HEP Weekly Report

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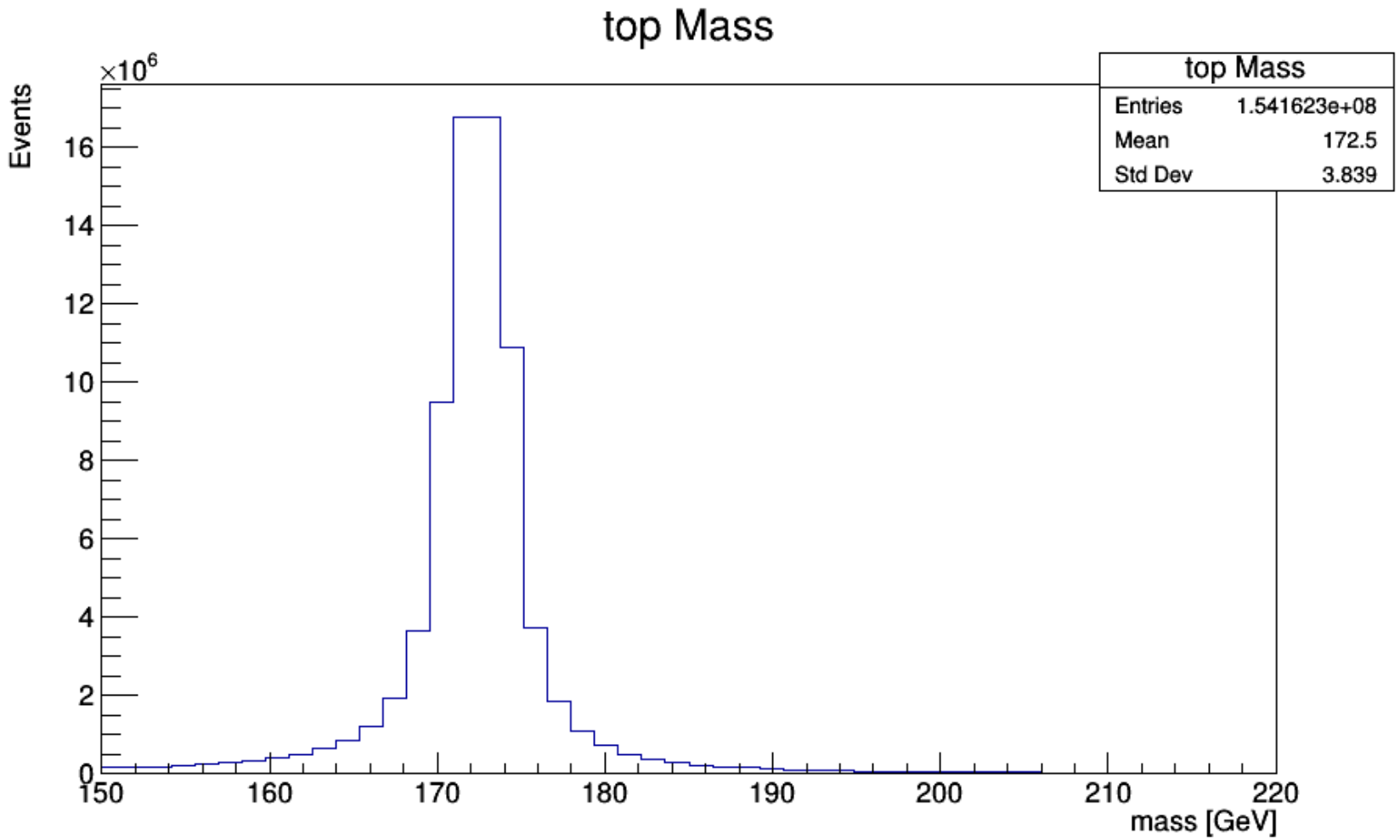
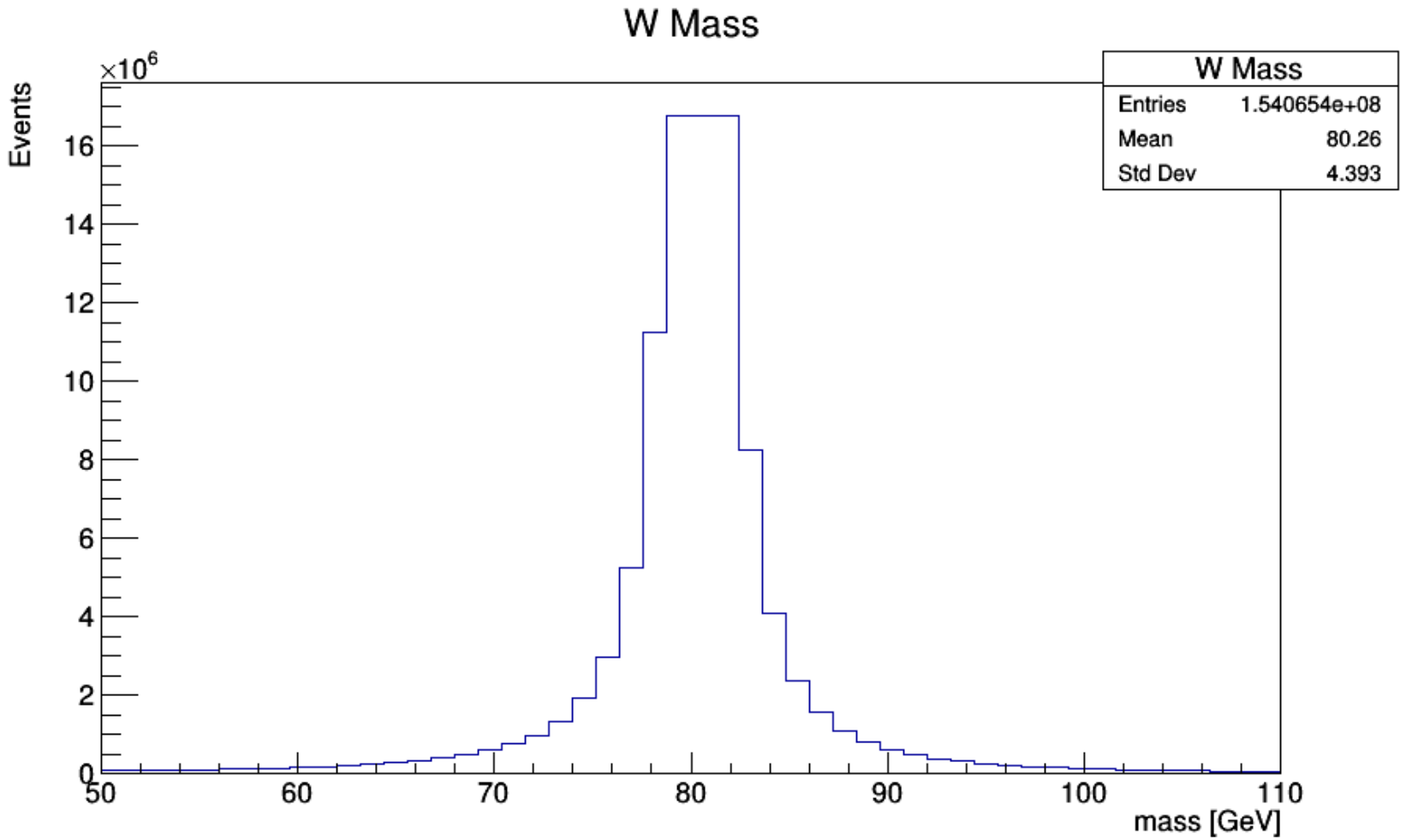
Kinematics

