

Ecal reconstruction update

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Ecal reconstruction flow

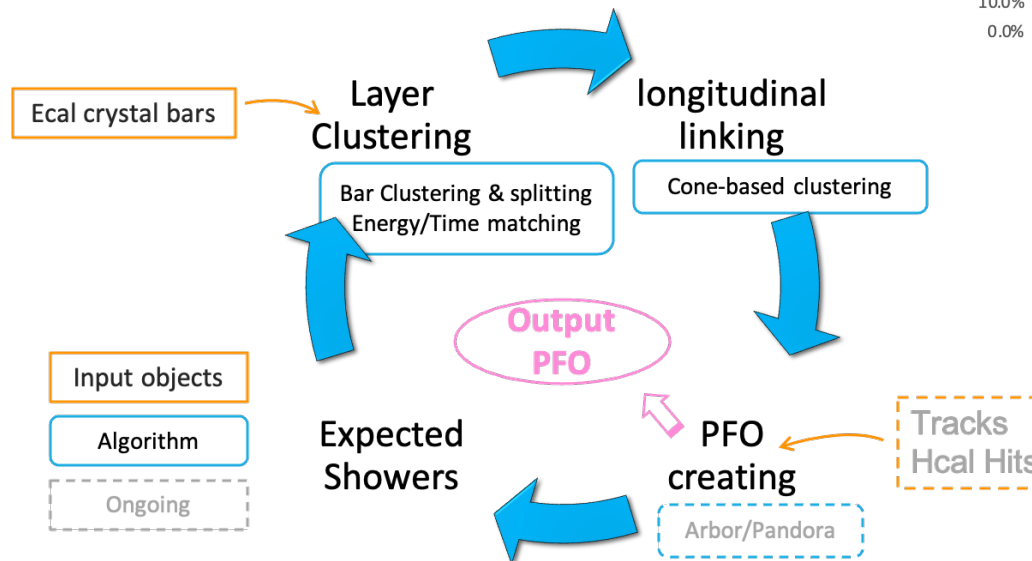
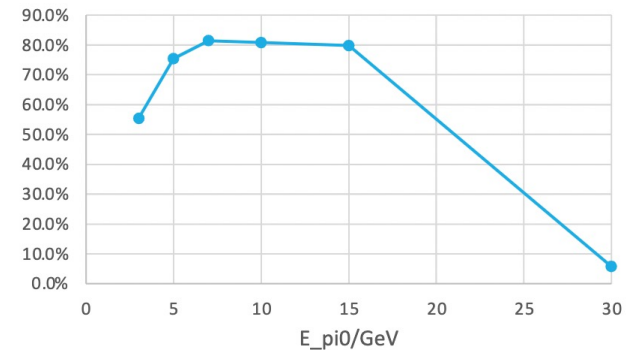
Previous remaining problem:

- Threshold is too high (3MeV for bars, ~10MeV for seed)
- Low pi0 reconstruction efficiency (<~80%).

Update this time:

