Weekly Meeting

HUIJUN

Remaining questions from EB

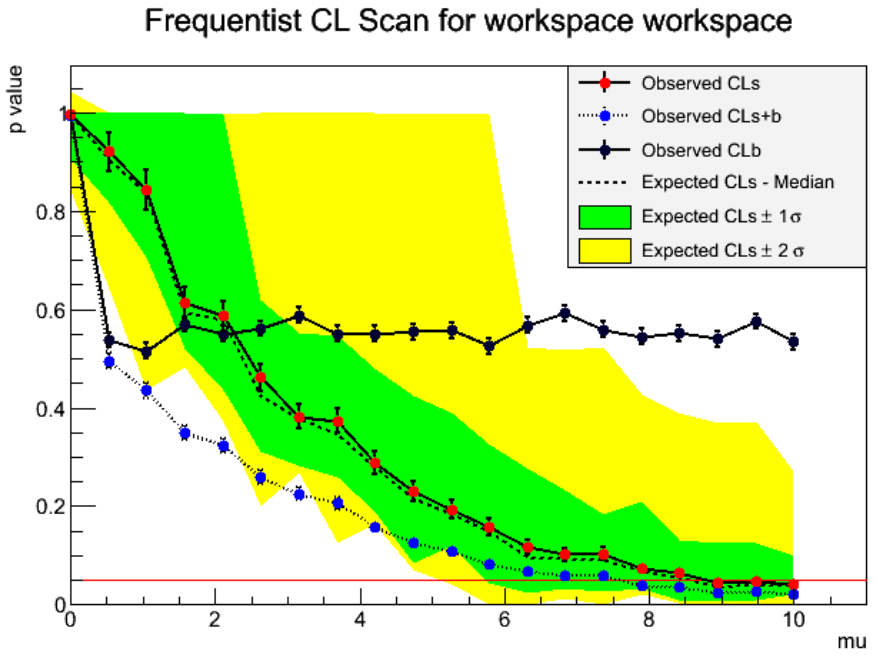
5 questions left after last EB meeting

1. ~~Use the anti-phi of sumEt of all the hard object as the direction of MET~~
2. ~~Resolve the z part of MET to reconstruct H mass~~
3. Using fit instead of number counting to get the result
4. ~~Madgraph multijet overlap removal between different background components~~
5. ~~Change the algorism in tables of object selection~~