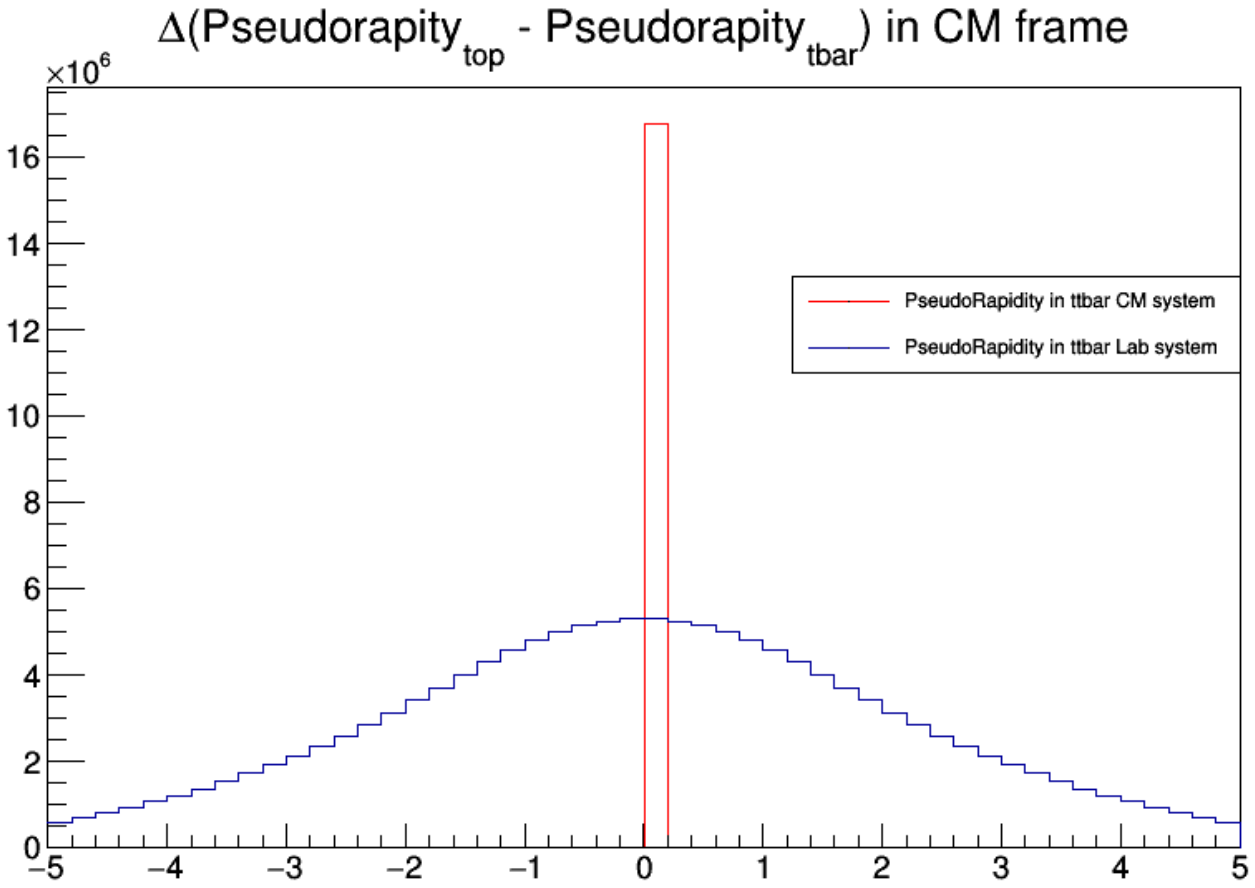

top Mass
top Mass
Entries 1.541623e+08
Mean 172.5
Std Dev 3.839
Events
×10^6
0
2
4
6
8
10
12
14
16
150
160
170
180
190
200
210
220
mass [GeV]

Kinematics


W Mass
W Mass
Entries 1.540654e+08
Mean 80.26
Std Dev 4.393
Events
×10^6
0
2
4
6
8
10
12
14
16
50
60
70
80
90
100
110
mass [GeV]