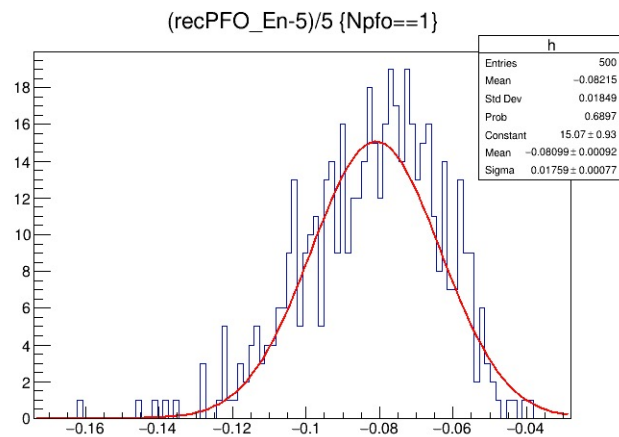
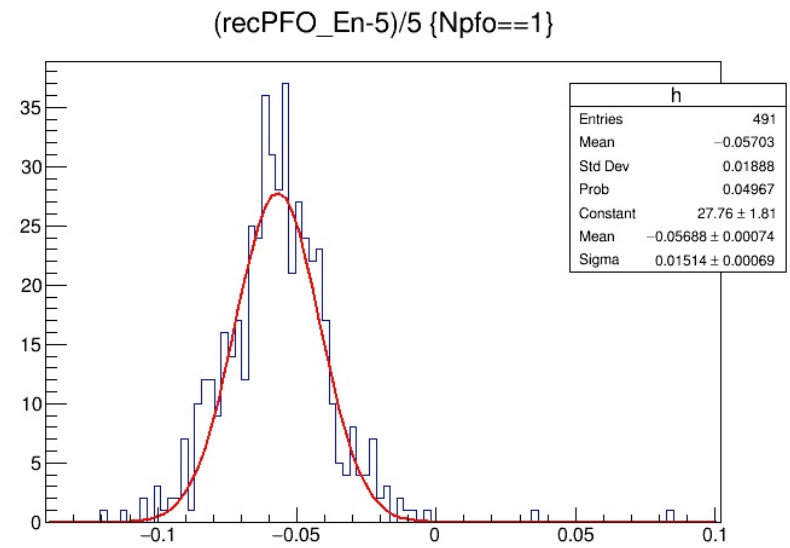
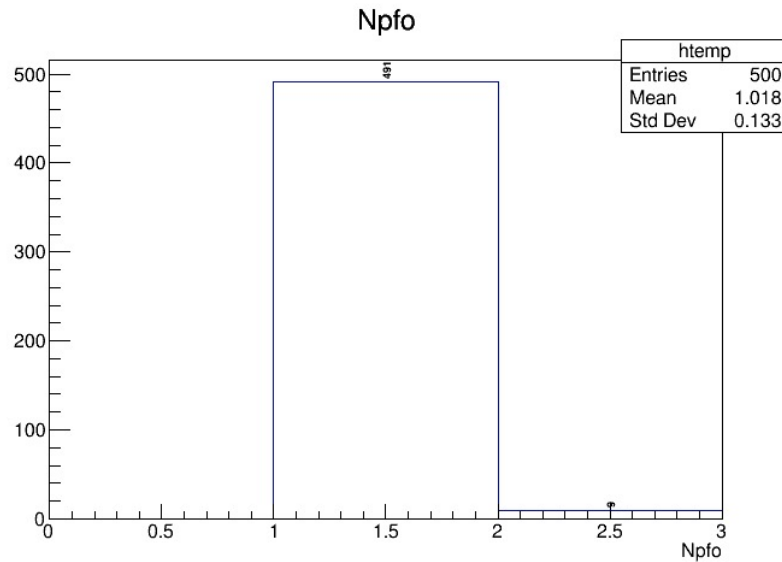
- Lower the threshold
- Add one more iteration to remove fluctuations

