
ILC Asian Physics & Software Meeting : 13 April (Mon.) 3:00pm JST

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- I tried to estimate the jet mass from leptonic decay, but the .slcio file used as input did not contain jet information.
- Therefore, I executed the “JetClusteringAndFlavortaggingprocessor” within the .xml file.
 - However, the results were the same whether Isoleptontag was used or not.

Cause?

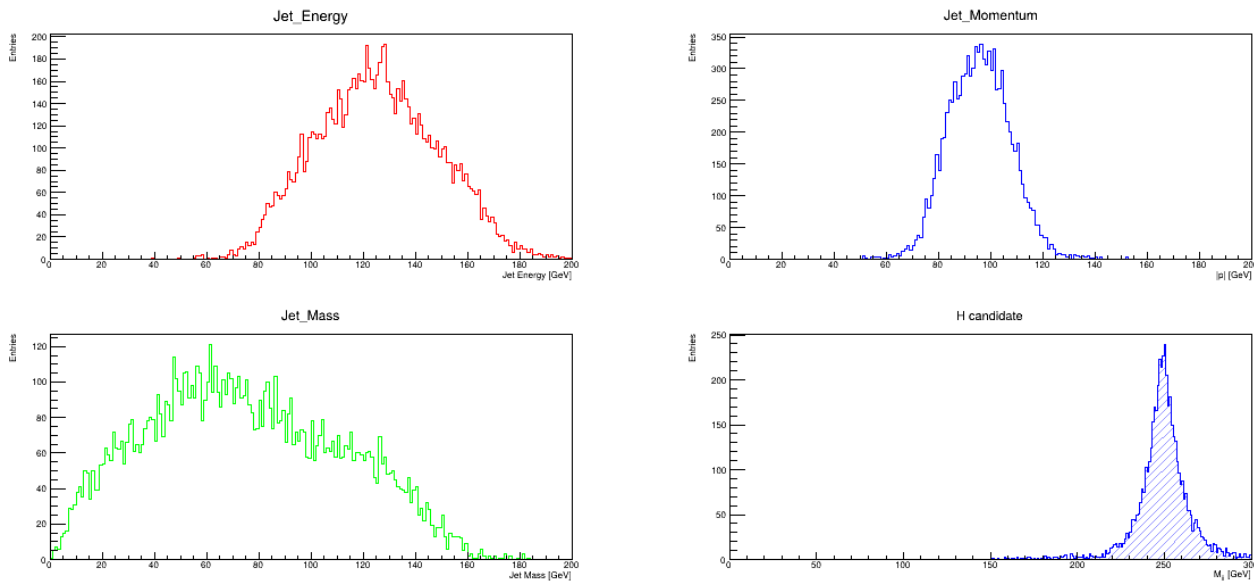
- Is it because the input file (.slcio) and the weights do not match?
 - Input file : e1e1h_ss(Z→ee/h→ss?)
 - Weight file : e1e1h_gg_qqqq, e2e2h_gg_qqqq
 - What exactly is a weight?

In the end,

I was able to set up dijet mass. The issue was that the output from IsoleptonTagging wasn't being passed through properly.

I aligned the parameters of the JetClusteringAndFlavortagging processor with those in Sugawara's xml file (ryuki823/tokyo/hikitsugi/n000.d_dstm_14986_0.xml).

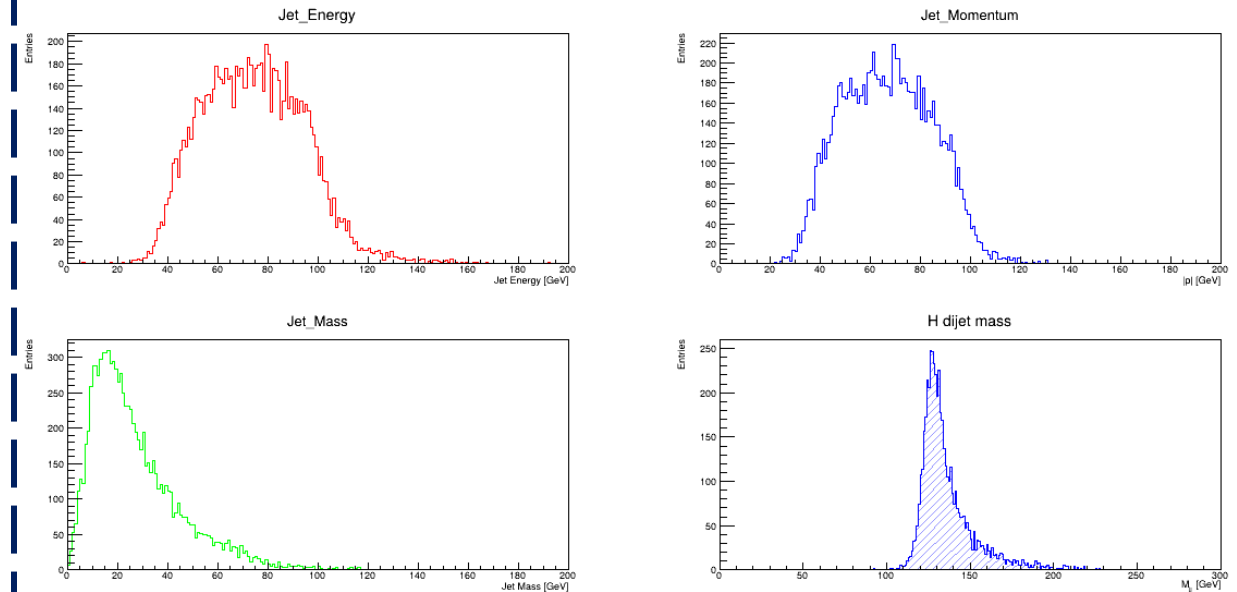
Without Isoleptontag



Mean values

H dijetmass : 249.36 GeV

With Isoleptontag



Mean values

H dijet mass(mean) : 136.25 GeV

H dijet mass(peak) : 126.50 GeV

Using isolepton tags, I separated the isoleptons from the jets and was able to reconstruct the H mass (dijet mass) from the jet information.

Next

- ✓ Retrieve the energy and momentum of the isoleptons to estimate the Z mass \rightarrow to calculate the recoil mass
- ✓ flavor tagging

- Weight = Data trained to predict what an event would look like if it were to occur. (pre-trained data for particle identification?)
 - For example, in an event such as `e1e1h_gg_qqqq` (Signal: `H→gg`, BG: `qqqq`), what particles will it identify?
- The input file is `H→ss`, the weights file to be `h→gg` (not match ?)
 - Since not all processes have been created yet, it's fine as is (the input and weights currently in use both correspond to leptonic decay).

- <https://github.com/iLCSoft/ILDConfig/tree/master/IsolatedLeptonTagging/weights>
- /cvmfs/ilc.desy.de/sw/x86_64_gcc131_el9/v02-03-04
- /cvmfs/ilc.desy.de/sw/x86_64_gcc131_el9/v02-03-04/MarlinReco/v01-36-02/Analysis/IsolatedLeptonTagging