Pi0 and photons discrimination Tutotial #6

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Tutorial description

- Using full simulation inputs from the previous tutorial
  - Sample of single photons and single pi0s

- Within FCCAnalyses learn how to:
  - Select the calorimeter cluster of highest energy
  - Get the list of cells associated to this highest energetic cluster
  - Build collections of cells observables (energy, theta, phi, radius, layer)
  - Transform those collection to call state of the art Deep Learning (ParticleNet)
  - Infer the network with all the layers and a subset of the layers
  - Plot the performances and compare the results

ParticleNet
https://arxiv.org/abs/2202.03285
https://arxiv.org/abs/1902.08570

Getting started

- Connect to your preferred machine
- Go in the tutorial directory and inside FCCAnalyses if you have it already cloned from tutorial #2
- source the environment
  - source ./setup.sh
- if already cloned, you need to get the last updates
  - git pull origin master
- And compile again
  - cd build
  - make install
  - cd ..