



SiCalo Tracking meeting



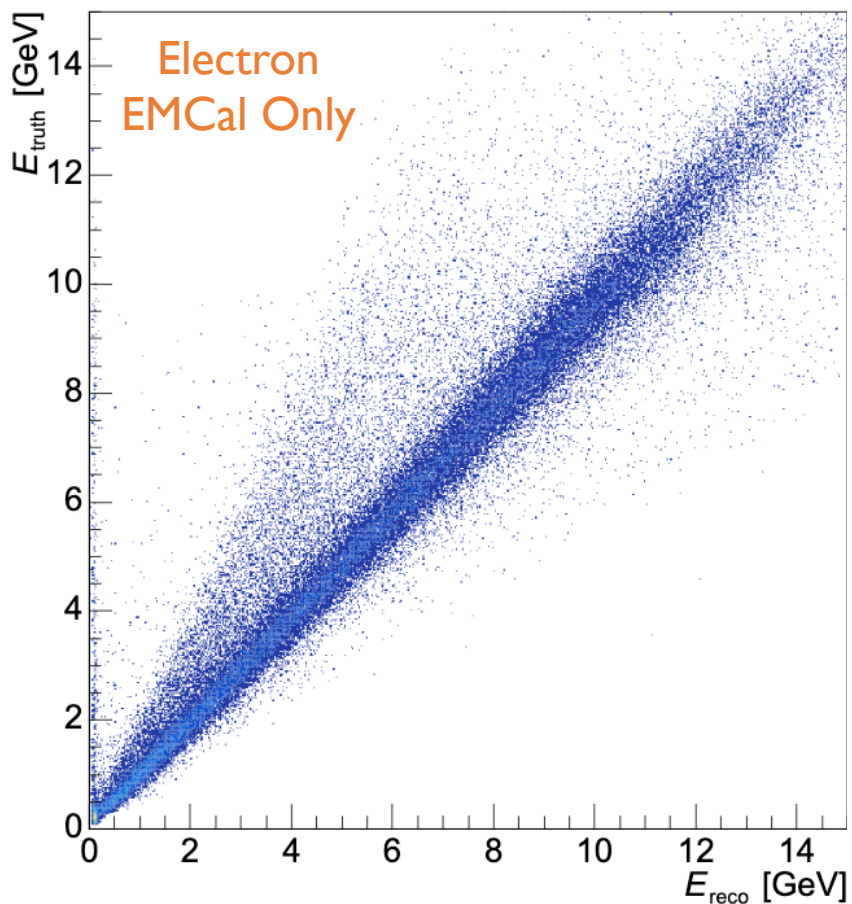
Jaein Hwang (Korea Univ.)

Mar. 27 2025

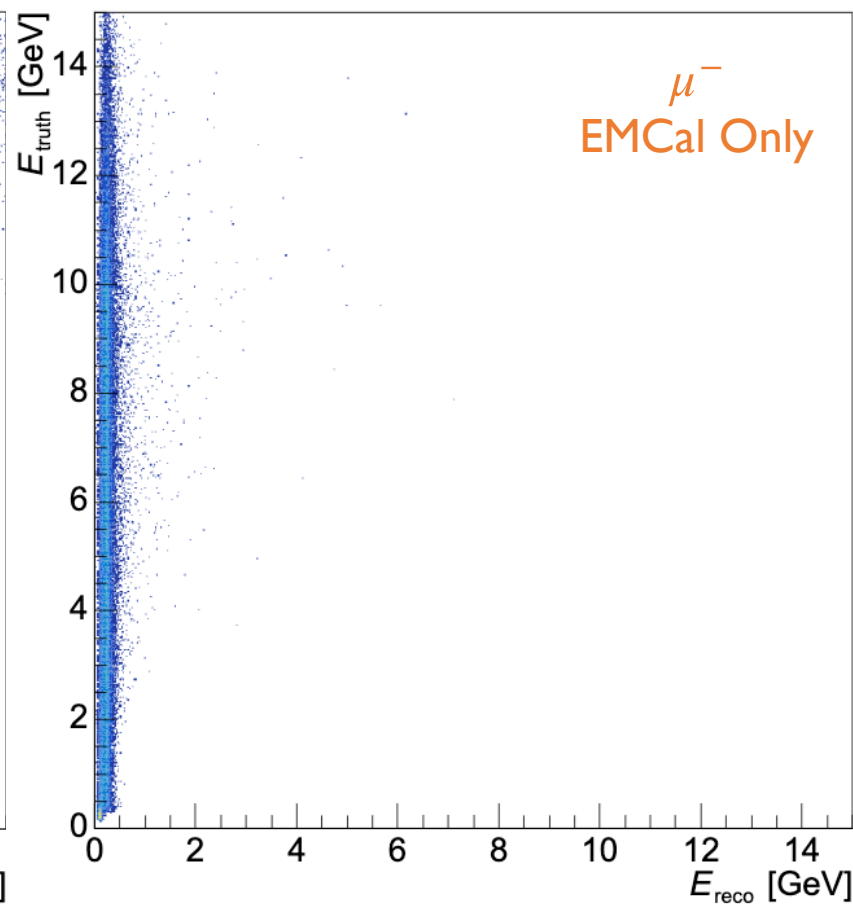
- 0) Problem on magnetic field has been addressed.(as discussed in last meeting, it was problem on Geant4 setup script)
- 1) Calo system deposit energy for e- and hadrons
- 2) Quick check with different geometry information for tracking
- 3) Truth pT vs delta phi

