

Status of Top studies at 500 GeV

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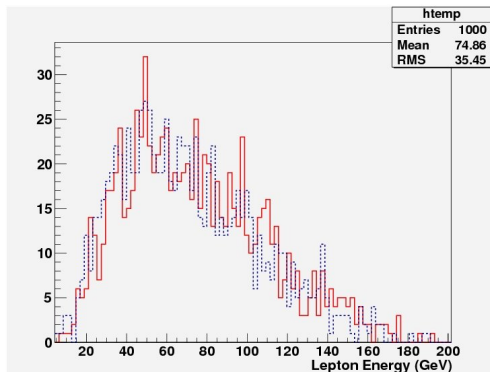
LCFIPlus weight files

- 1 I have produce my own LCFIPlus weight files with the help of Taikan.
- 2 Like I study the semi-leptonic top decay at 500 GeV I needed weight files train on 4 jets.
- 3 I run Mokka and Marlin (ILCSoft v01-15-03) on LOI stdhep samples to have my 4b,4c,4q samples at 500 GeV.

Change in the reconstruction procedure

- 1 I have use the SGV-DST $t\bar{t}$ at 500 GeV files for the preliminary tests.
- 2 During the reconstruction I look for one lepton and removed it from the PandoraPFO collection.
- 3 To run the LCFIPLus JetClustering algorithm on the new PandoraPFO without the lepton I need to run the VertexFinder once again: it's a pity because this takes a lot of time.

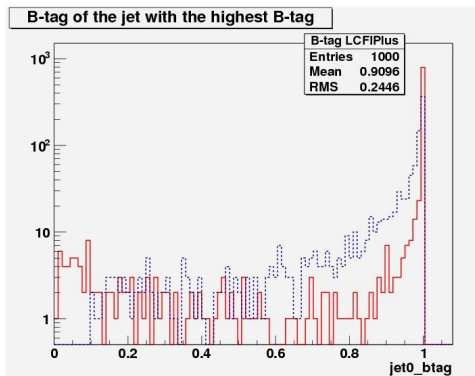
Some results: Lepton



The lepton energy seems good for DST samples (in red) compare to LOI (in dotted blue).

For DBD(LOI) sample: efficiency 90%(88%) and 0.2%(0.3%) of bad leptons.

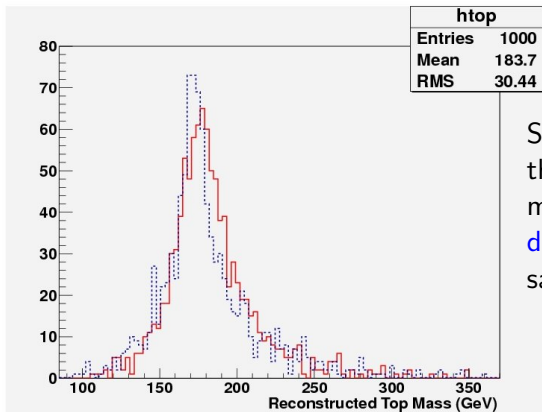
Some results: B-tagging



The mean value of the B-tag is 0.91 for LCFIPlus (in red) and was 0.89 with LOI flavour tagging (in dotted blue).

So even with the vertex-tracks problem of version v01-15-03 we already have better results with LCFIPlus.

Some results: Top Mass



Small shift (≈ 3 GeV) in the reconstructed top mass between LOI (in dotted blue) and DST samples (in red).

Conclusion

- 1 Now working on the full simulation samples with ILCSoft v01-16.
- 2 Still some work to do on the Monte Carlo part of the analyse to get the Reco-MC link.
- 3 I will use the official 4q 500 GeV weight files when available.
- 4 Mohammad Sohail Amjad, a PhD student, have started to work on full hadronic top decay here at LAL.