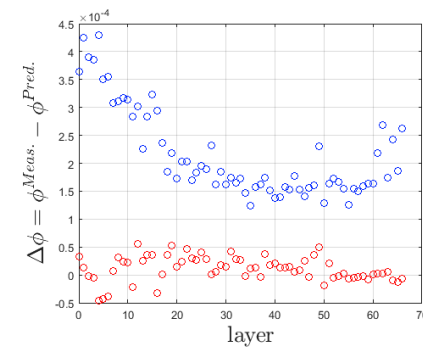
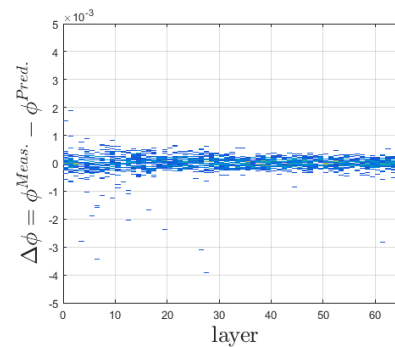
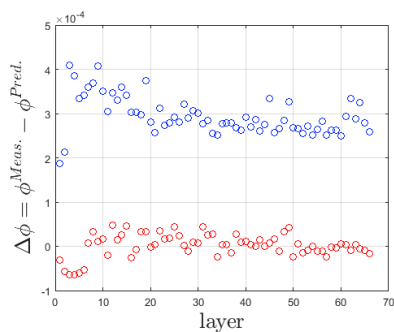
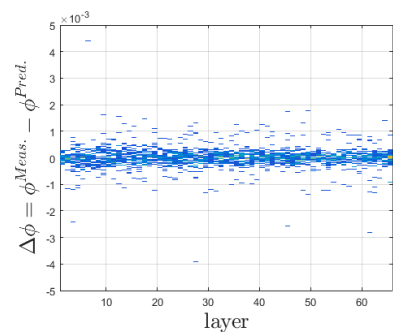
- Track propagation from/to arbitrary layer
 - from 1st cluster out and then in
 - from last cluster in and then out
- Exception handling
 - PHGenFit
 - PHG4TrackKalmanFitter
 - PHG4KalmanPatRec
- https://github.com/HaiwangYu/coresoftware/tree/KalmanPatRec_2017_05_19
- https://github.com/HaiwangYu/macros/tree/KalmanPatRec_2017_05_19

z pointing resolution not so good in both cases

Do a full fitting before exiting TPC to the silicons?

inside out

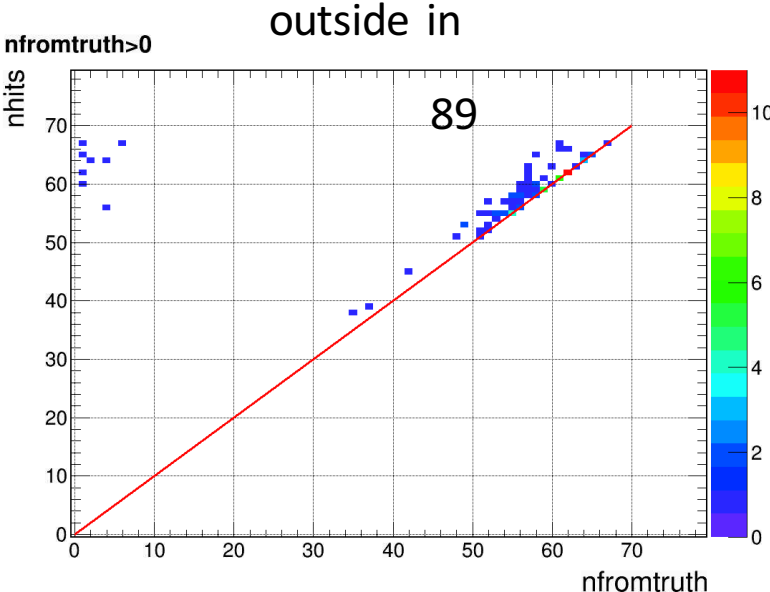
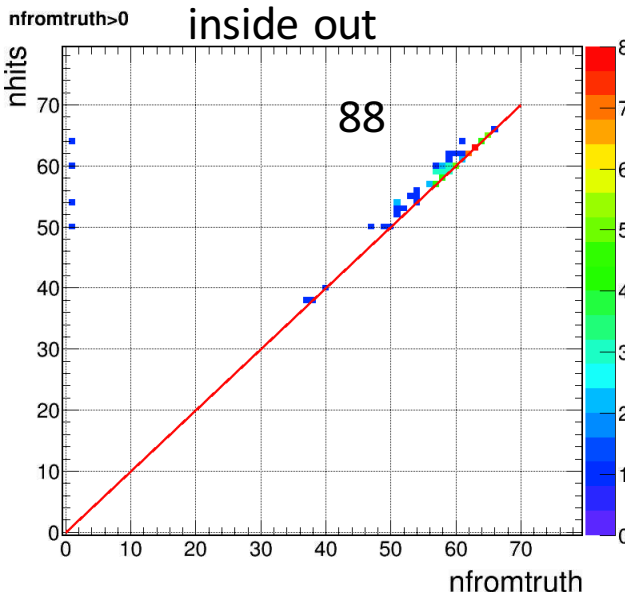
outside in



