

# Status of Top asymmetry studies at 500 GeV

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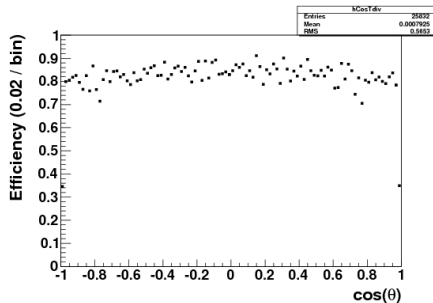
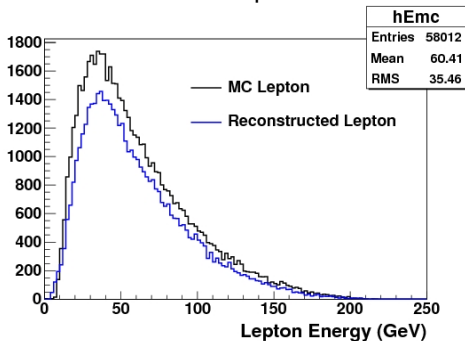
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## Reconstruction procedure

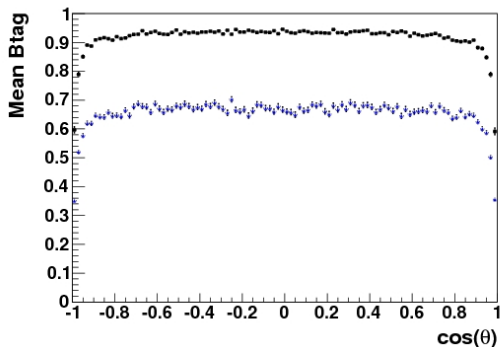
- ① I have use all the top semi-leptonic DST files for these results.
- ② The results presents here have no  $\gamma\gamma$  removal.

## Some results: Lepton



For DBD(LOI) sample: efficiency 84.5%(88%) and 0.4%(0.3%) of bad leptons. Lower efficiency, so there is room for improvement.

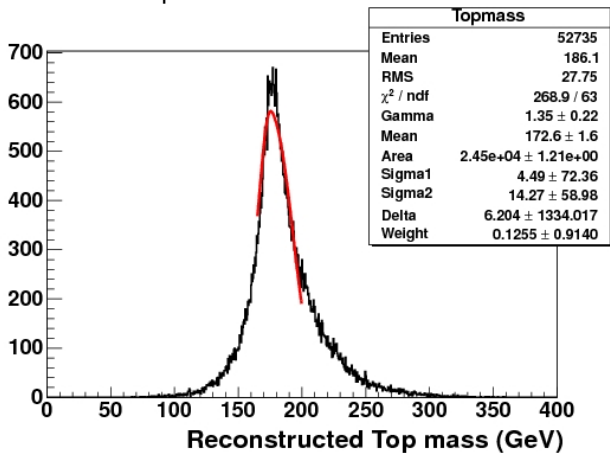
## Some results: B-tagging



The B-tag distribution for the jet with the higher B-tag (in black) and the second higher (in blue).

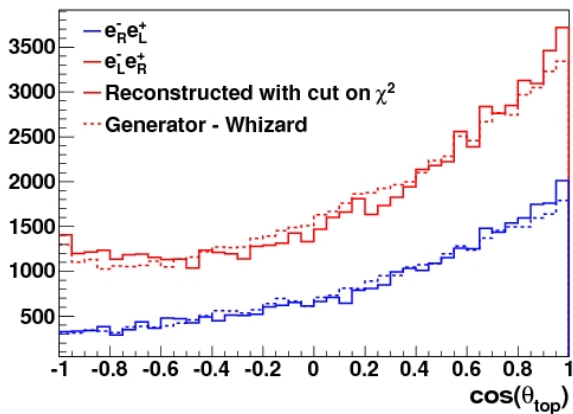
Better results with LCFIPlus than for the LOI. May improve the efficiency to remove background.

