

Work Progress

2018.12.14

Content

- 1 Version 1 of the CEPC Note
- 2 Calibration and Photon Energy Correction
- 3 Photon ID



CEPC NOTE

December 14, 2018



the Longitudinal Arrangement for the CEPC ECAL Design Optimization

CEPC Simulation Group

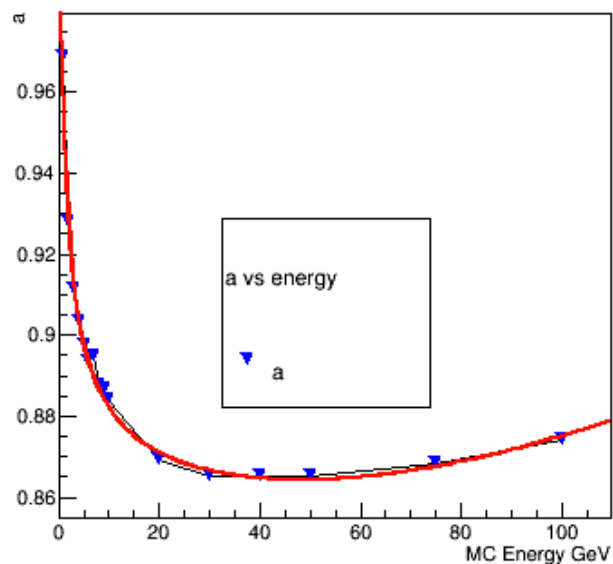
Abstract

The design and optimization of the Electromagnetic Calorimeter (ECAL) are crucial for the Circular Electron Positron Collider (CEPC) project, a proposed future Higgs/Z factory.

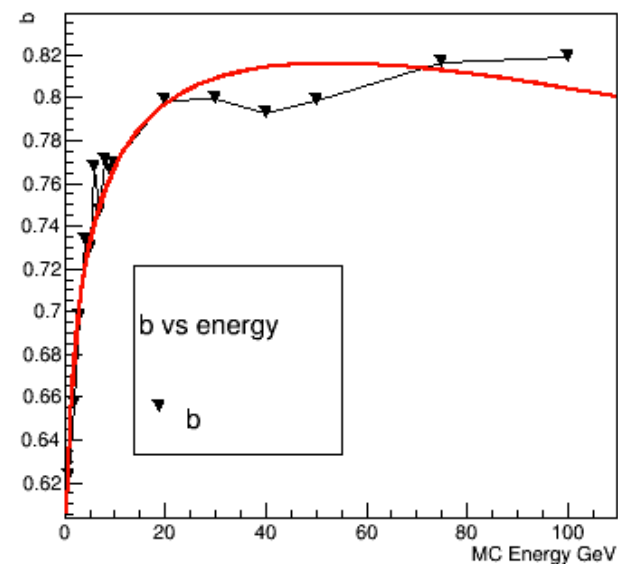
Calibration

- $E = A * \text{奇数层能量}(<20) + B * \text{偶数层能量}(<20) + C * \text{奇数层能量}(>=20) + C * \text{偶数层能量}(>=20)$

