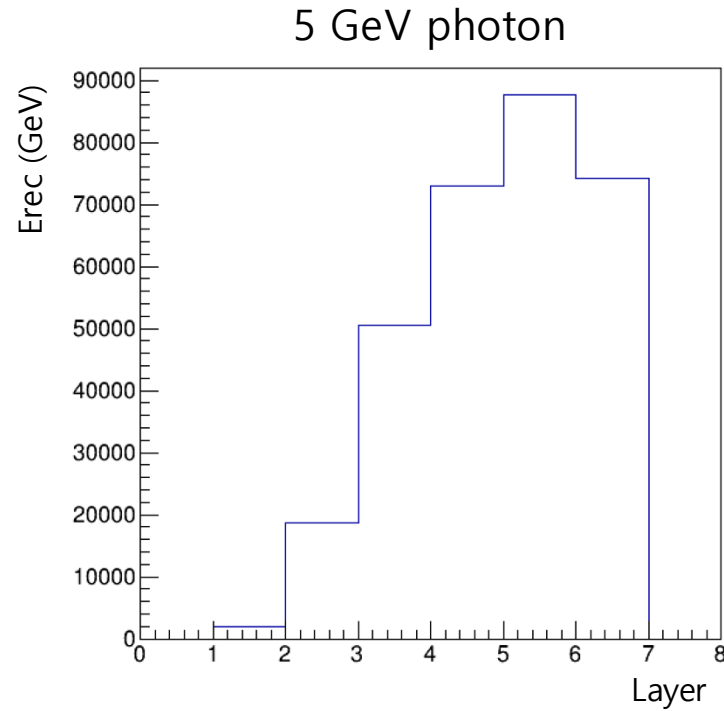


Energy splitting when two showers overlap

Sep 24 (Tue)
Minho Kim

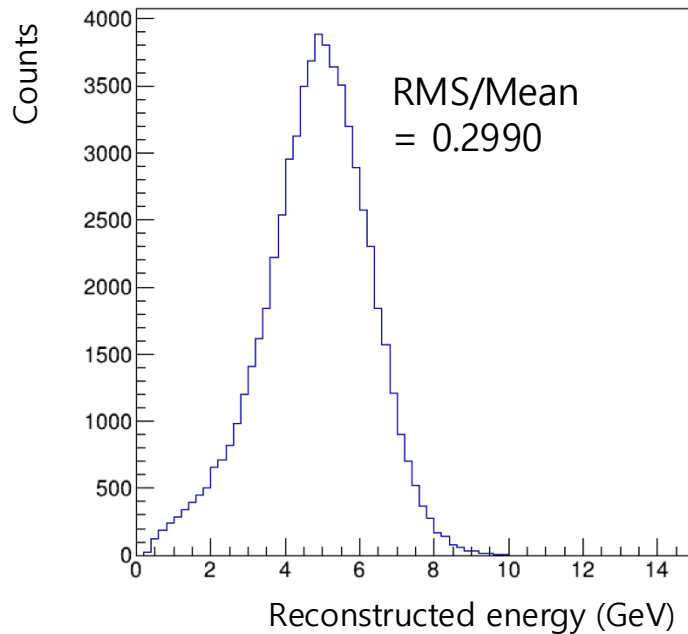
What information will be used from the imaging layer



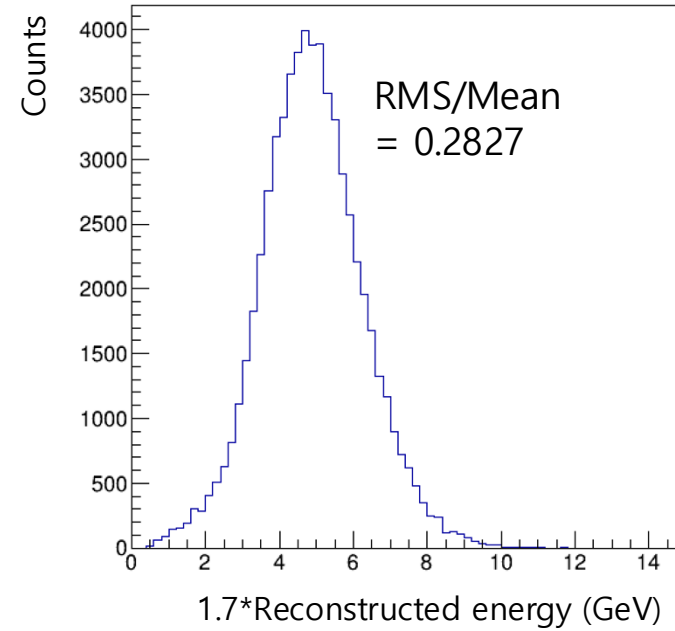
- The imaging layers cover only a part of the shower profile. → It has a fluctuation.
- The shower max position is usually located within the imaging. → The maximum energy deposit layer + 1 or 2 layer around it may have lower fluctuation than the total energy deposit.