Clear MIP-like peak visible on pi- case

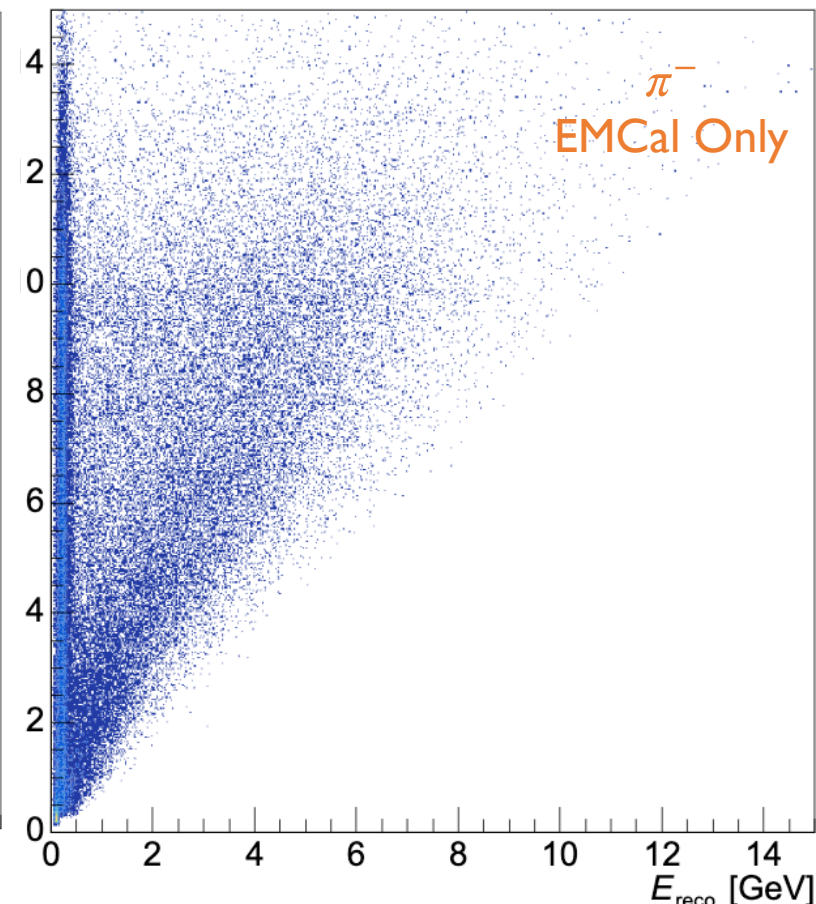
Reco Eemc vs Truth E



Reco Eemc vs Truth E

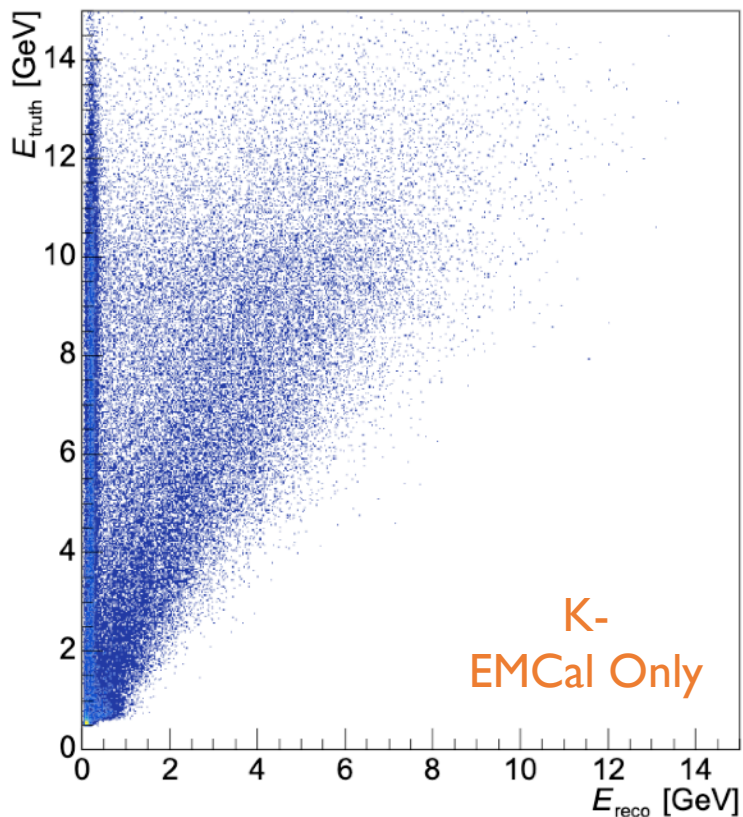


