Topo cluster variables study

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Previous review

Last report in PhotonID group

- ◦ Code for RadiativeZframework has been finished

- ◦ Shew the signal-bkg and data-MC comparison for topo-cluster variables.

- ◦ Feedback from meeting:

  Upload codes to gitlab.

  change the pre-selections. Some of them are unnecessary.

  Check the cutflow from RadiativeZ framework with other Zllg results.

Zllg Preselection

Data and MC samples: EGAM3/4 derivation with topo-cluster vars.

◦ Data: part of data 2018 (didn't re-run MxAOD after last meeting).

◦ Signal MC: mc16e Sherpa llg process, with pT_γ.

◦ Background MC: mc16e PowhegPythia Zee/Zmumu.

Pre-selection:

◦ Default selection in ZllgAnalysis framework

  ◦ Add topo-cluster variables into framework (selected photon's first topo-cluster. Gitlab)

◦ GRL, trigger, Event Quality, 2l+1γ, good Zllg candidates.

◦ Tight photon ID & tight photon ISO.

Signal-background comparison

Zllg and Z+jets sample

pT_y ∈ $[15, 35]GeV$