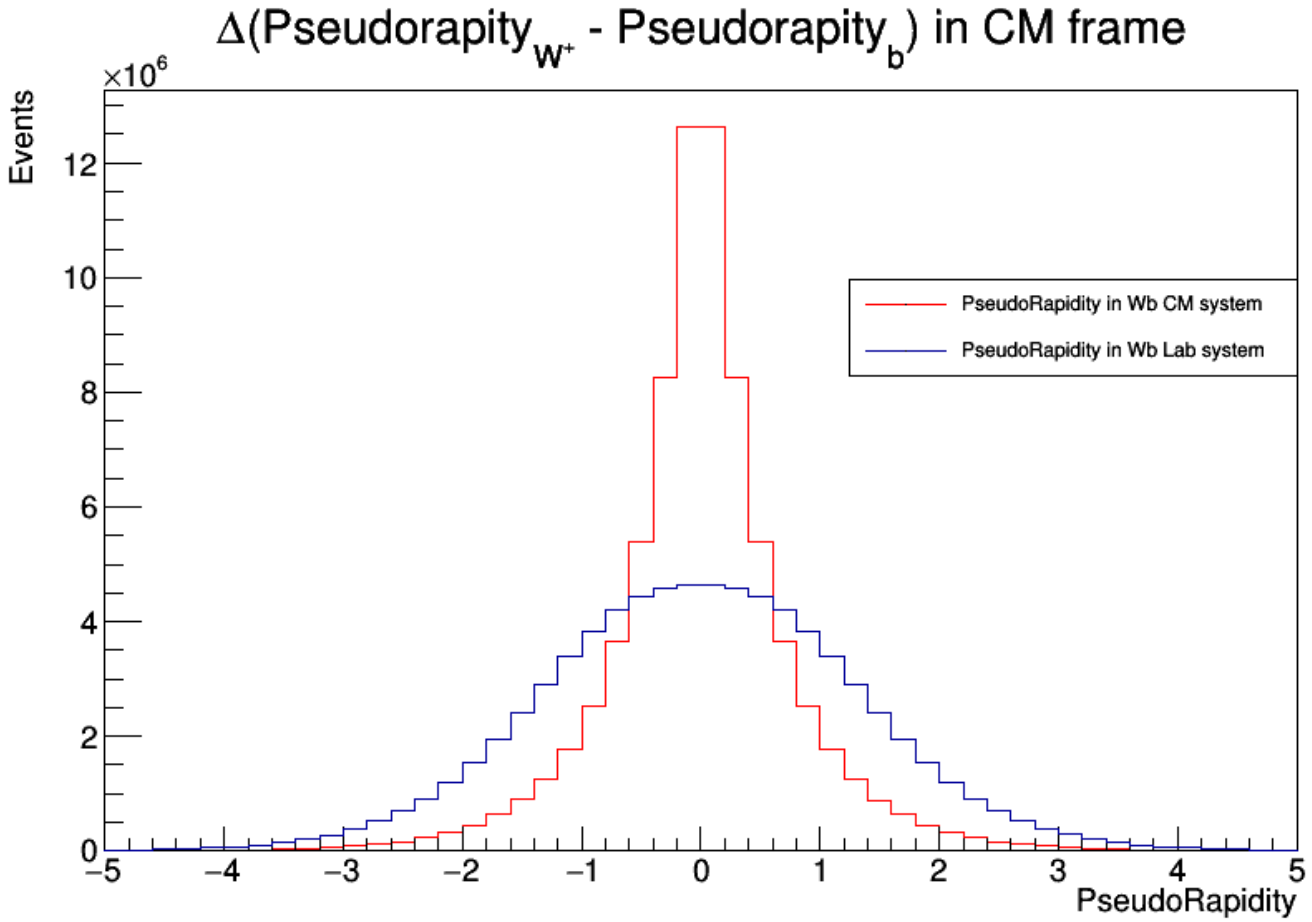
Kinematics

This is the Pseudorapidity difference of the top and and the antitop quarks in the CM frame