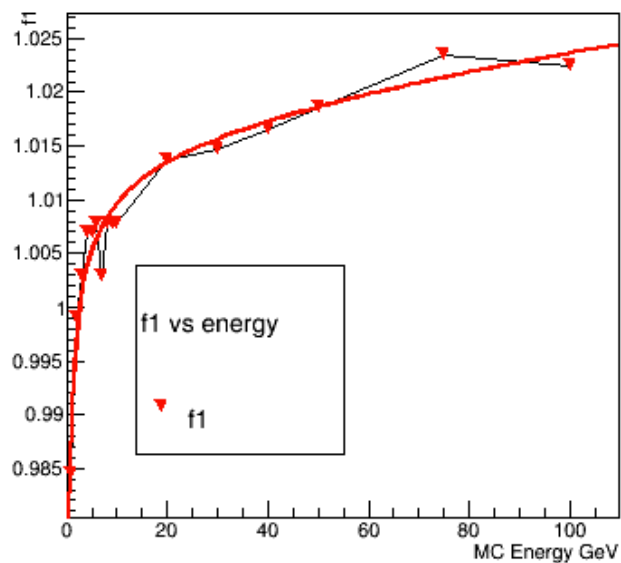
Graph



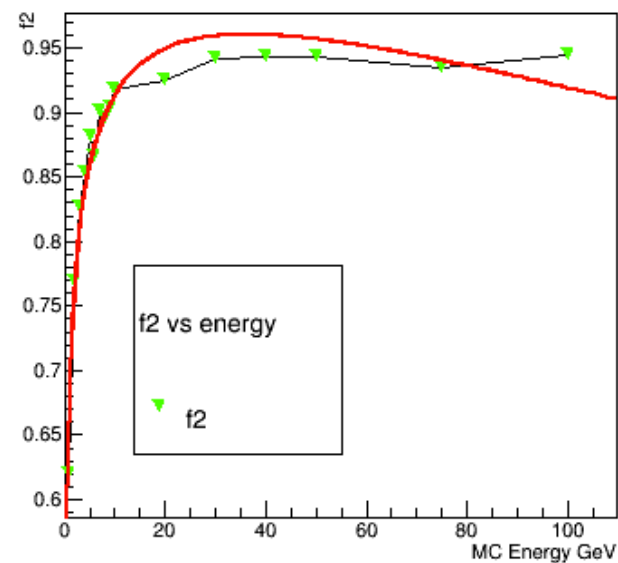