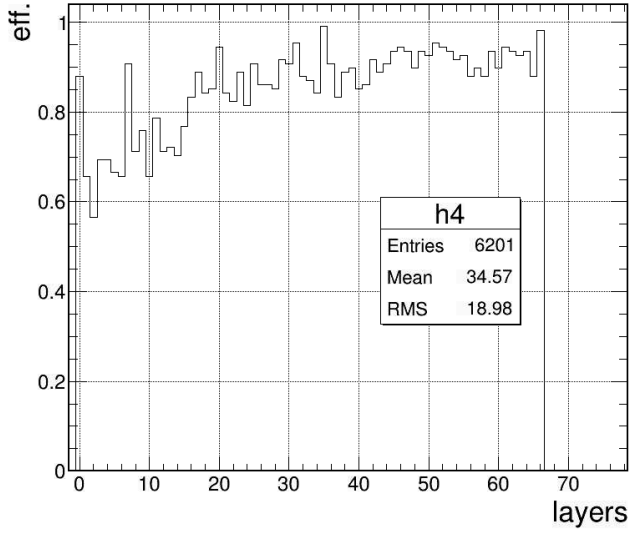
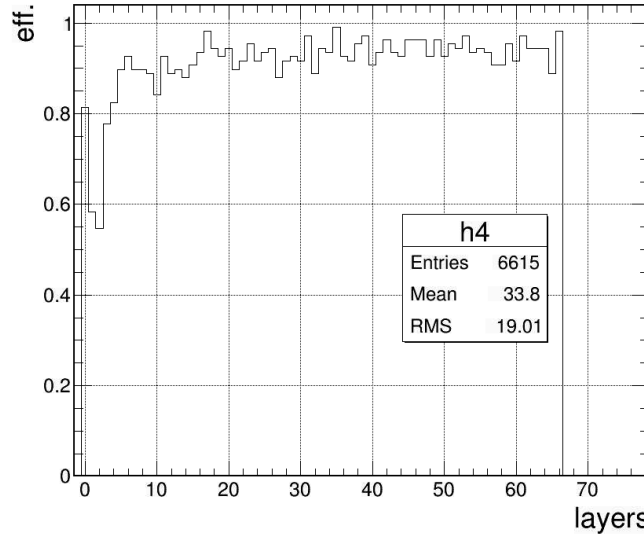
Hijing test, 0.5 - 30GeV, 100pions embedded

Seeding: MAPS+5TPC

Truth eff.

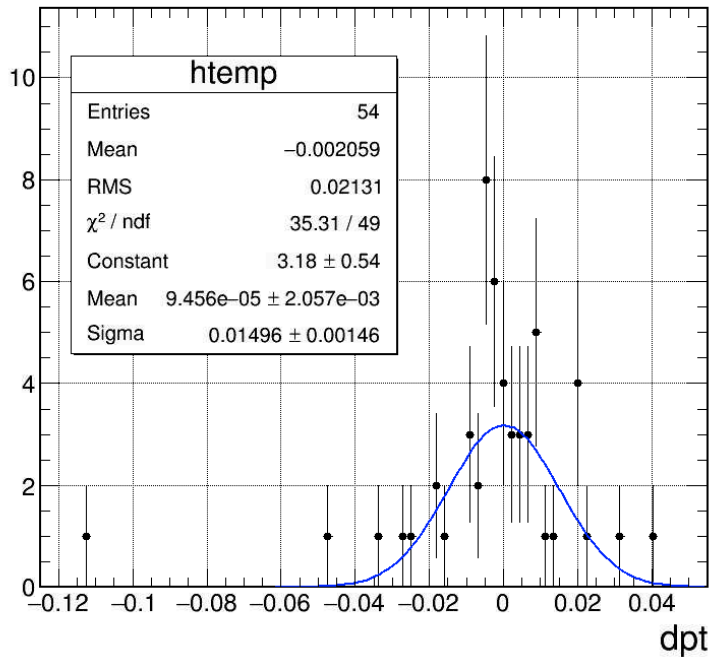


cluster assoc. eff.



