

How a binned Transfer Function looks like?

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mini-Workshop on “MEM for data analysis at the LHC”

Introduction

The plots in this talk are just to show how our implementation of a binned TF in Root looks like.

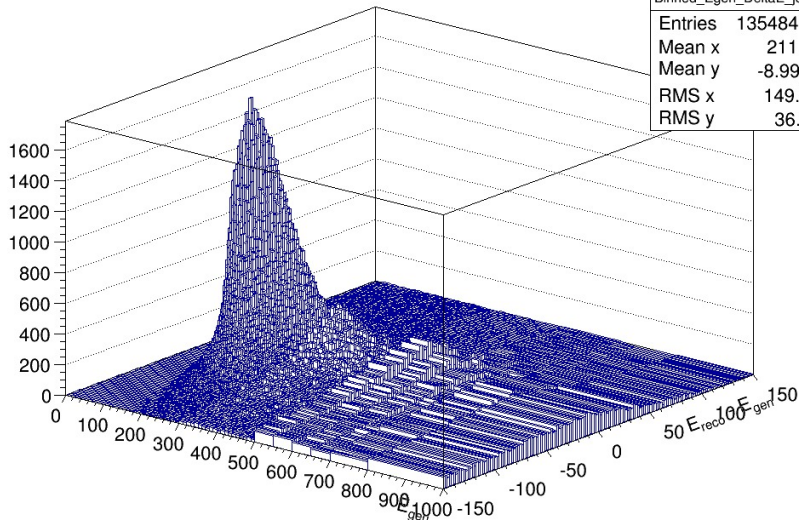
- MC events generated with MG5
- $HH \rightarrow b\bar{b}VV \rightarrow b\bar{b}l\nu l\nu$
- Objects reconstructed with Delphes
- $\Delta E = E_{reco} - E_{gen}$

- No fit needed
- Dynamic binning tuned by hand

Smoothed Transfer Function - Jets

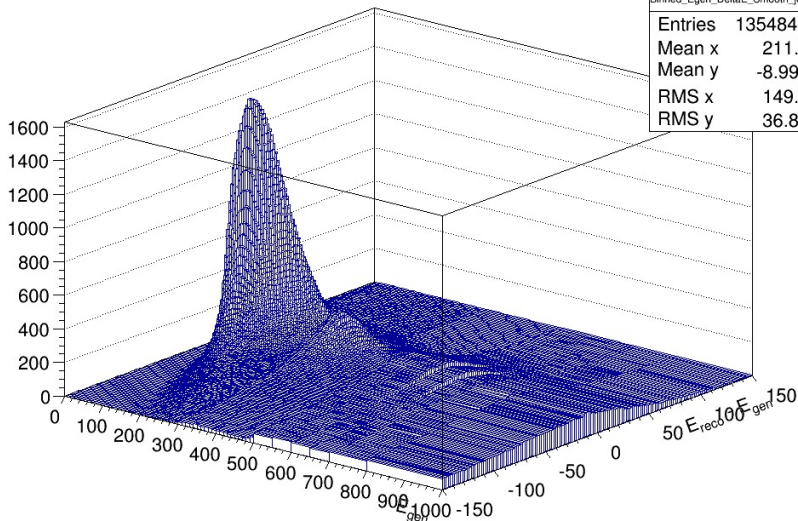
ΔE vs E_{gen} - Jets

Binned_Egen_DeltaE_jet	
Entries	1354844
Mean x	211.1
Mean y	-8.999
RMS x	149.3
RMS y	36.8



