

# study of Jet clustering

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# New tool for jet clustering

[kekcc:/home/ilc/tianjp/analysis/release/JetClustering](http://kekcc:/home/ilc/tianjp/analysis/release/JetClustering)

- developed together with Tino
- 2 new classes: JJet & Jets
- very convenient to use either in your analysis processor or as an independent processor

e.g.

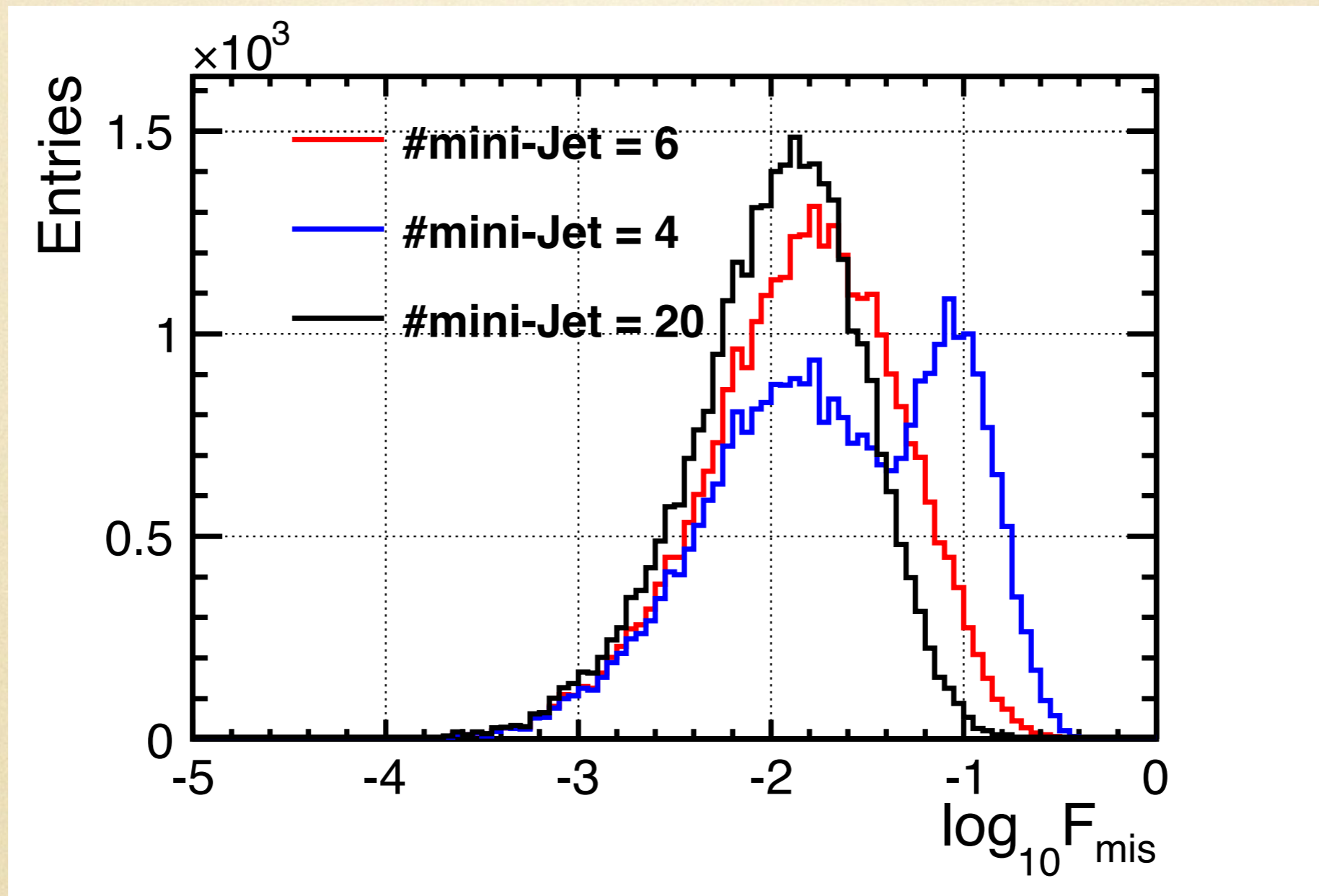
```
LCCollection *colPFO = evt->getCollection(_colPFOs);  
JJets jets(colPFO);  
jets.SetAlgorithm(_jetAlgorithm);  
jets.DoClustering(cut);  
LCCollection *colJet = jets.GetJetsCol();
```