Pi0 reconstruction efficiency



Performance check

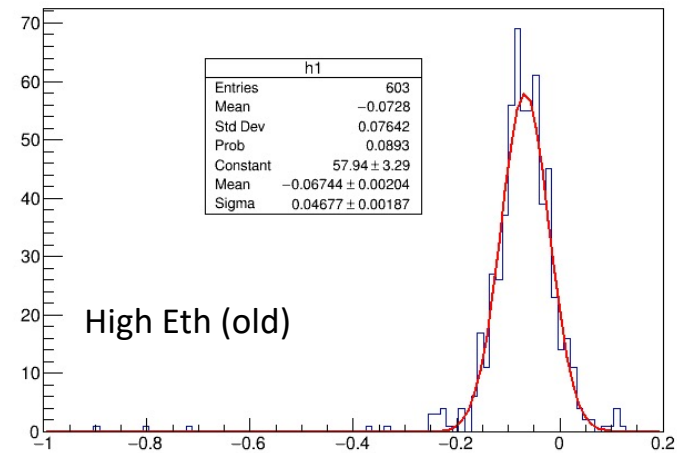
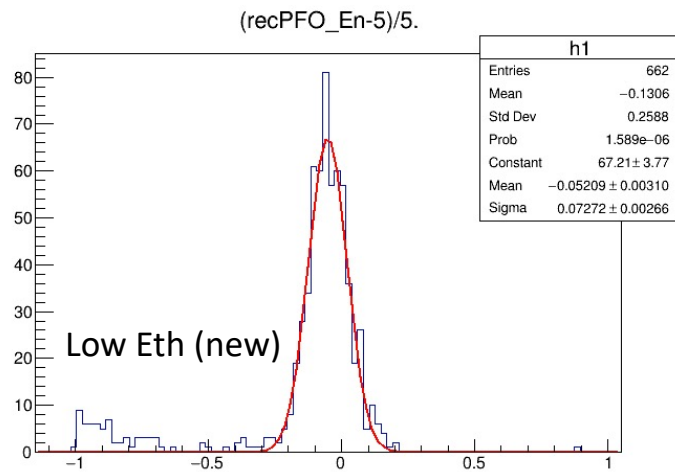
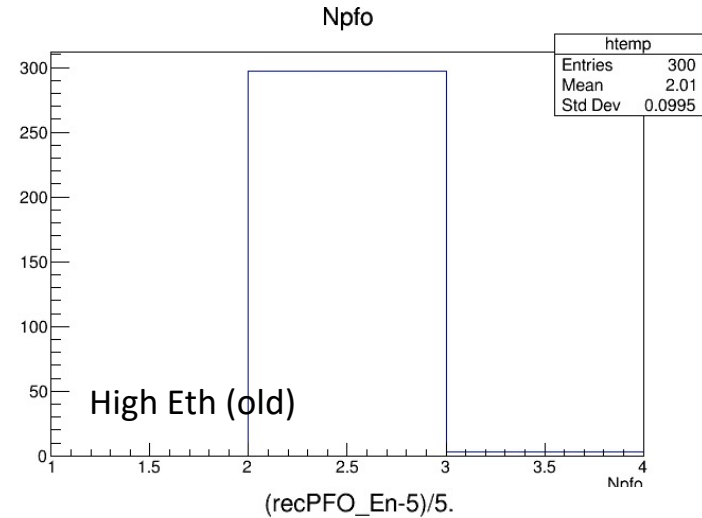
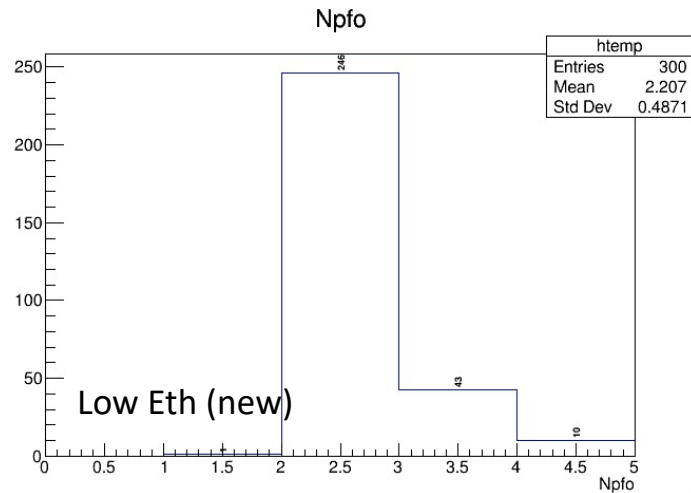
Single photon, 5GeV



Left: old results(high threshold).
A bit help in energy resolution and linearity.