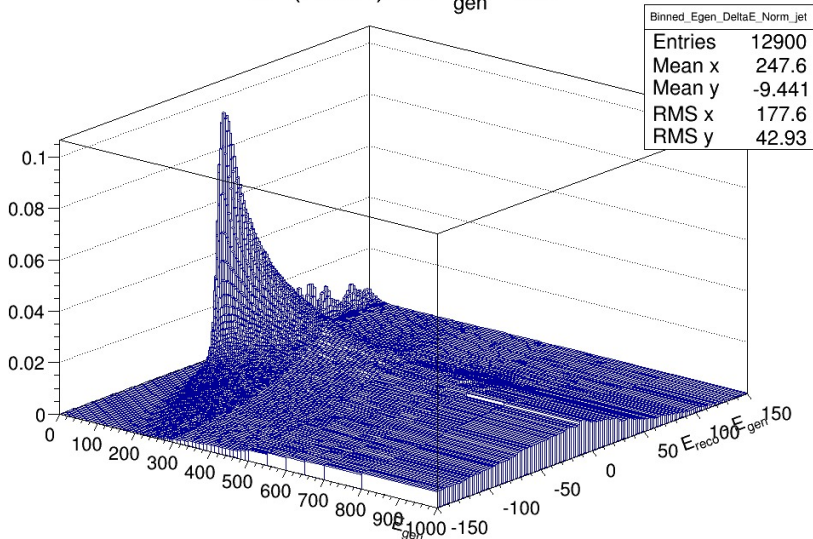
Smoothed Transfer Function - Jets

ΔE vs E_{gen} - Jets



Normalized Transfer Function - Jets

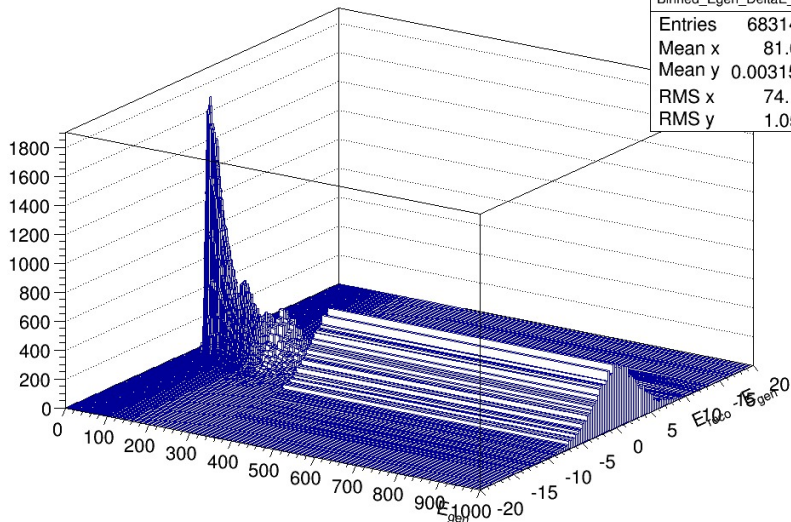
$\Delta E(\text{Norm})$ vs $E_{\text{gen}} - \text{Jet}$



Smoothed Transfer Function - Electrons

ΔE vs E_{gen} - Electrons

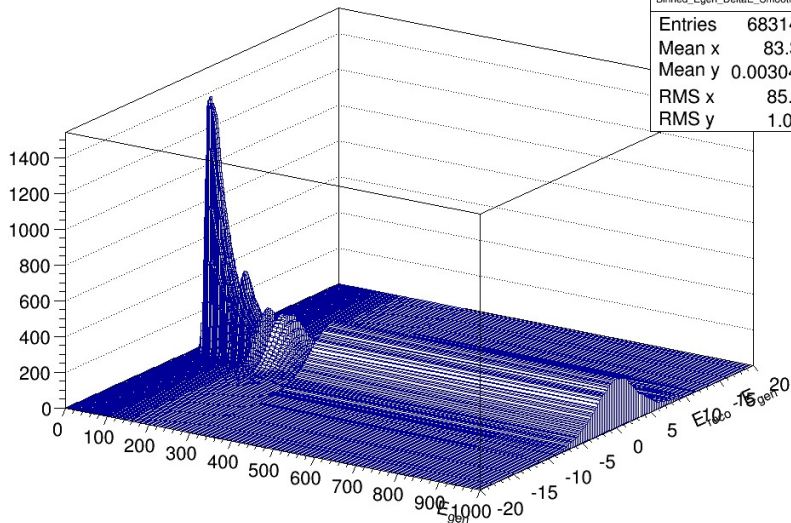
Binned_Egen_DeltaE_ele	
Entries	683149
Mean x	81.65
Mean y	0.003157
RMS x	74.13
RMS y	1.056



Smoothed Transfer Function - Electrons

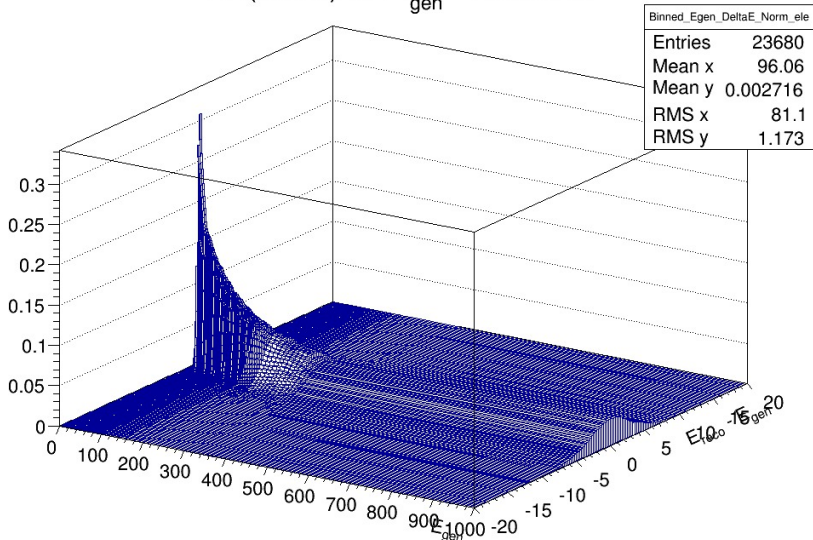
ΔE vs E_{gen} - Electrons

Binned_Egen_DeltaE_Smooth_ele	
Entries	683149
Mean x	83.39
Mean y	0.003045
RMS x	85.91
RMS y	1.081



Normalized Transfer Function - Electrons

$\Delta E(\text{Norm})$ vs E_{gen} - Electrons



Backup Slides