Graph



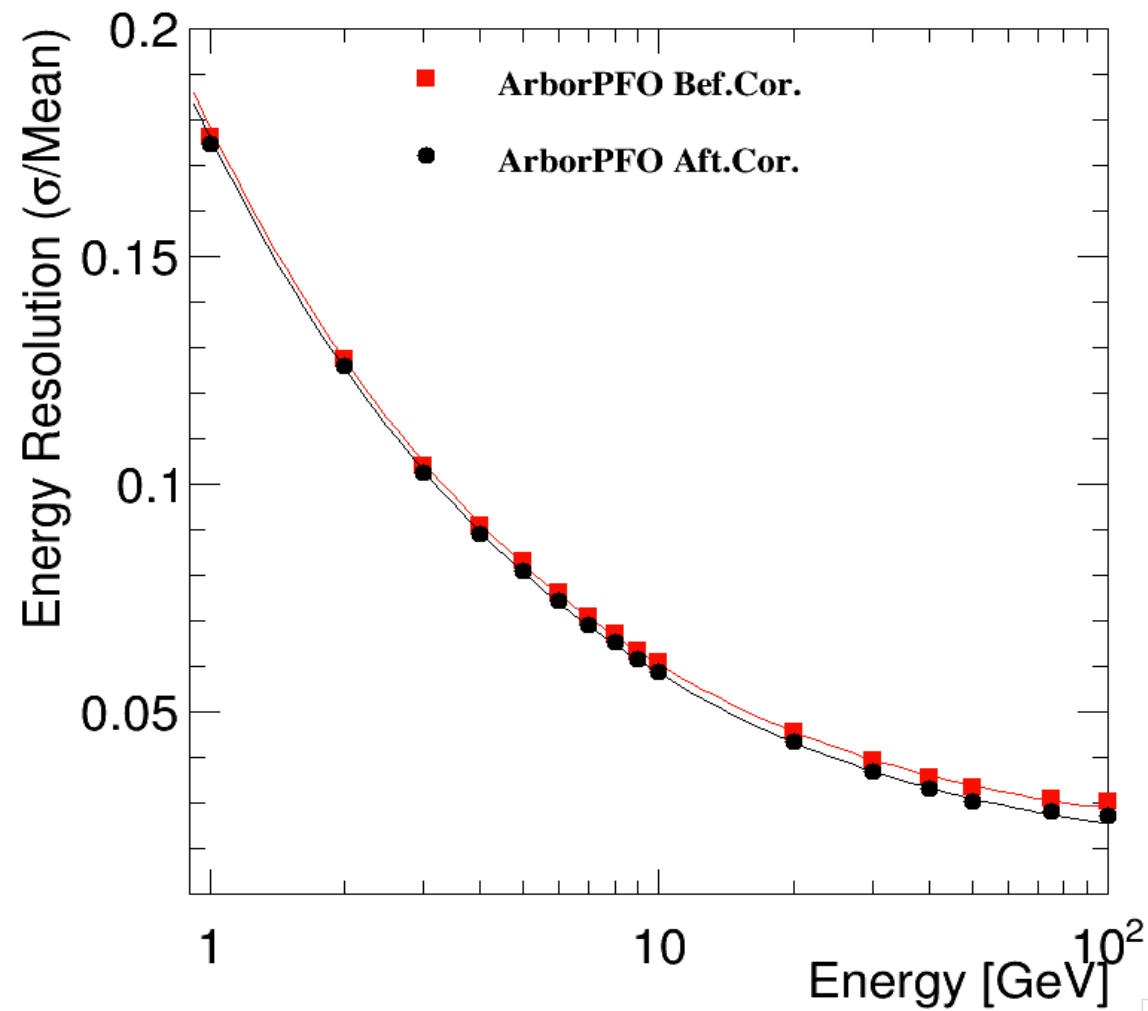
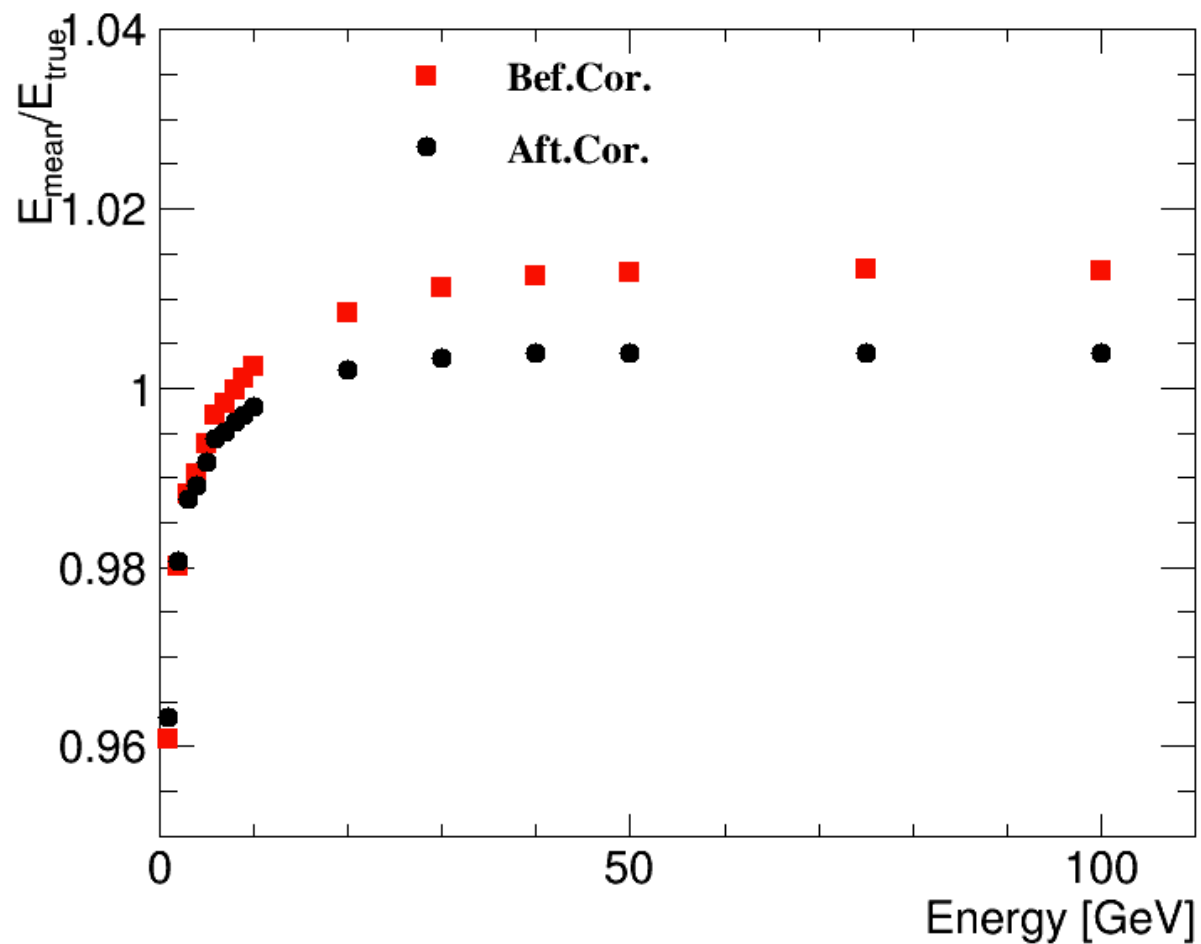