Performance check

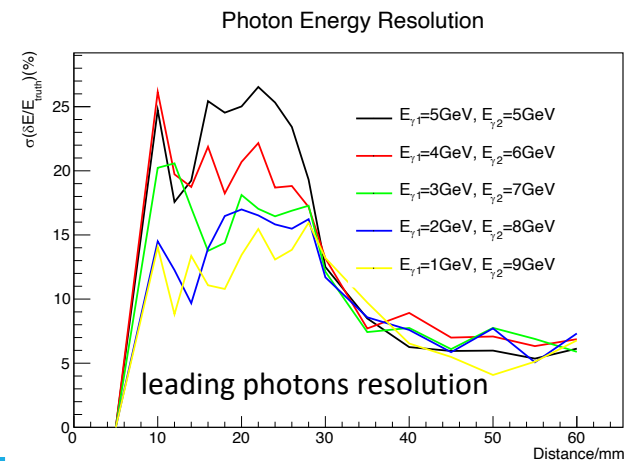
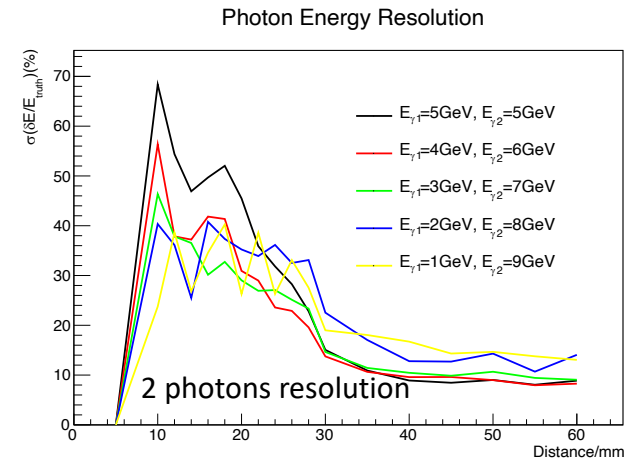
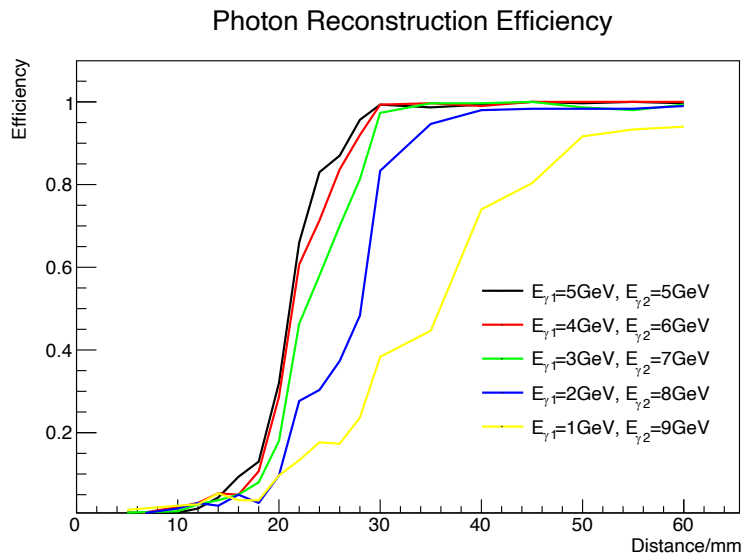
2 5GeV photons, distance = 5cm.