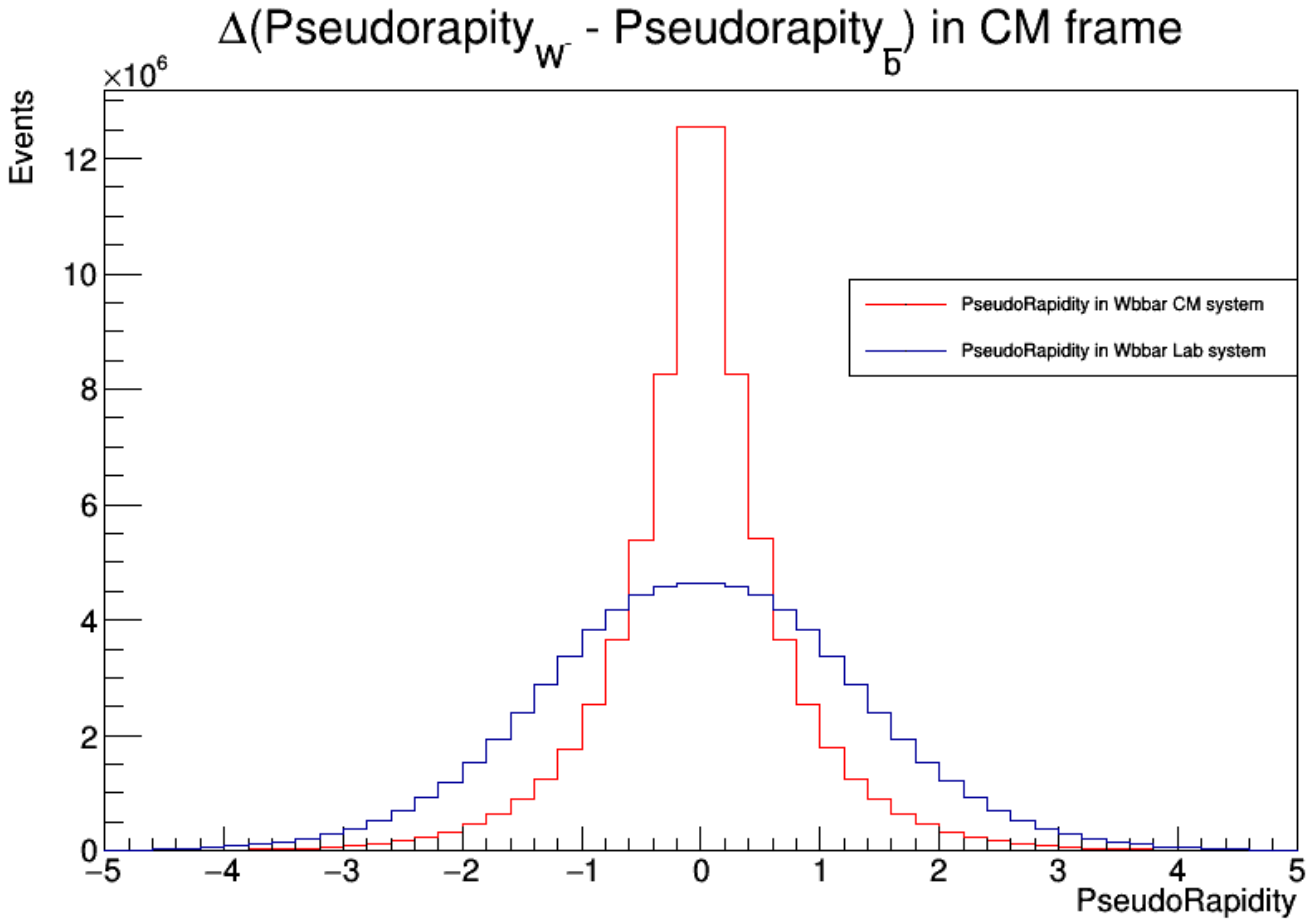
Kinematics

This is the Pseudorapidity difference of W^+ and b quark in the top Rest Frame



Kinematics

This is the Pseudorapidity difference of W^- and bbar quark in the anti-top Rest Frame