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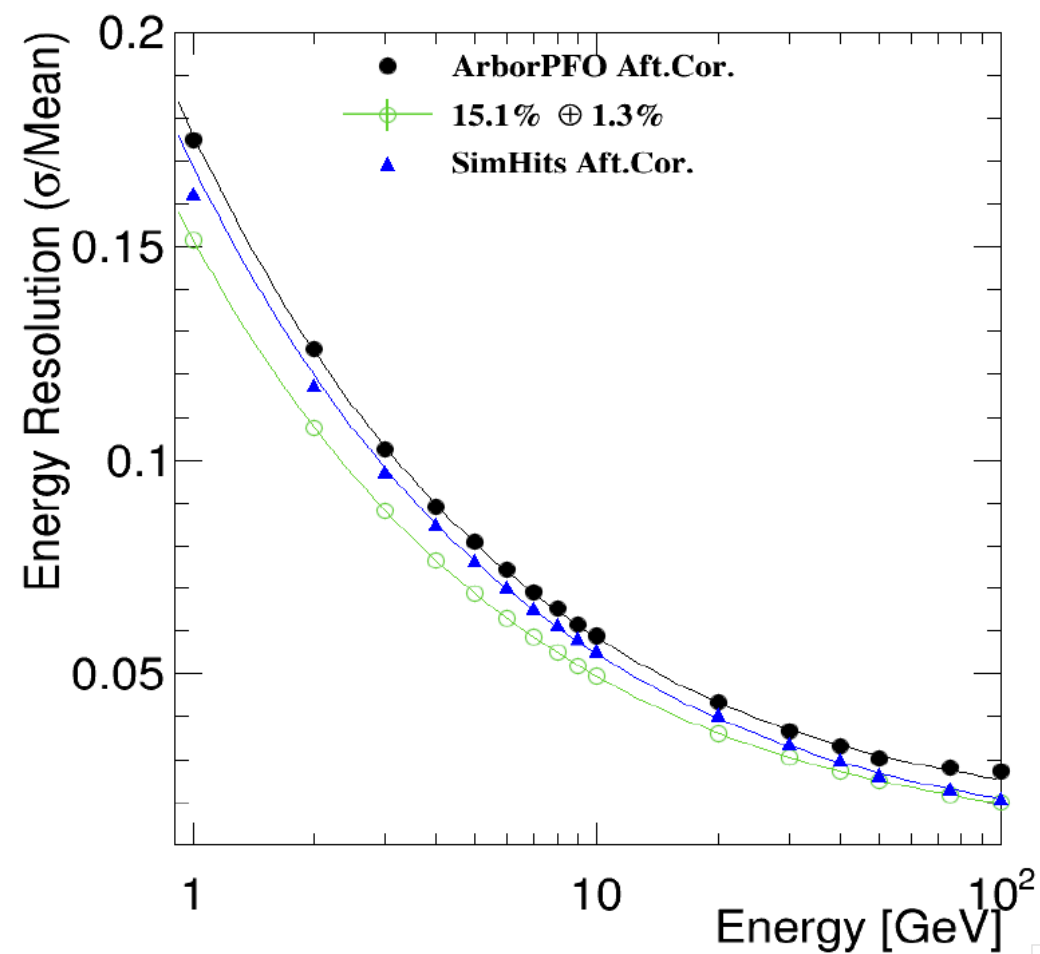