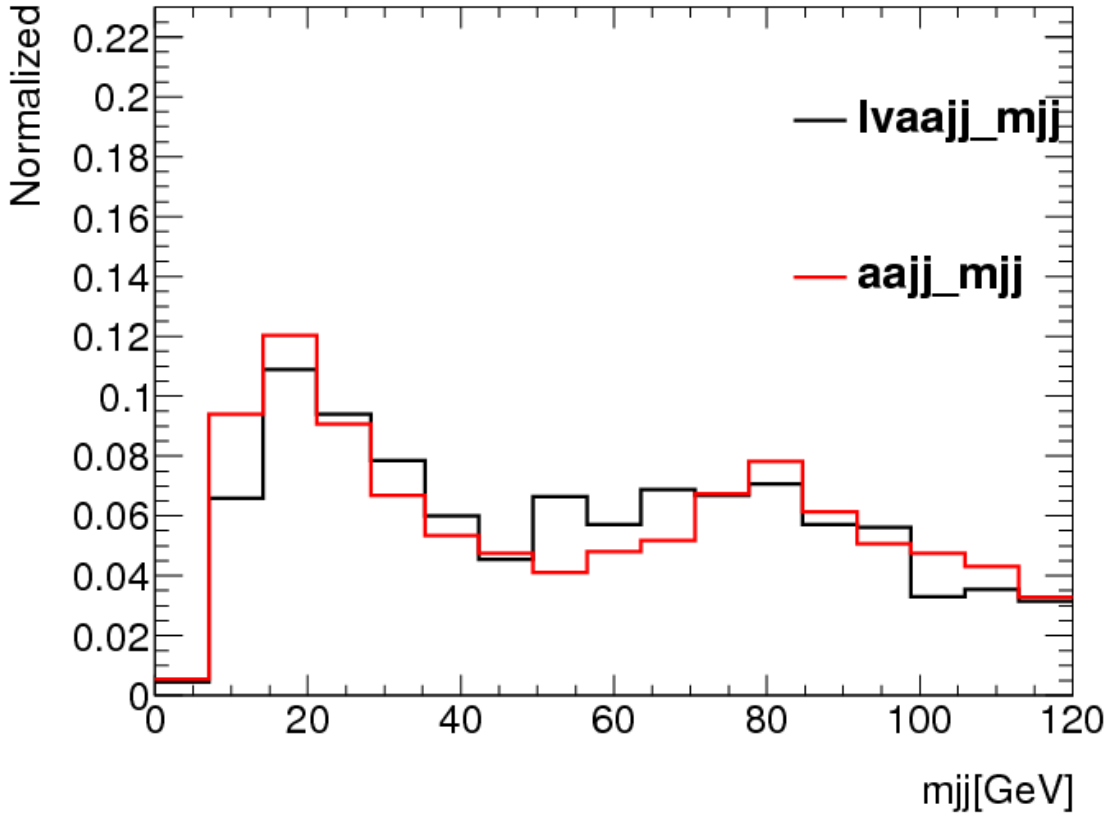
Fit result

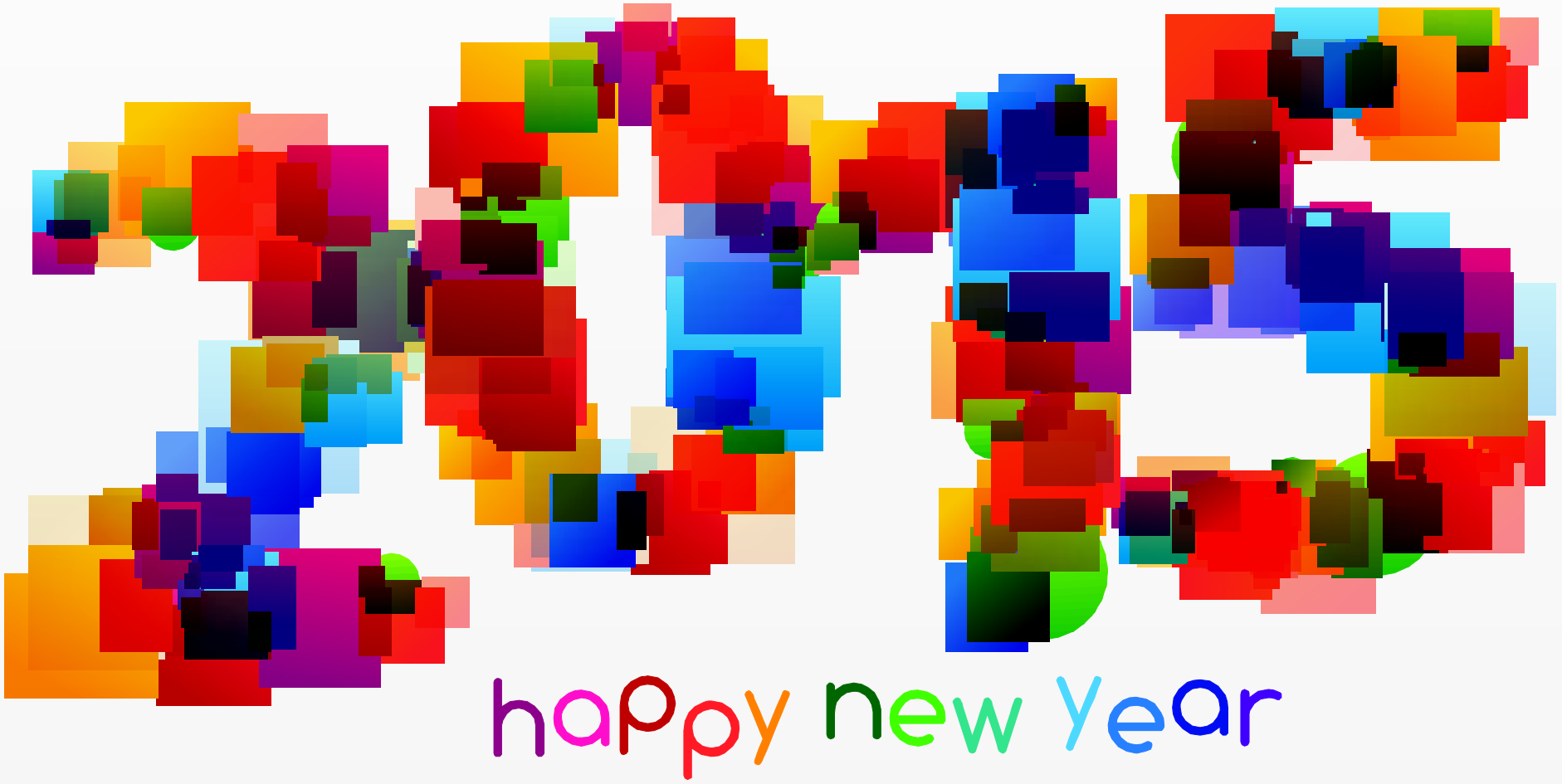
Using bkg only instead of bkg+signal assumption