Reco Eemc vs Truth E

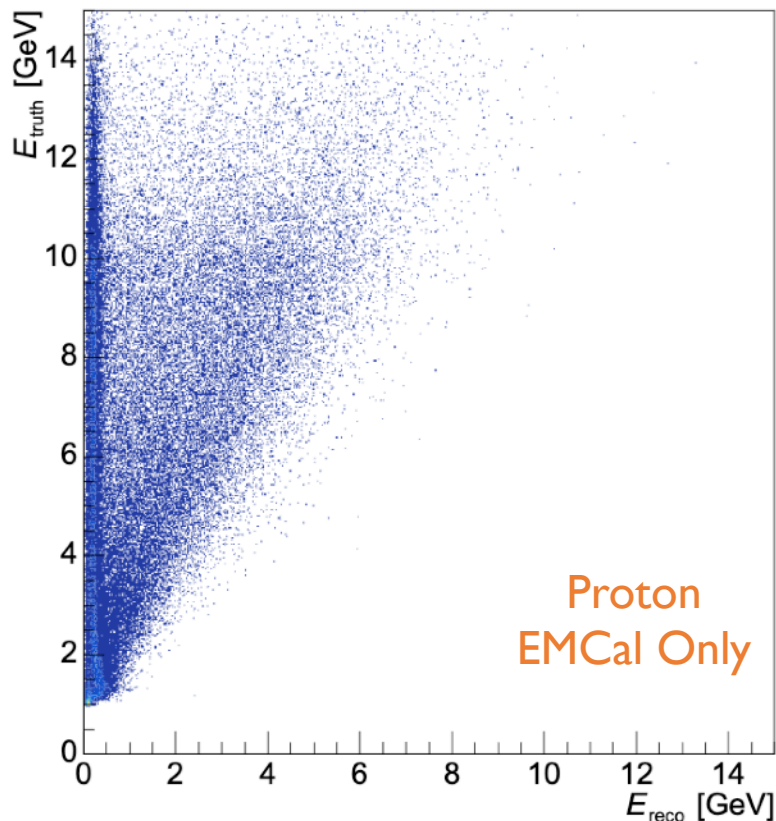


MIP curve also clearly visible on other hadrons