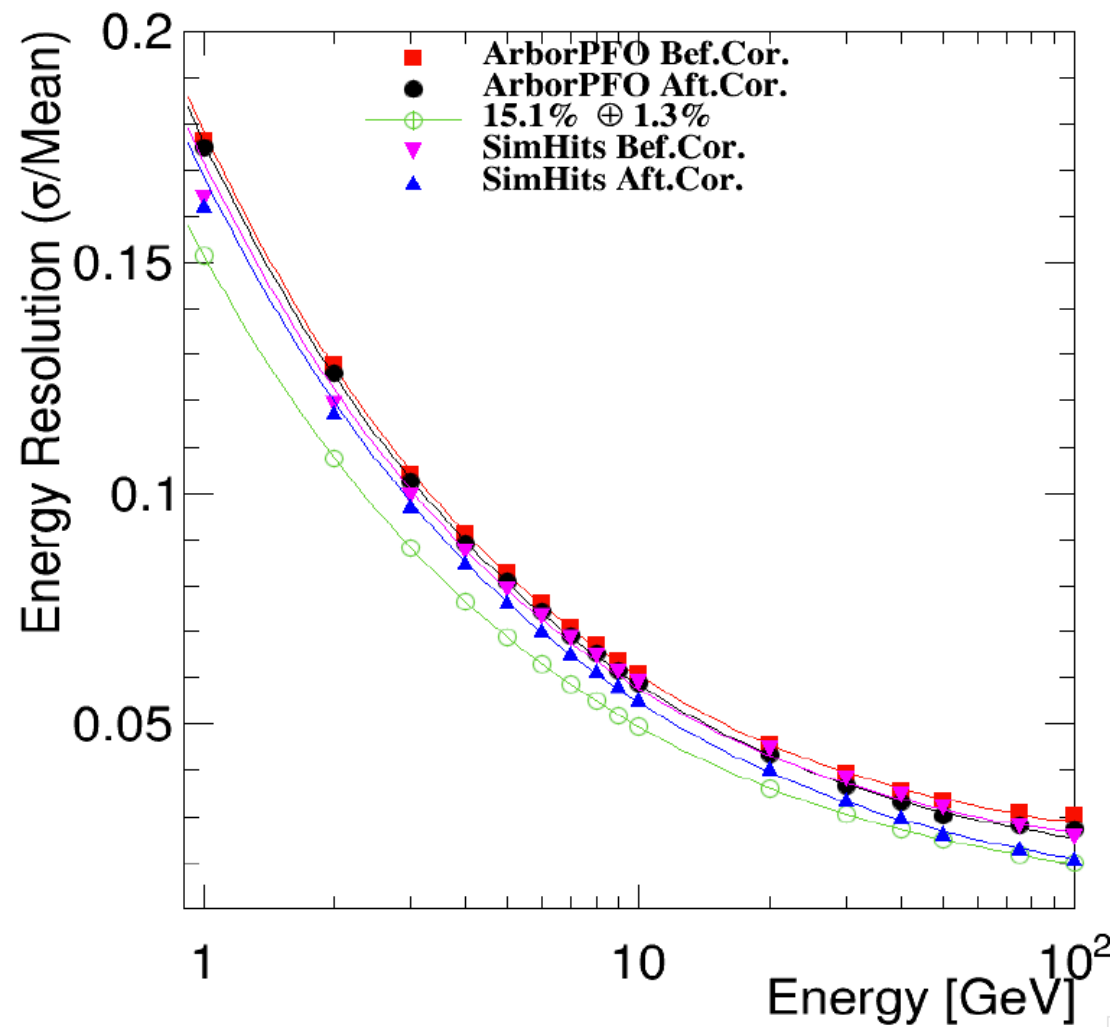
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