This is very important for both DCA and momentum

dpt {abs(dca2d)<0.05&&abs(pcaz)<0.05}



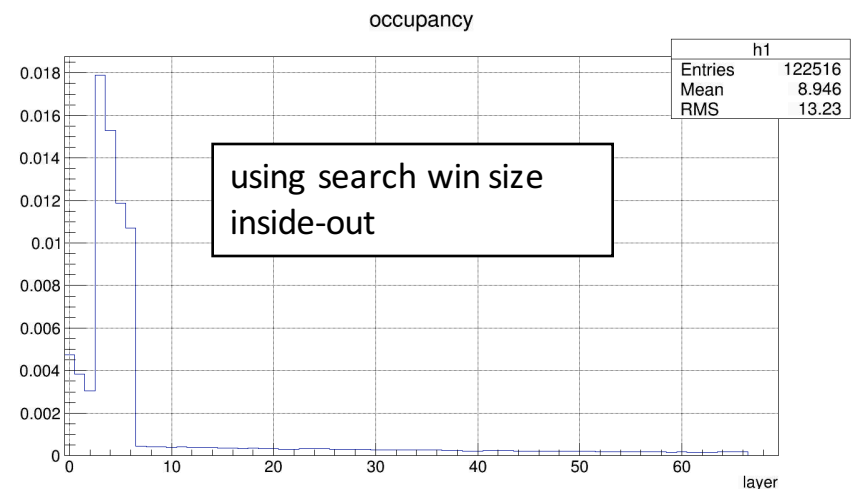
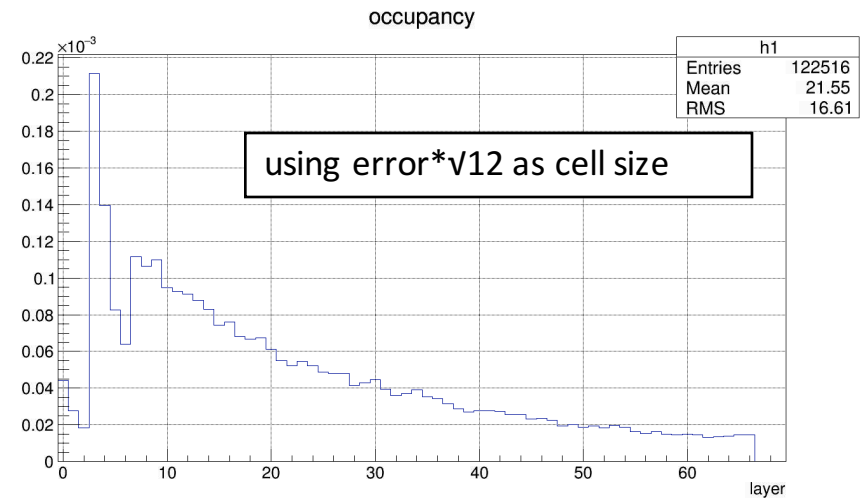
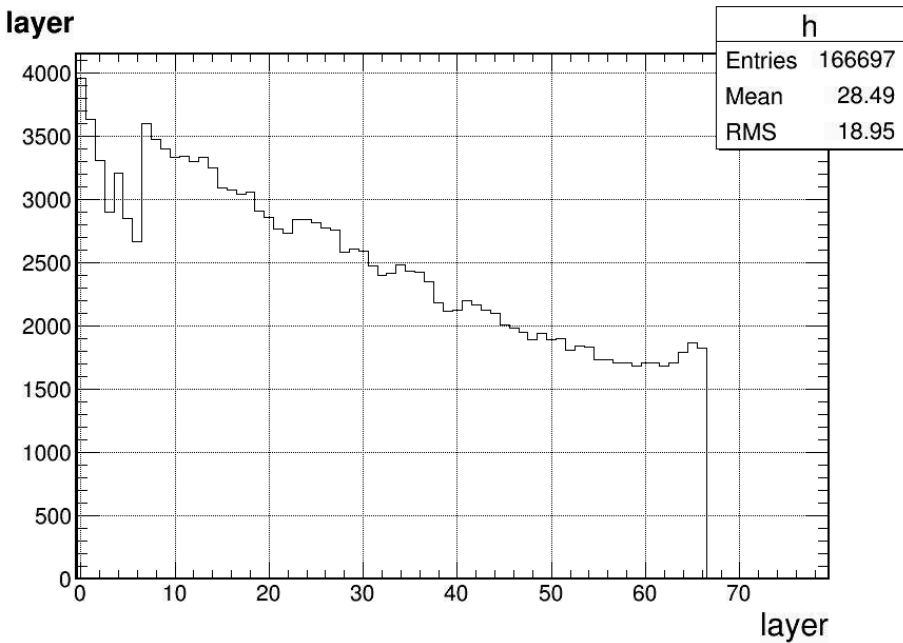
- Will try to do a full fitting before extrapolating to silicon
- Compare with silicon+1TPC seeding

Backups

Occupancy

eta = 1: z/r = 1.12
eta = 0.5: z/r = 0.52

clusters: central Hijing
ladder silicon + cylindrical TPC



pT and eta for central Hijing