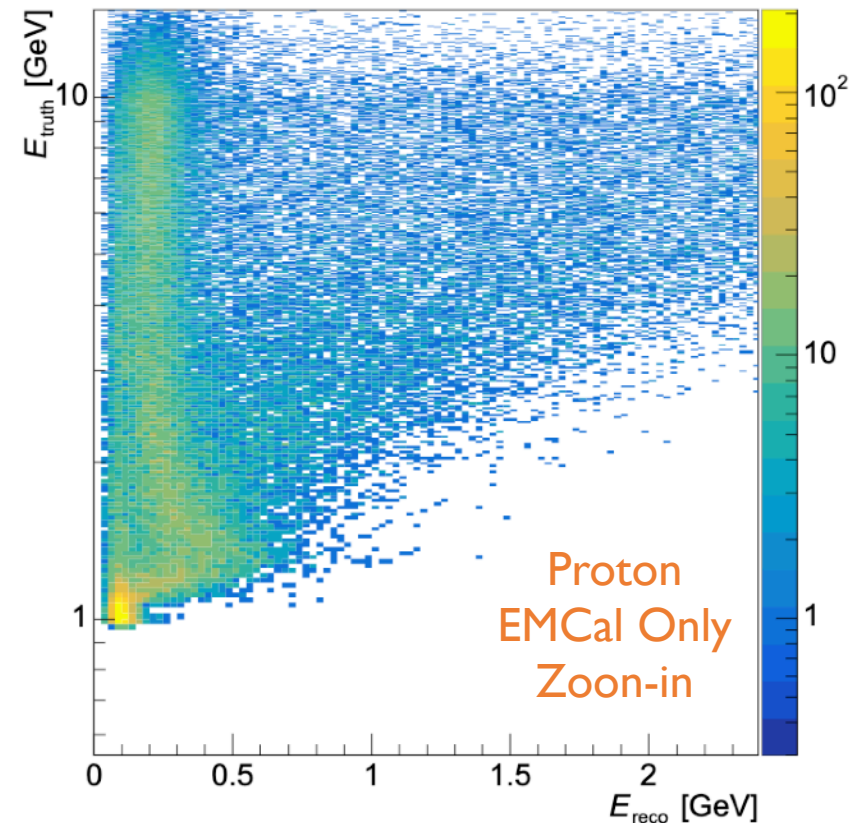
Reco Eemc vs Truth E



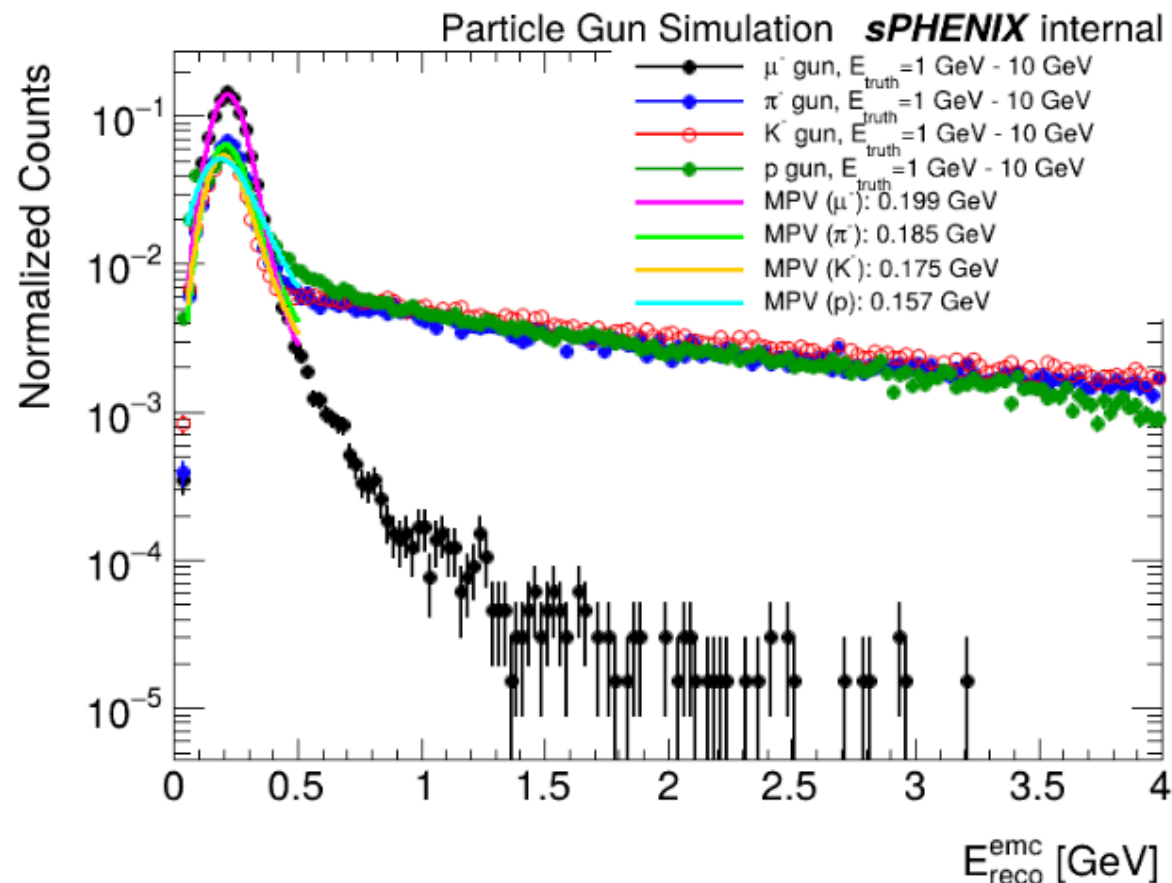
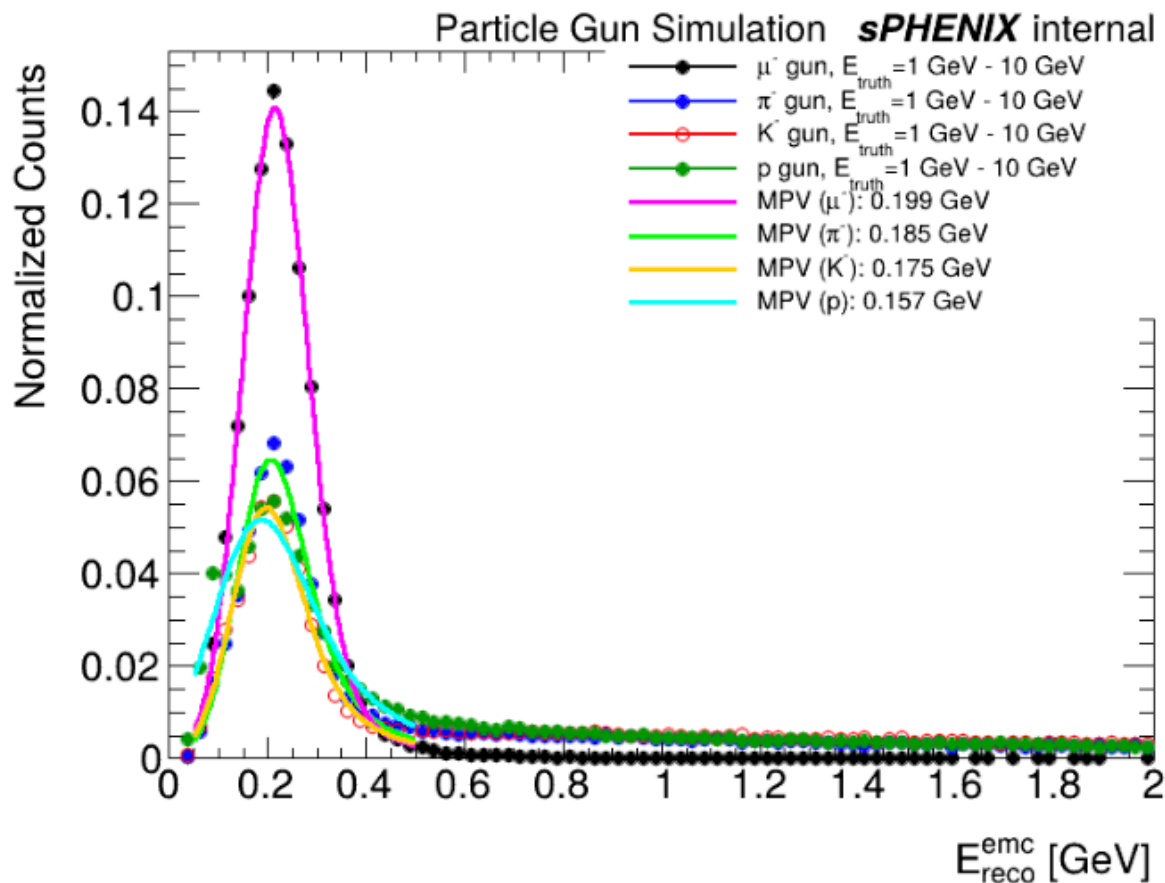
Reco Eemc vs Truth E