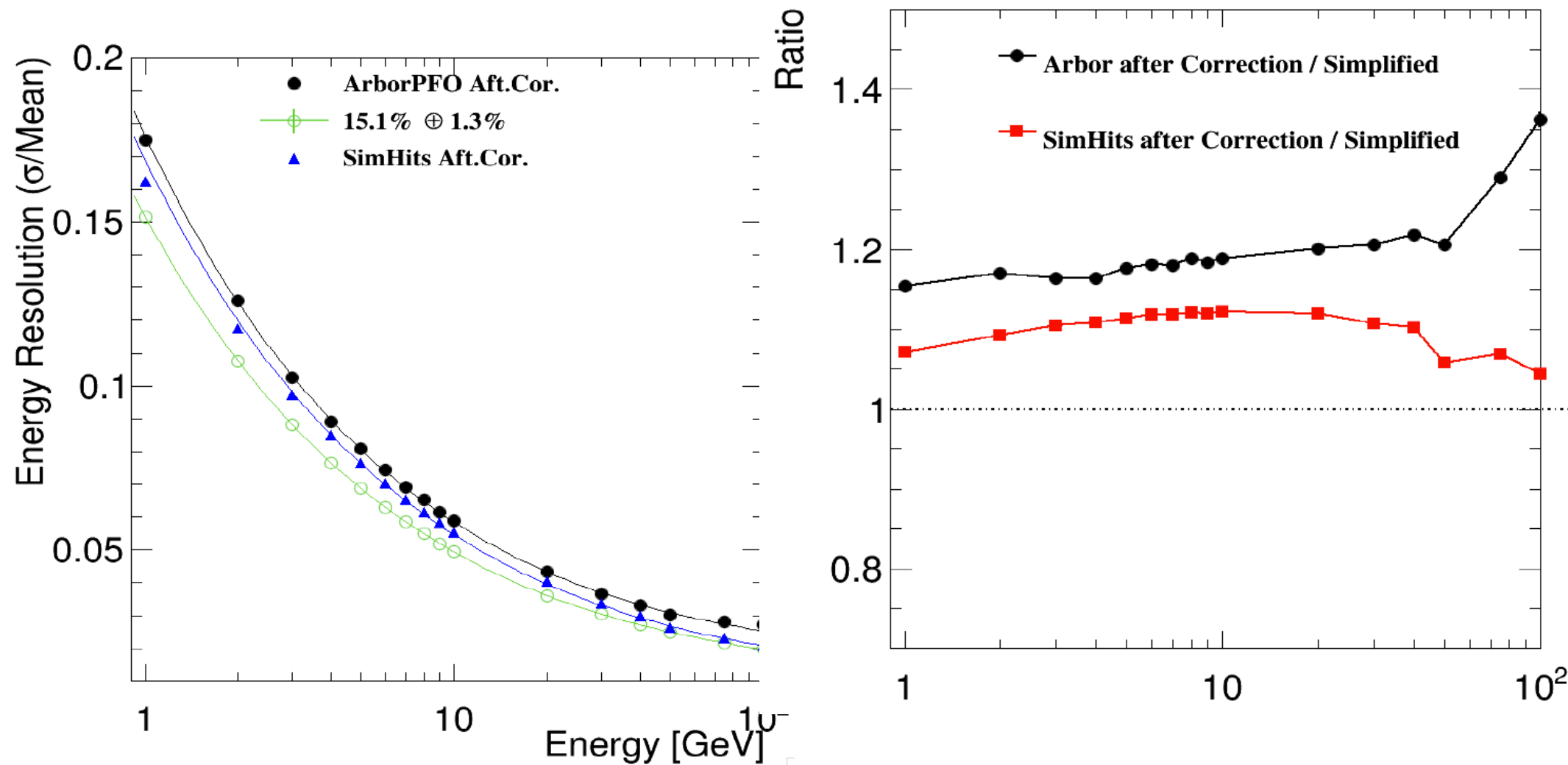
Photon Energy Correction