What information will be used from the imaging layer

All layers

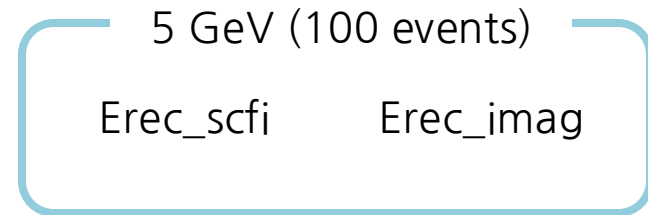
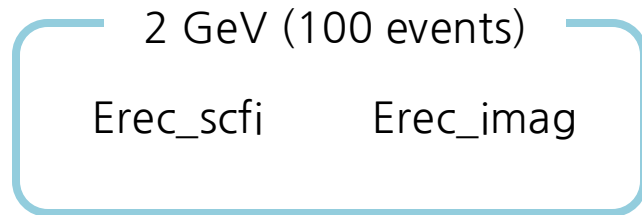


Two Max. Edep. layers



- How well the imaging layer information represents the particle energy was slightly better when the two Max. Edep. layers were used than all layers.

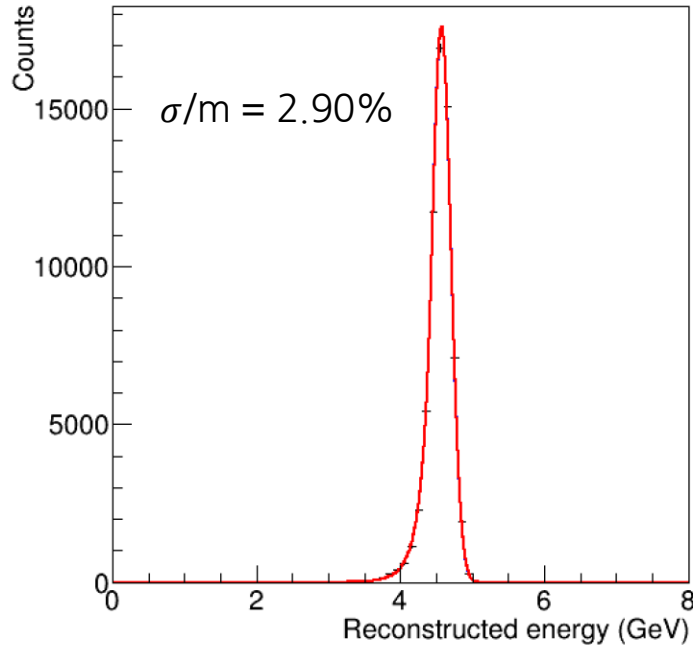
Energy splitting test



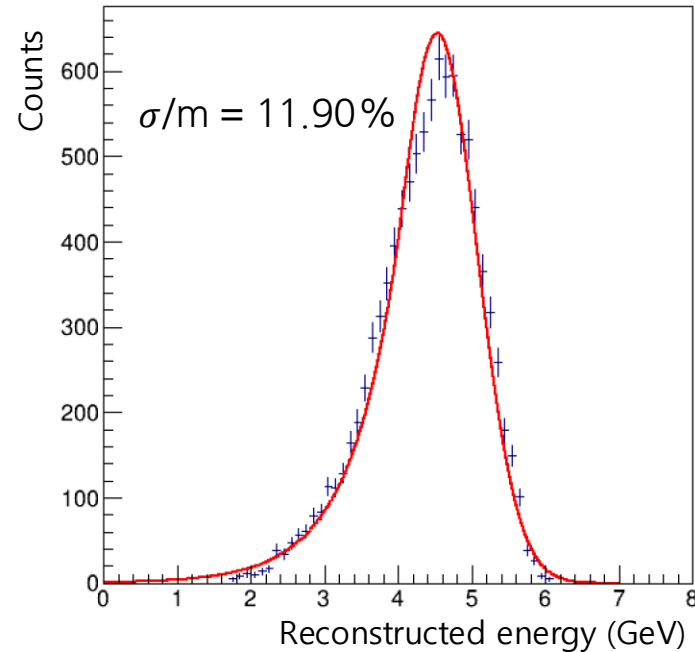
- Two kinds of event samples were prepared with ScFi and imaging layers energy information.
- Assuming energy deposits on the ScFi layers overlapped, energy fraction of the 5 GeV photons were extracted by weighting the energy reconstructed by the imaging layer.
- This procedure was applied to each event of each sample (100 x 100 combination).

Result of the energy splitting test

Single photon



Energy splitting



- Result of the energy splitting test was much worse than the single particle case.
- How the energy splitting can be improved will be studied in detail.