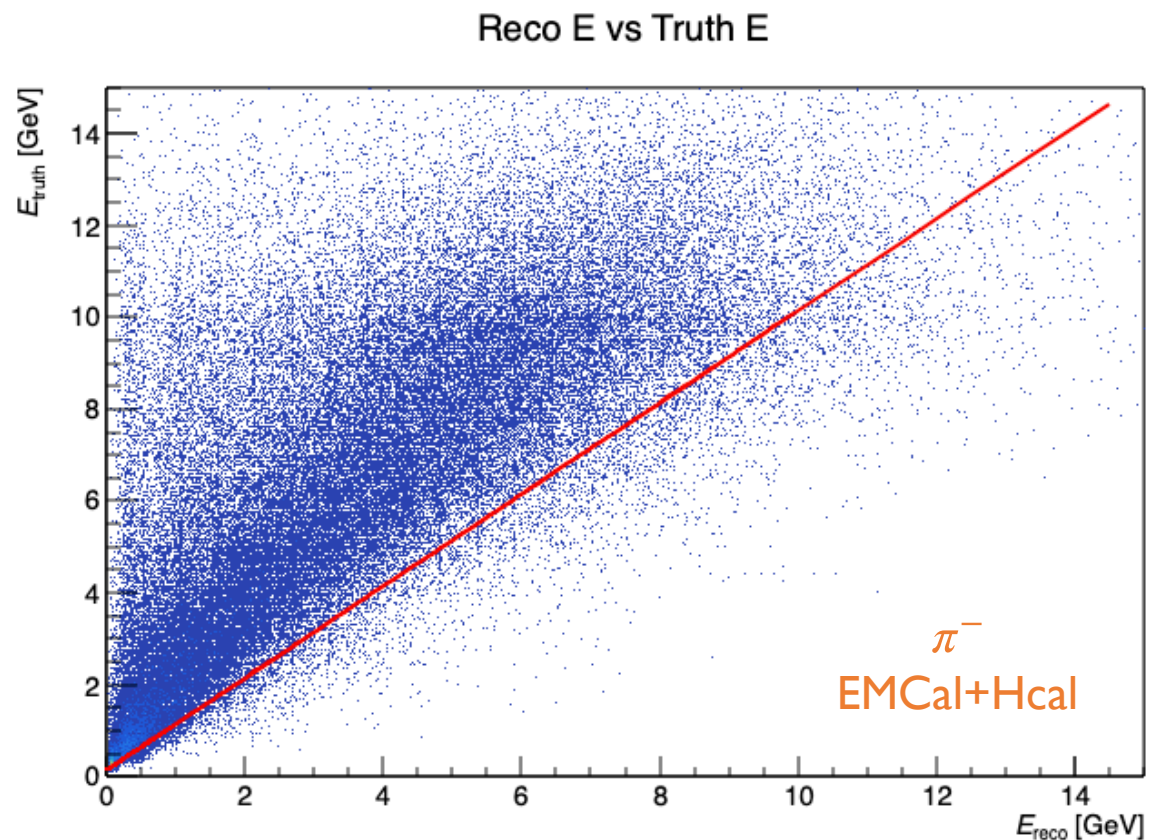


Reco Eemc vs Truth E



MIP curve also clearly visible on other hadrons $\sim 0.15\text{GeV} - 0.2\text{GeV}$