Photon Energy Correction

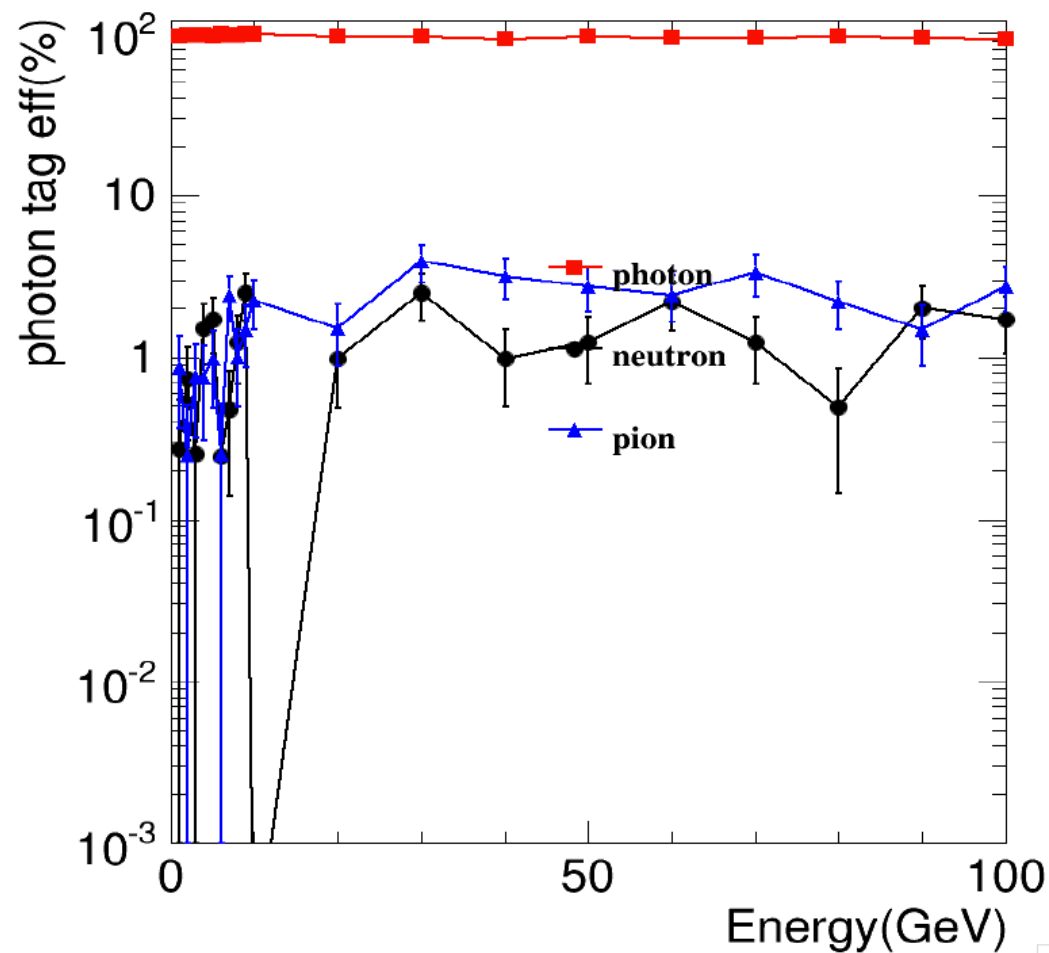
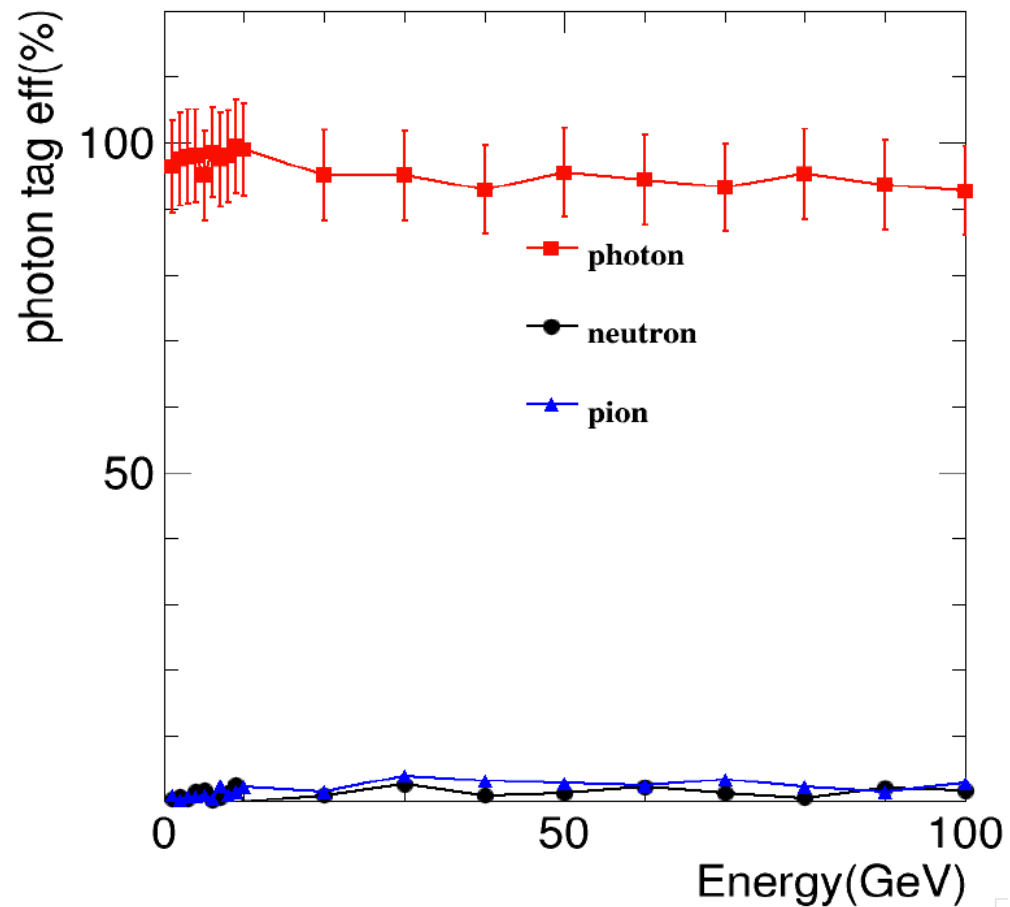


Photon Energy Correction



Photon ID

```
factory->AddVariable("CluSize","CluSize", "units",'F'); //I
factory->AddVariable("ClusterFD","ClusterFD", "units",'F');
factory->AddVariable("TO","TO", "units",'F');
```



Next Step

- Prepare the TMVA Reader for ZhiGang's Sample
- Fragmented Photon and Energy smearing
- Higgs mass distribution ($H \rightarrow \gamma \gamma$)
- Note Version 2