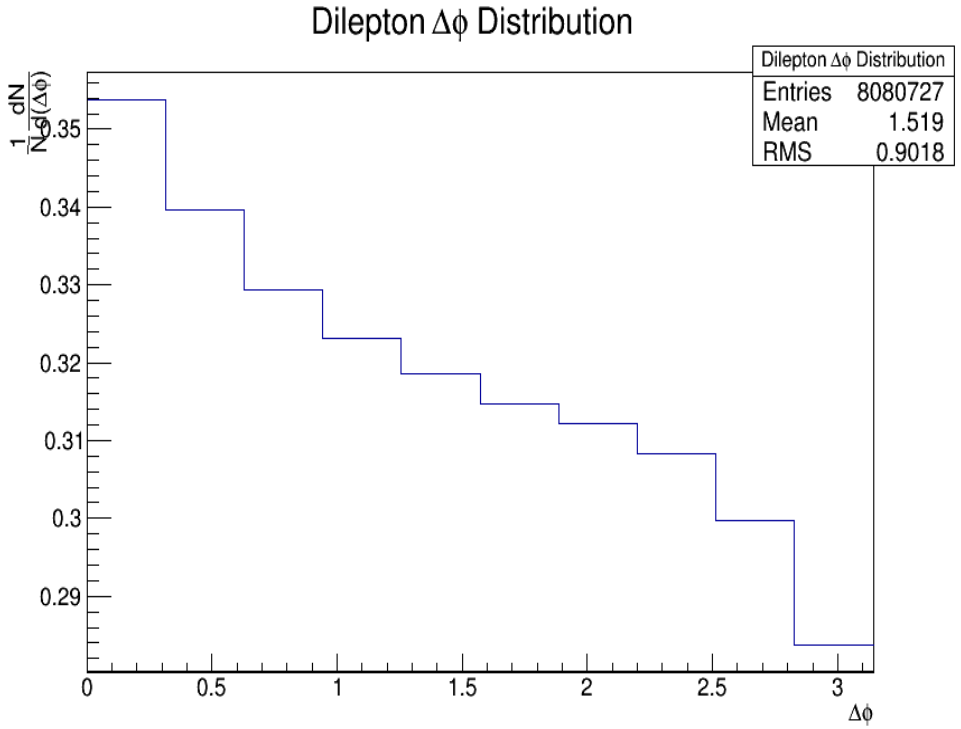
Kinematics

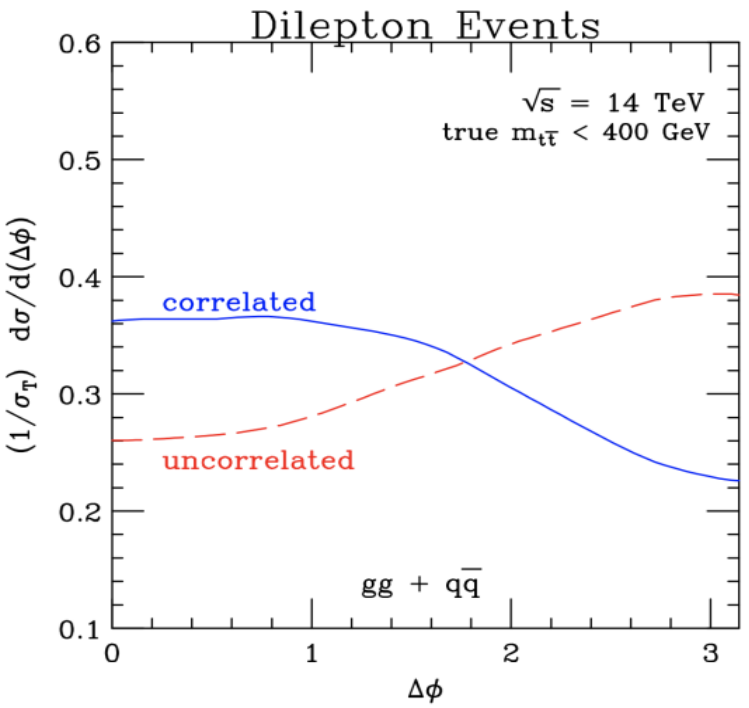
- Total number of events: 77081156

- Fully Hadronic: 35187365 (fraction of 45.6% of total events)
- Semileptonic: 33716560 (fraction of 43.7% of total events)
- Dileptonic: 8080716 (fraction of 10.4% of total events)

Angular Distributions

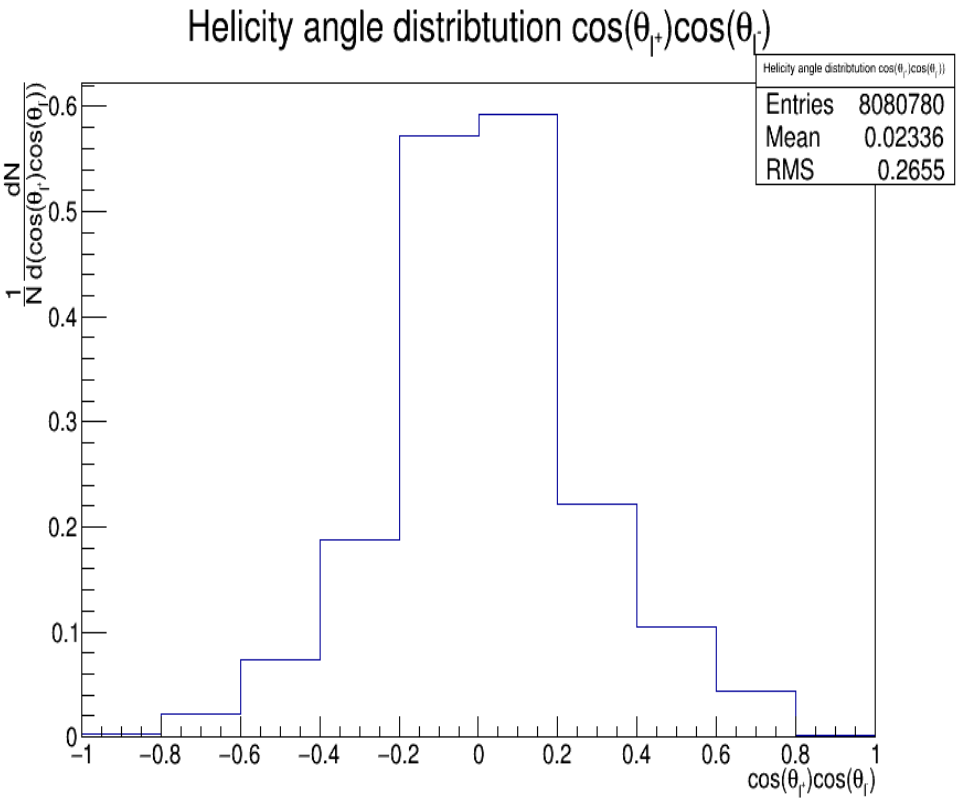
This is the $\Delta\phi$ distribution from l^+, l^- in Lab frame with no cuts @Parton Level
Last bin problem (?) checking again maybe the normalization is not done well