## Some results: Top Mass



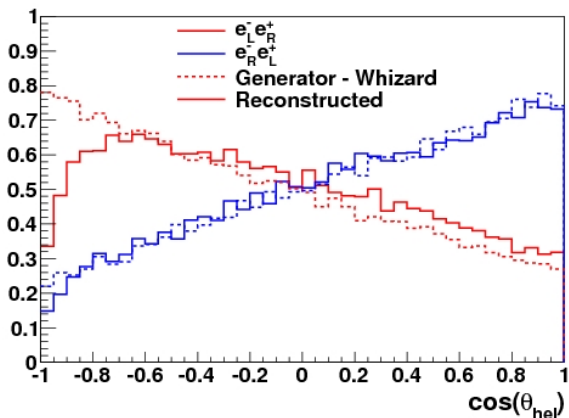
Nice shape for the distribution, but not final numbers because no  $\gamma\gamma$  removal.

## Some results: Angular Top Distribution



$A_{FB}^L = 31.7\%$ , Reco:  $A_{FB}^L = 30.2\%$  with an efficiency of 44.8%  
 $A_{FB}^R = 43.3\%$ , Reco:  $A_{FB}^R = 44.8\%$  with an efficiency of 48.6%

## Some results: Theta Helicity Distribution

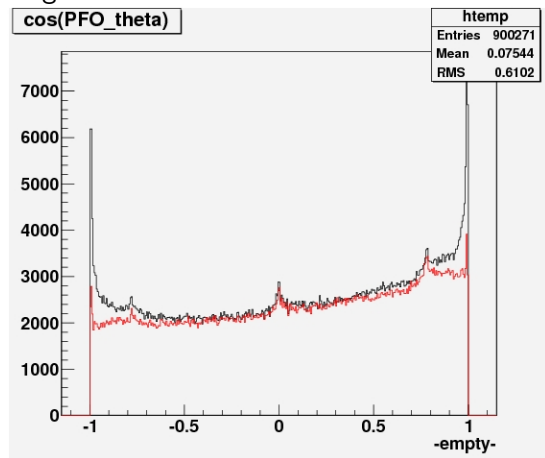


Slope of the distribution on  $[-0.6; 0.9]$ :

For  $e_{LPR}$ : MC =  $-0.24$ , Reco =  $-0.22$  with an efficiency of 69.5%

For  $e_{RPL}$ : MC =  $0.27$ , Reco =  $0.25$  with an efficiency of 74.7%

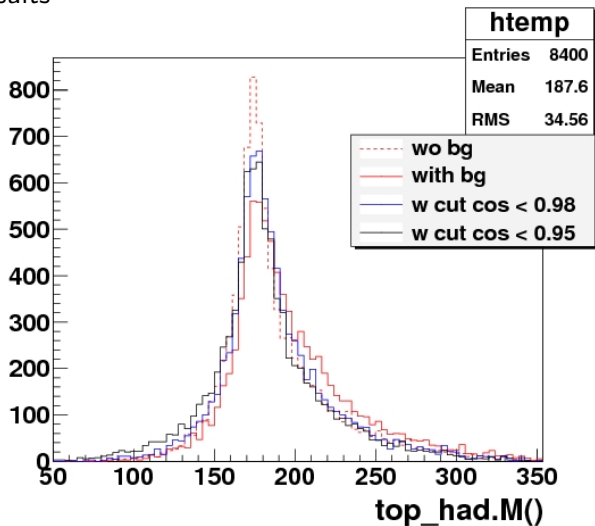
## Angular distribution of the PFOs



Most of the  $\gamma\gamma$  background is at low angle. Remove the PFOs with high  $\cos\theta$ .



## Results



Optimal value for  $\cos\theta < 0.98$  (blue one)

## Conclusion

- 1 Analyse of all the 6f ttbar for semi-leptonic decay is ready.
- 2 Only need the analyse with  $\gamma\gamma$  removal to have the finals numbers.
- 3 The jobs are running and will be finish soon.