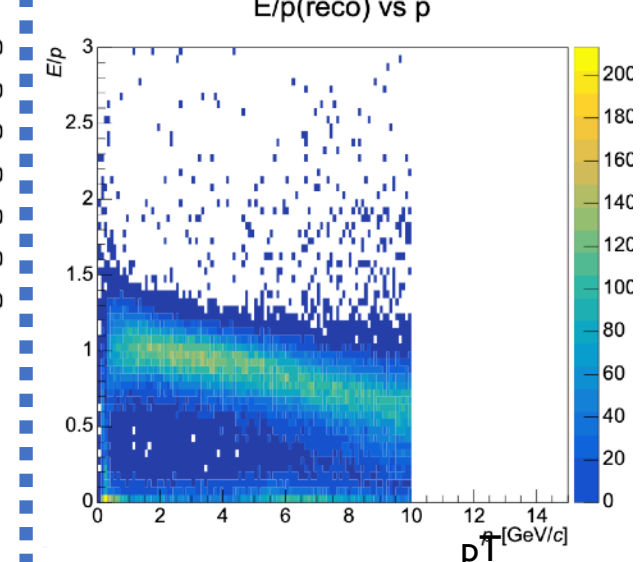
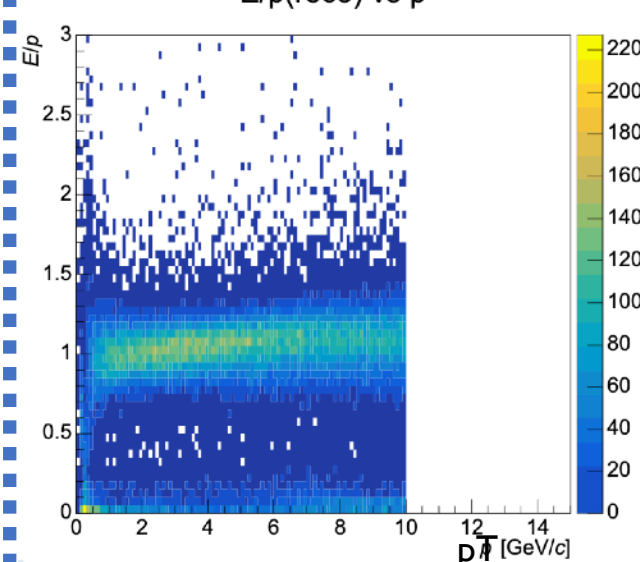
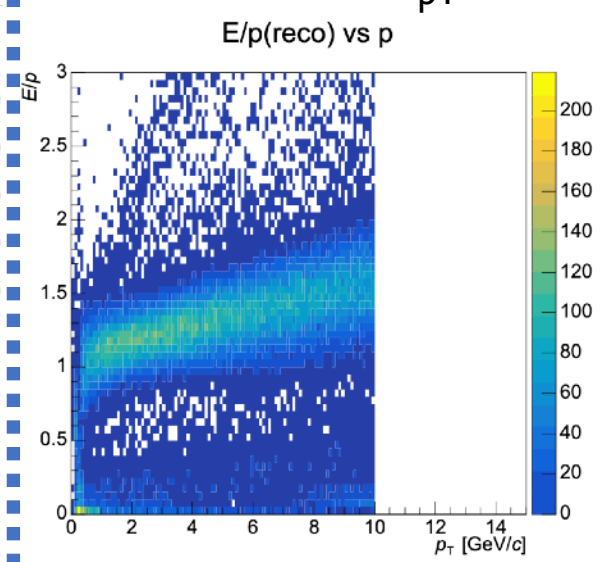
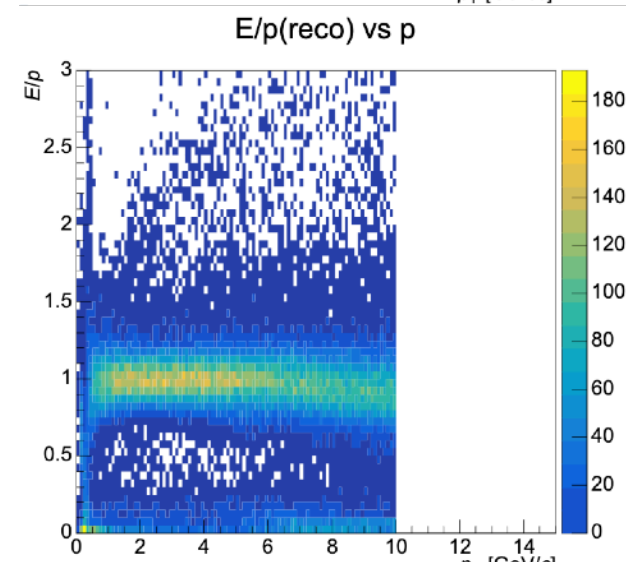