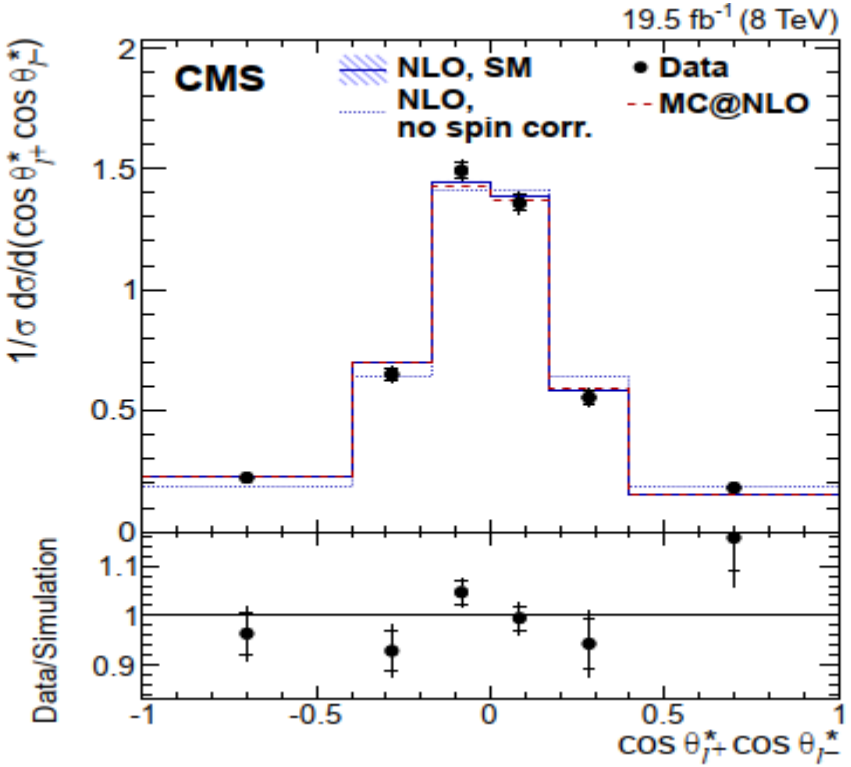




Angular Distributions

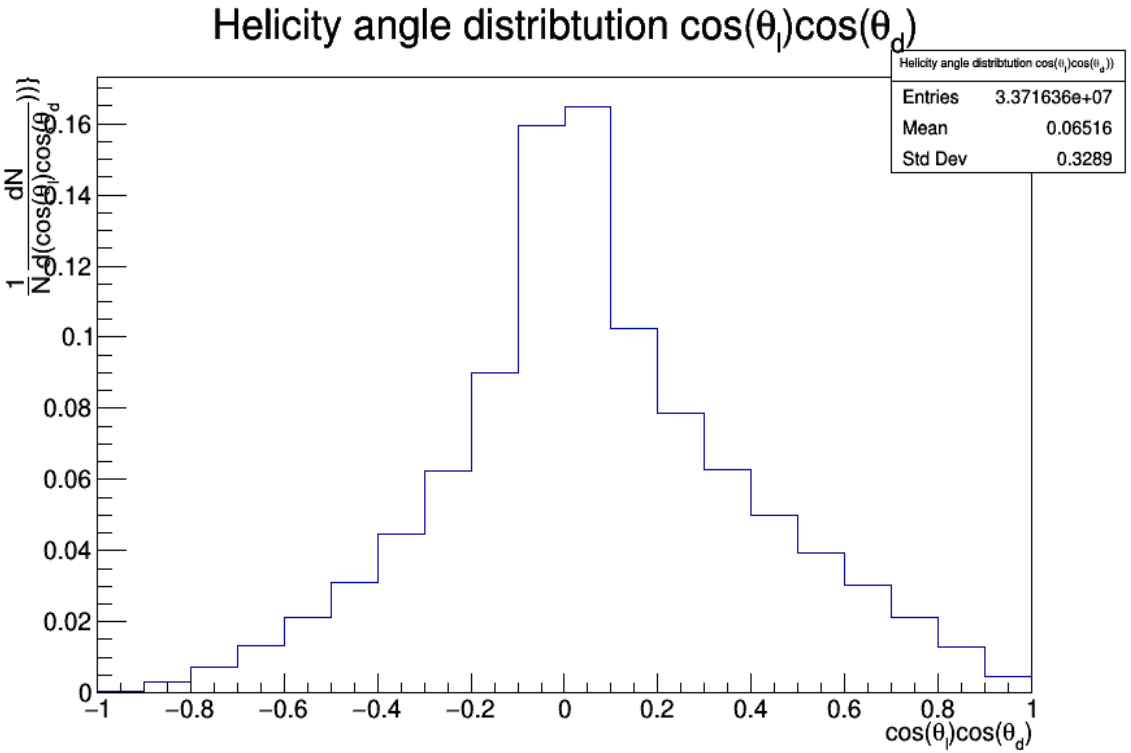
This is the $\cos(\theta_{helicity}{}^{l+})\cos(\theta_{helicity}{}^{l-})$ distribution from l^+, l^- in the W^+,W^- rest frames respectively