The result is still worse than number counting



Dijet mass


Normalized
0.22
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0
20
40
60
80
100
120
mjj[GeV]
lvaajj_mjj
aajj_mjj


2025
happy new year

Backup

Answering the questions from EB

4 questions left:

1. ~~Use the anti-phi of sumEt of all the hard object as the direction of MET~~
2. ~~Resolve the z part of MET to reconstruct H mass~~
3. Using fit instead of number counting to get the result
4. The overlap between different background components

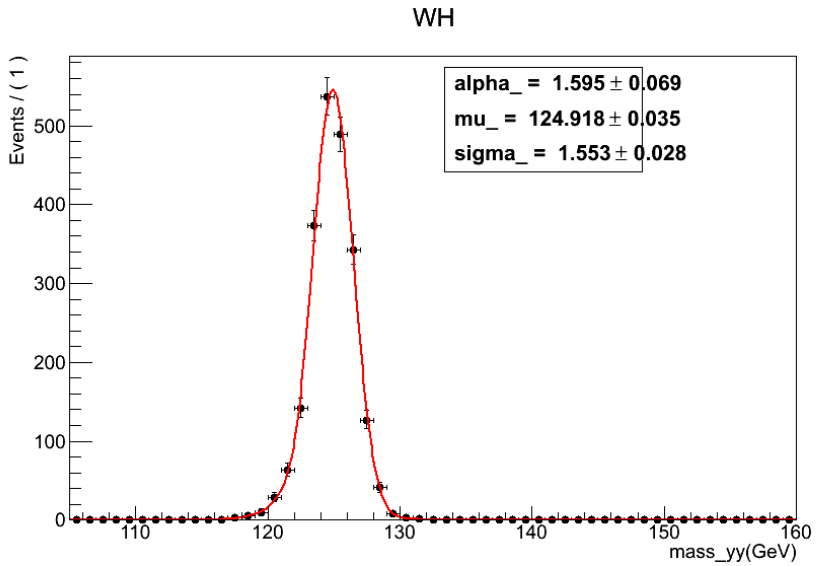
Fit

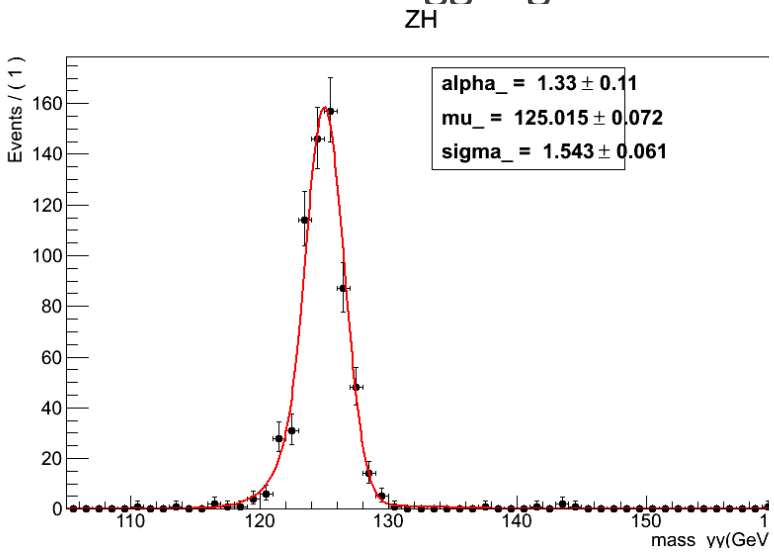
The result of fit result is quite dependent on parameters