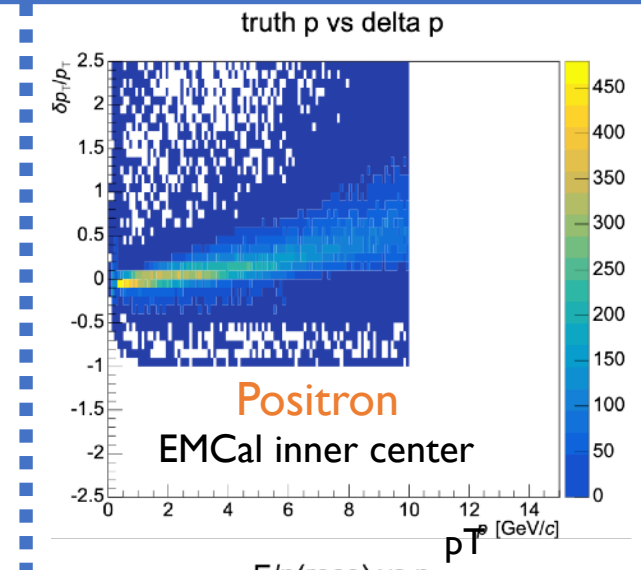
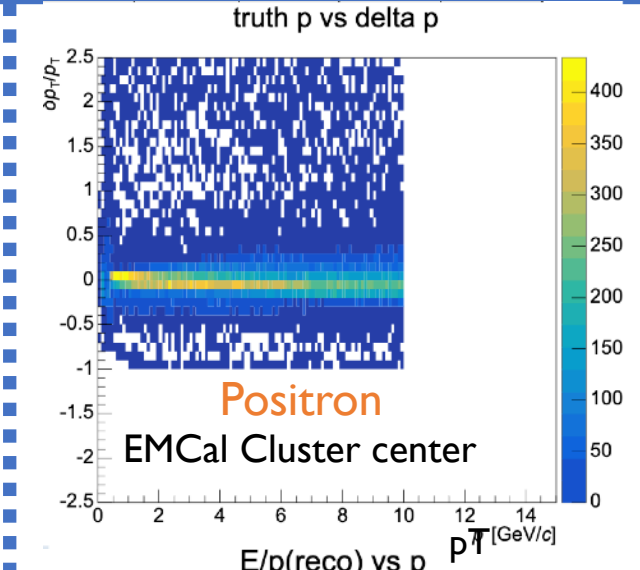
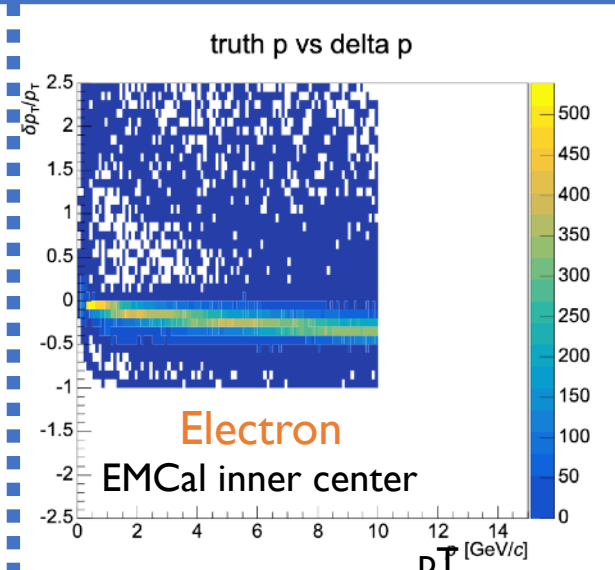
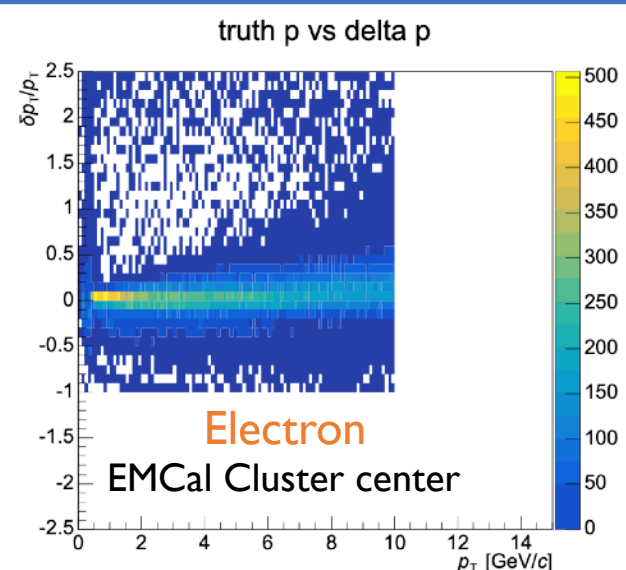




