Status of Z($\mu^+\mu^-$)H(->ZZ->$\nu\nu$jj) analysis

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Analysis Setup

- ## Data Sample (only signal)

  /besfs/groups/higgs/data/SimReco/wo_BS/CEPC_v4/higgs/smart_final_states/E240.Pllh_zz.e0.p0.whizard195/

  ==> now, analysed part of data samples (100 slcio files) in above directory.

- ## Framework

  -- "lSOlatedLeptonFinderProcessor"

  -- For Jet clustering, both of "MarinFastJet" ("ee_kt") and "Lcfiplus"
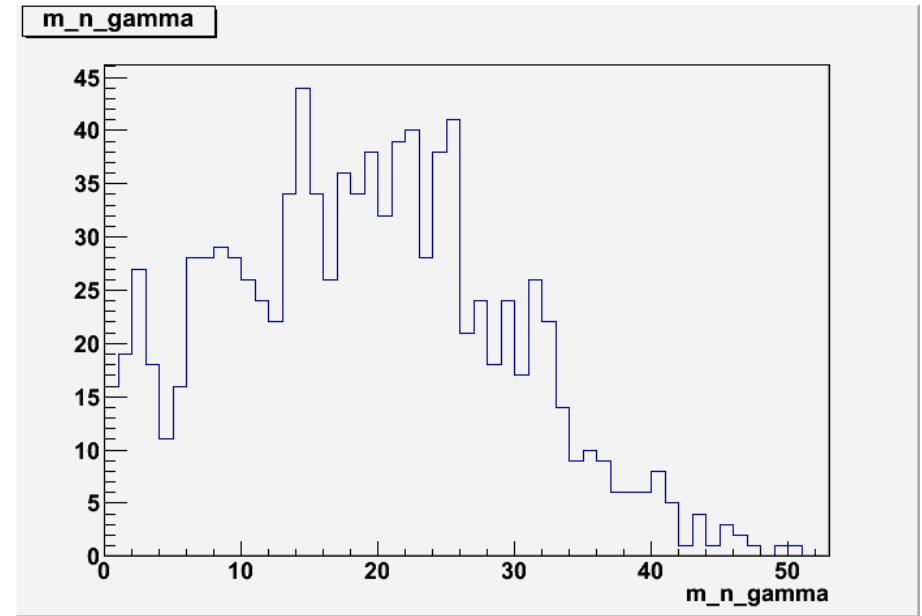 are tried . no flavor tag analysis yet.

  -- Libraries are called which is prepared in /afs software common directory

  -- Cut base

Applied Cut

Except for the criteria used in the modules (lepton/jet identification) ....

- N(jets) = 2

- N(l+) = 1 , N(l-) = 1

- 10 < Pt(di-lepton) < 70

- Pz(di-lepton) < 60

- N(gamma) = 0 (?)
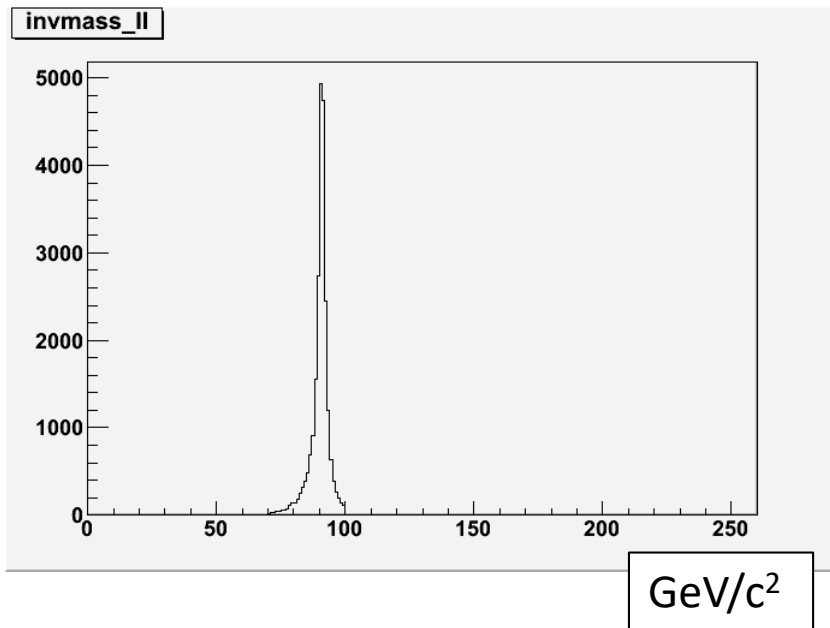
Number of photon distribution
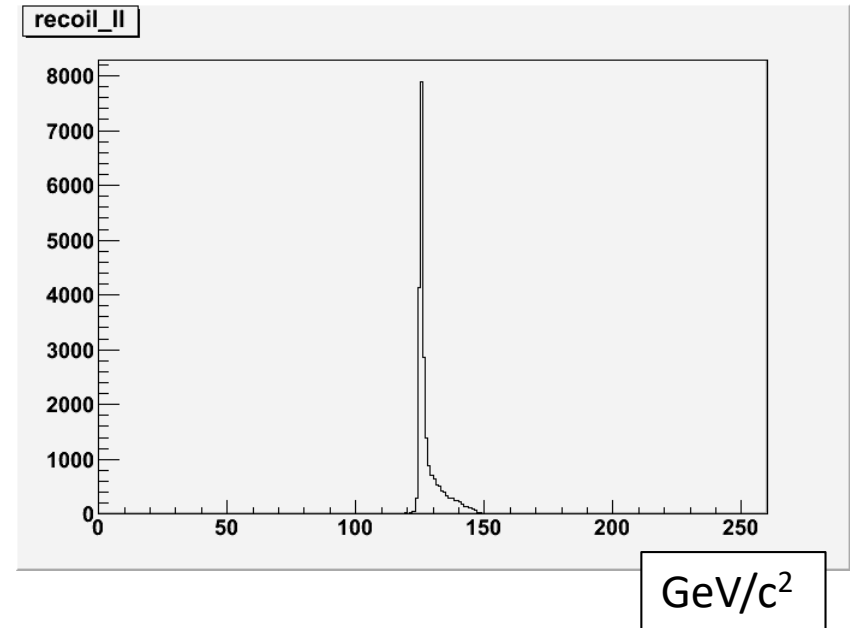
For now, due to lack of statistics, histograms in next pages are obtained without N(gamma) cut