or do 100  
different  
clustering

```
const Int_t ny = 100;  
for (Int_t i=0; i<=ny; i++) {  
    Int_t type = 0;  
    Double_t log10y = Ymin + (Ymax-Ymin)/ny*i;  
    Double_t ycut = TMath::Power(10., log10y);  
    jets.DoClusteringY(ycut);  
}
```

fraction of energy got mis-clustered

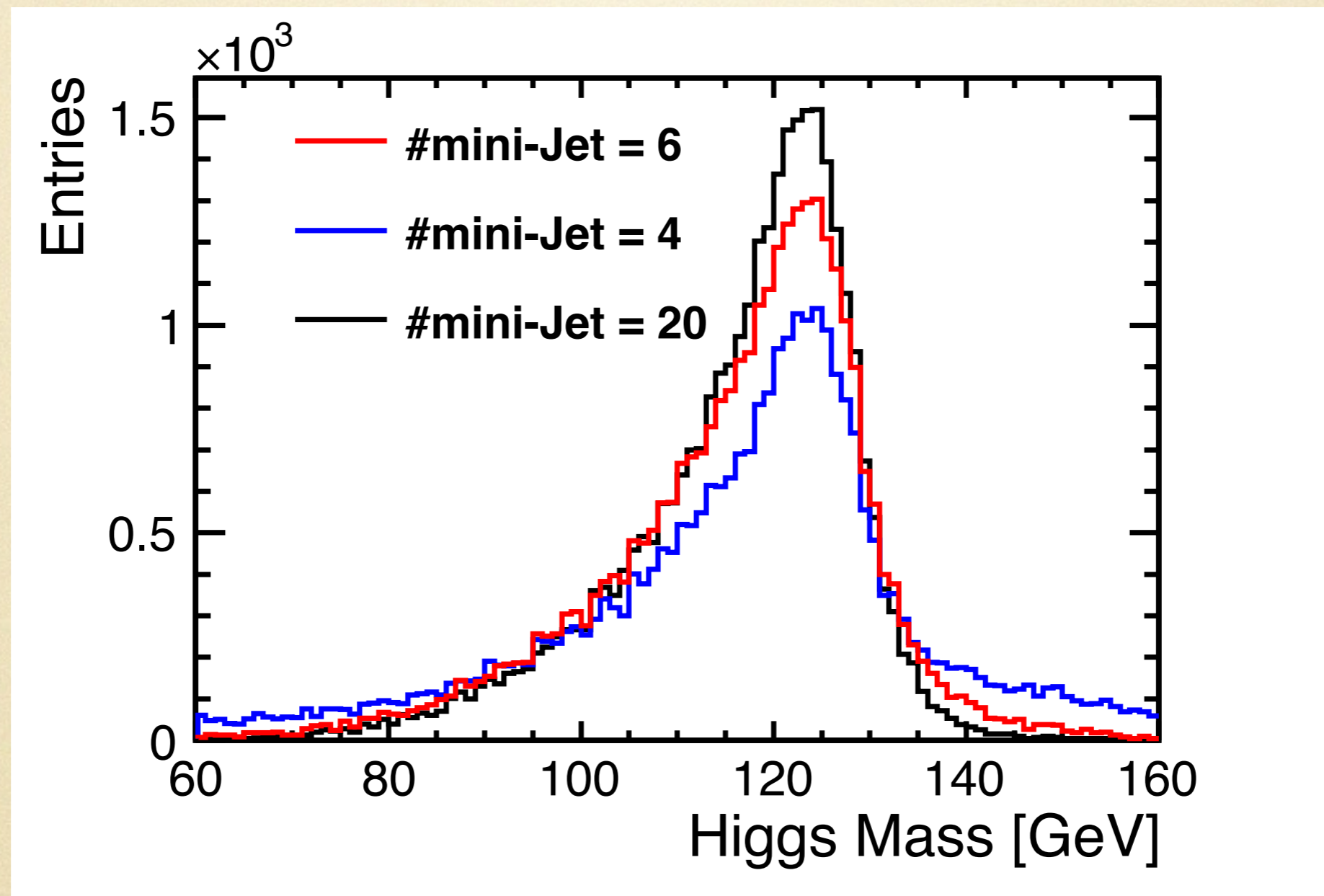
( $\nu\nu HH \rightarrow \nu\nu bbb$  @ 500 GeV)



severe mis-clustering happend from 6  $\rightarrow$  4

expected Higgs mass improvement @ NJet = 6

( $\nu\nu HH \rightarrow \nu\nu bbb$  @ 500 GeV)



seems a good intermediate target