MIP-like peak disappearing once HCal added / But not closed to E_{truth}

Comparison between two different Geo setting

$$\text{Delta Pt} = (\text{recoPt} - \text{truthPt}) / \text{truthPt}$$



(topNode, "CLUSTER_POS_COR_CEMC");

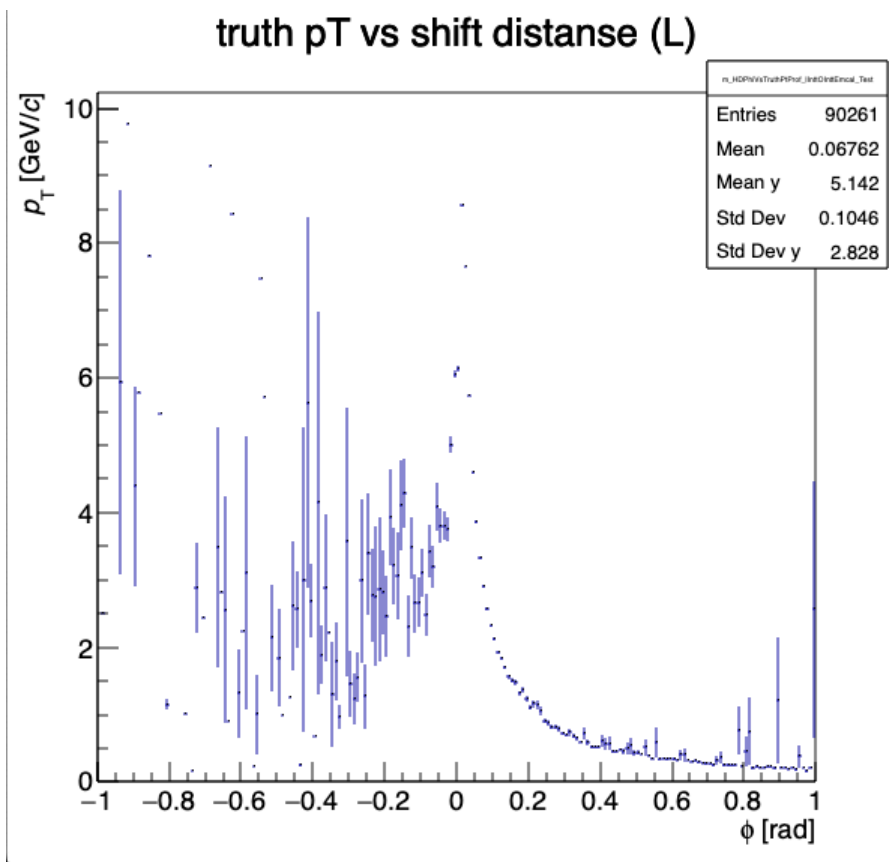
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(topNode, "CLUSTER_POS_COR_CEMC");

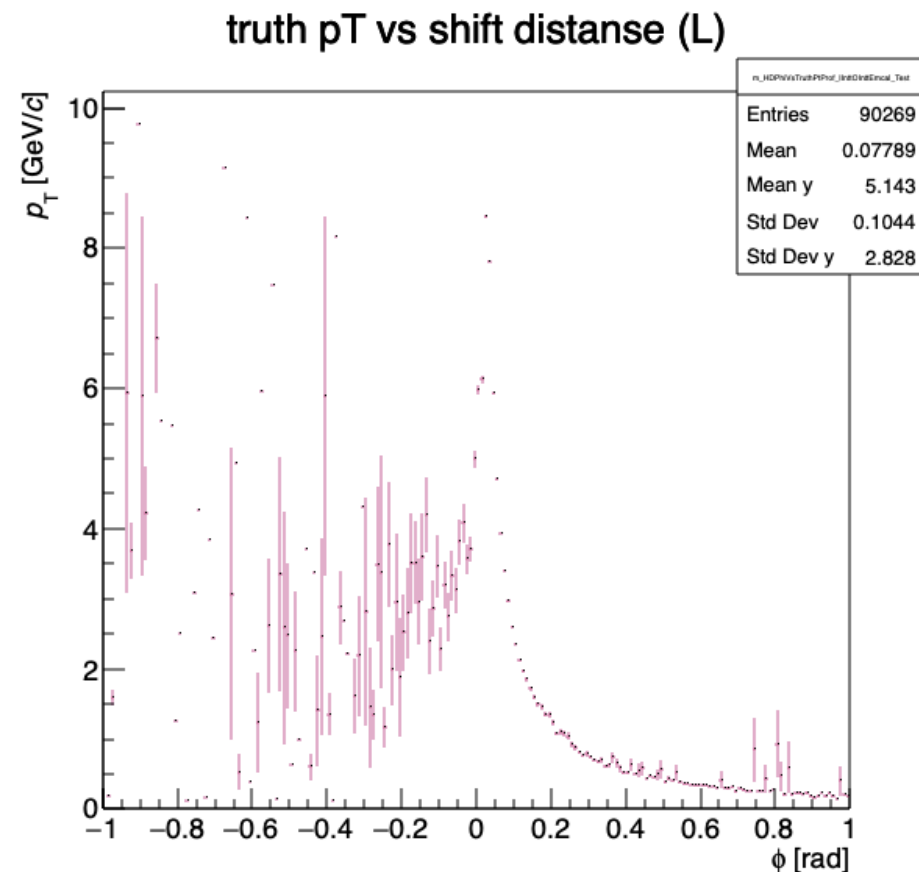
(topNode, "CLUSTERINNER_CEMC");

Truth p_T vs delta phi

$$\text{Double_t dPhiOInttEmcal} = \text{phiOInttEmcal} - \text{phiInttOIntt};$$



(topNode, "CLUSTER_POS_COR_CEMC");



(topNode, "CLUSTERINNER_CEMC");

Will try to reconstruct p_T from fitfunction $[0] + [1]/x + [2]/x^2 + [3]/x^3 \dots$