Reconstruction -- Lepton side
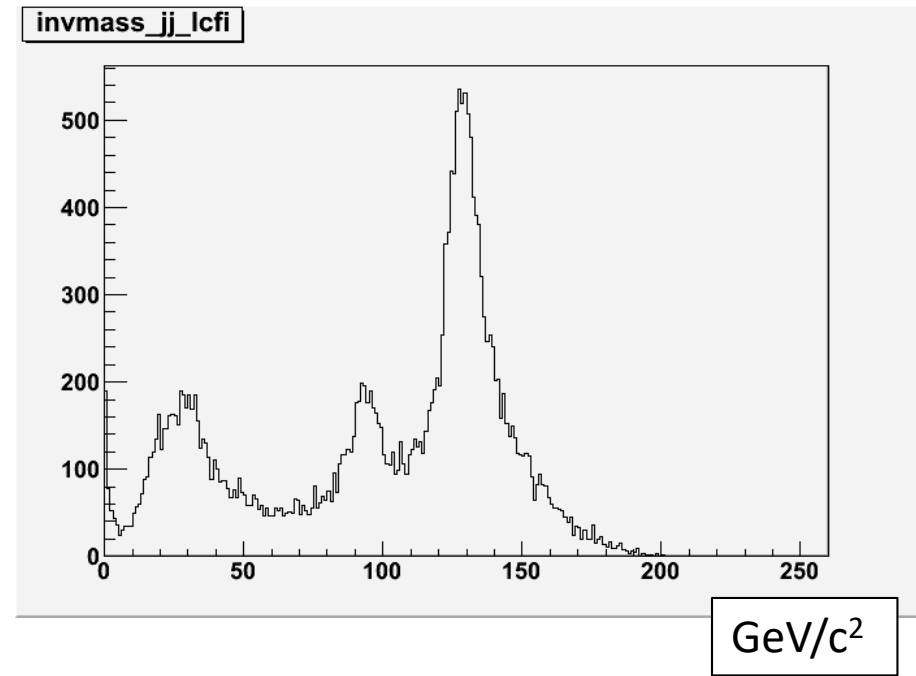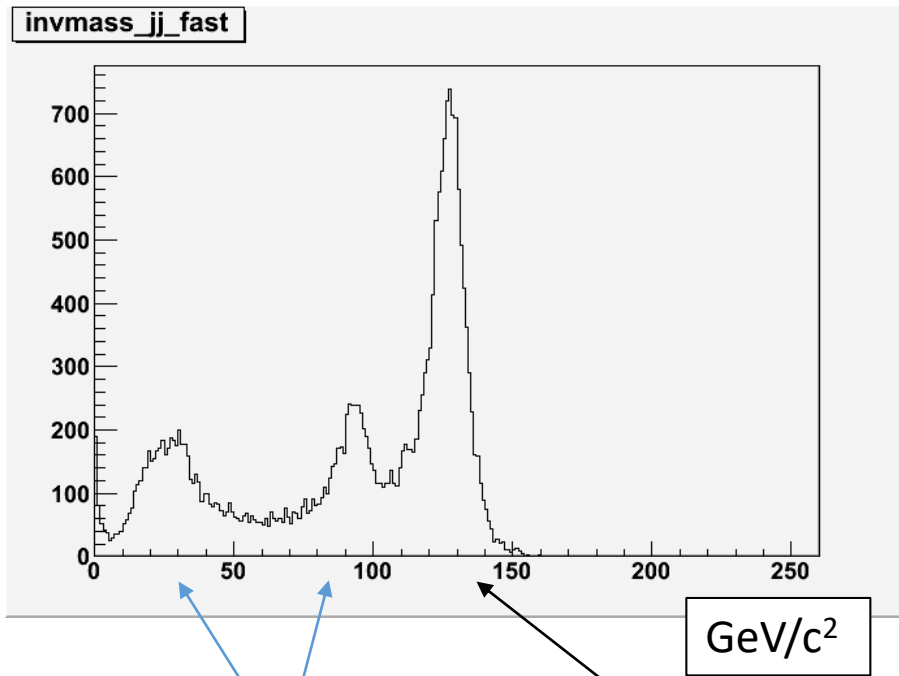
Invariant Mass of two leptons

Recoil Mass of two leptons

Leptons (muons) from Z boson are clearly identified

Reconstruction -- Jet side

Invariant Mass of two jets

MarinFastJet   Lcfiplus

GeV/c^2 GeV/c^2

this peak is from H->bb or H->qqqq ?

These might be Z->jj

Short Summary

-- Just have a looked the data sample

-- Need to identify jets from Z boson

-- Run all of data samples as well as background samples.