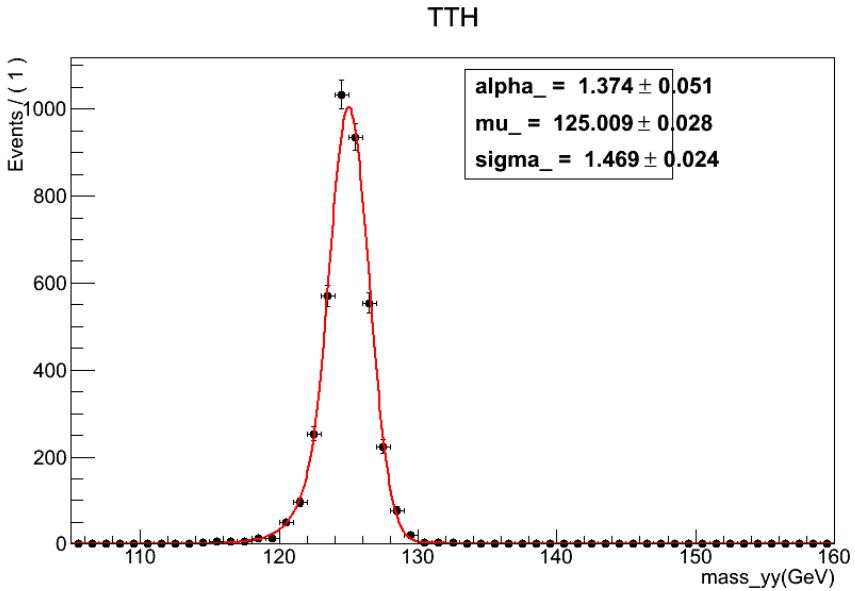
We have to fix each para to reduce freedom

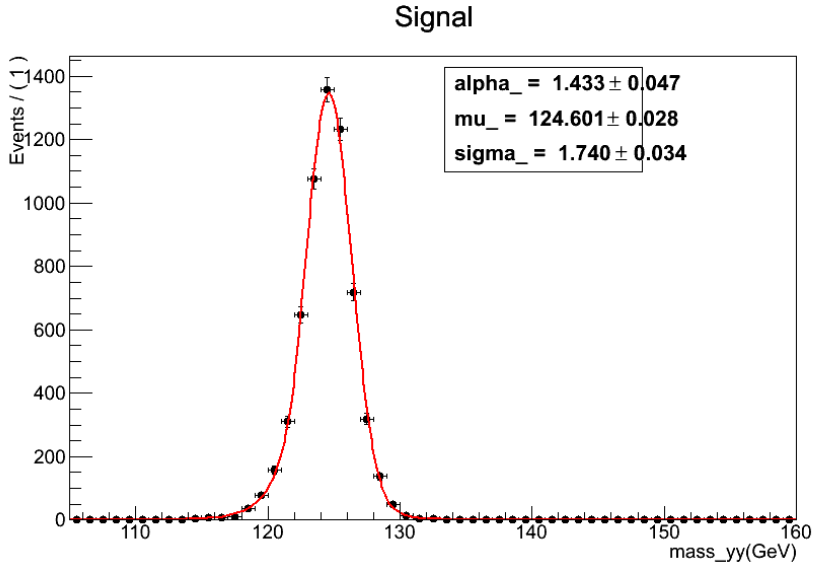
We cannot use 1 pdf to describe signal wh zh tth..

I am struggling on that…









Background components

Here we just consider p p > lvyyjj with different

QCD vertex number to avoid the overlap caused

By parton shower