

Update tracking efficiencies with e2e2h samples

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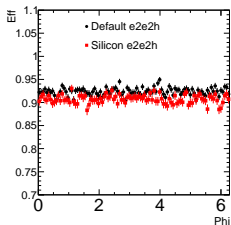
Silicon Tracker Study Meeting, Oct. 9, 2016

Introduction

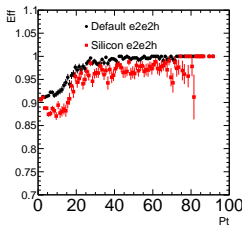
- Thanks to Dan for generating e2e2h samples with full silicon and cepec v1 geometry
 - Full silicon:
/cefs/higgs/yudan/FullSiTracking/Reco/*.root
 - CEPC V1:
/cefs/higgs/yudan/FullSiTracking/Reco_v1/*.root
- Tracking efficiency denominator:
 - Stable charged particle (getGeneratorStatus==1 and Pt>1.0 GeV/c)
 - not(isCreatedInSimulation——isDecayedInTracker)
 - isDecayedInCalorimeter
- Tracking efficiency numerator:
 - Requiring $\delta\Omega/\sigma < 25$ and $\delta\phi/\sigma < 25$
 - Closet $\delta\phi$ matching

Tracking Efficiencies

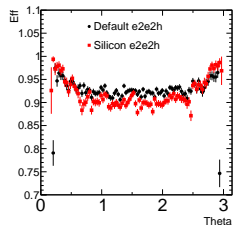
- Both tracking efficiencies are about 90%, dependent on the cuts.
- The full silicon tracking efficiency seems bit lower.



(a) Phi



(b) Pt



(c) Theta

Figure: Tracking Efficiencies

To-do List

- The full silicon tracking seems work in e2e2h sample.
- There is room for the improvement(Tracking, digi, and materia reduction)
- Instructions can be found at
http://cepc.ihep.ac.cn/cepc/cepc_twiki/index.php/Pure_Silicon_Detector.
- Will start to document the studies.