Performance check

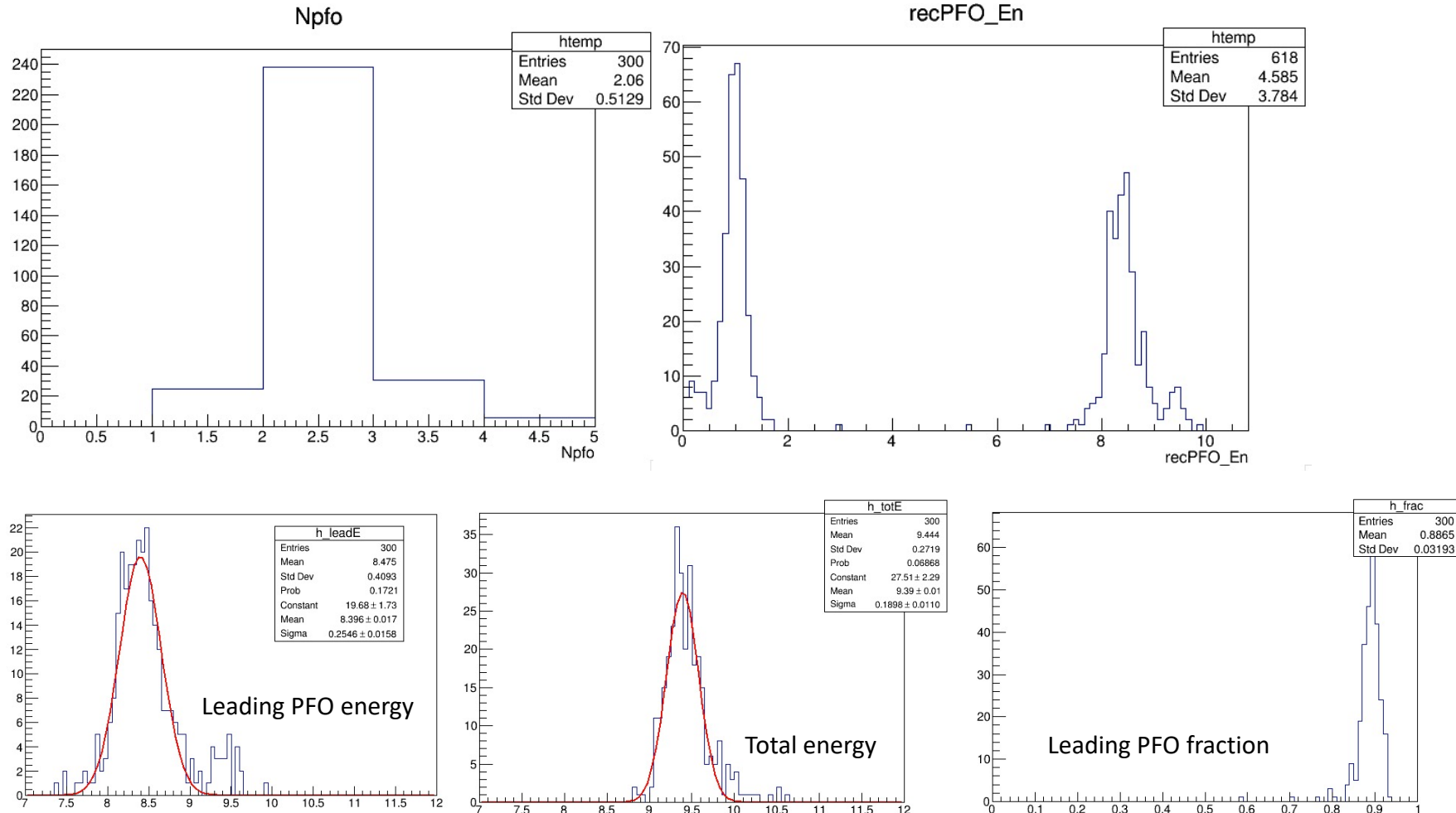
2 photons, scan the distance and energy difference.

- Define: $\text{efficiency} = \frac{N_{Npfo \geq 2}}{N_{\text{total}}}$, resolution: $\sigma(\delta E/E_{\text{truth}})$, fill with 2 leading photons.



Performance check

$E_{\gamma 1} = 9\text{GeV}, E_{\gamma 2} = 1\text{GeV}$ can mimic a photon + jet condition



Performance check

5GeV photon + 5 GeV pi-