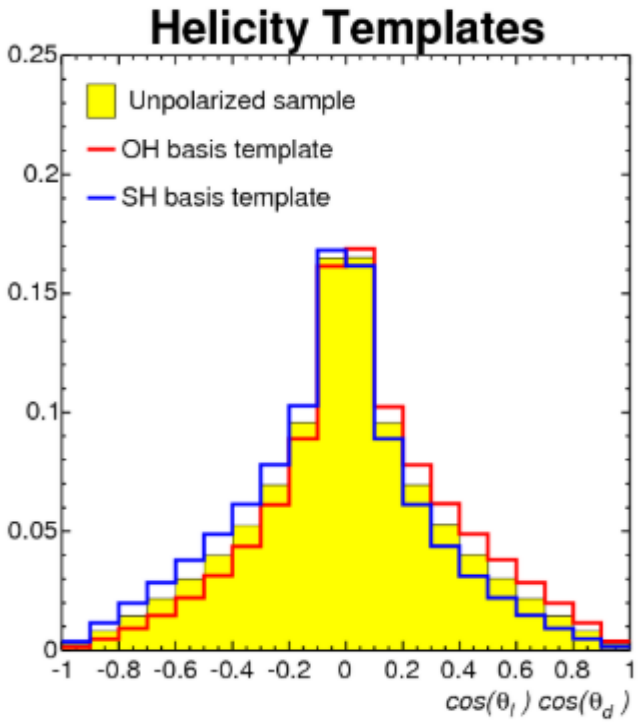




Angular Distributions

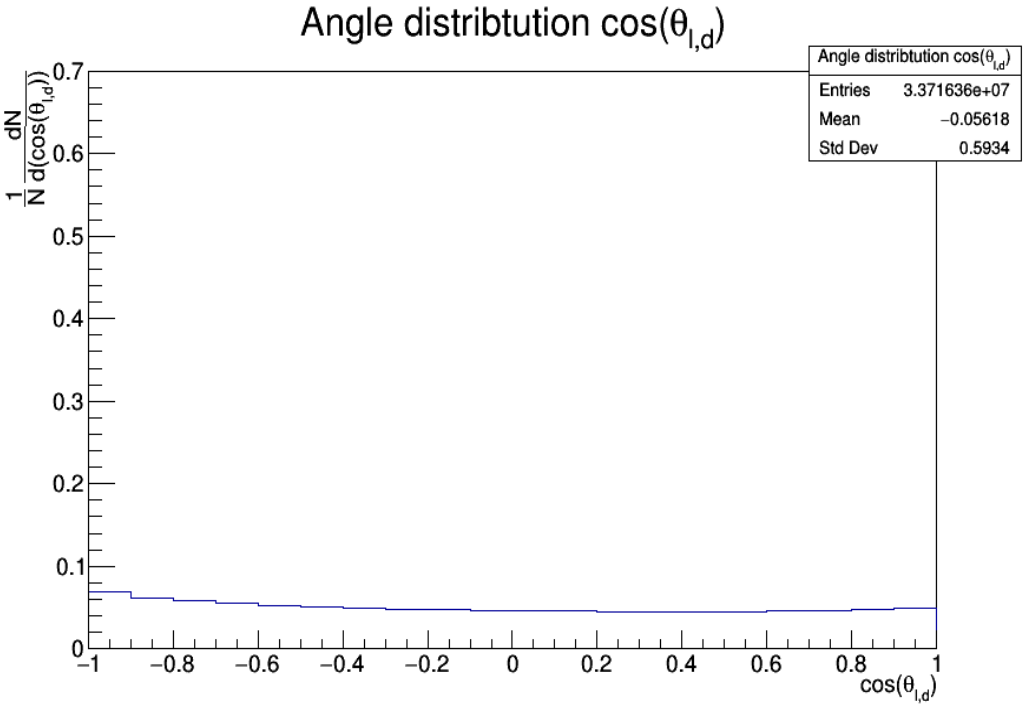
This is the $\cos(\theta_{helicity}^{l})\cos(\theta_{helicity}^{d})$ distribution from $l+$, down (or l^-, dbar) where θ= Helicity angle of lepton or down quark

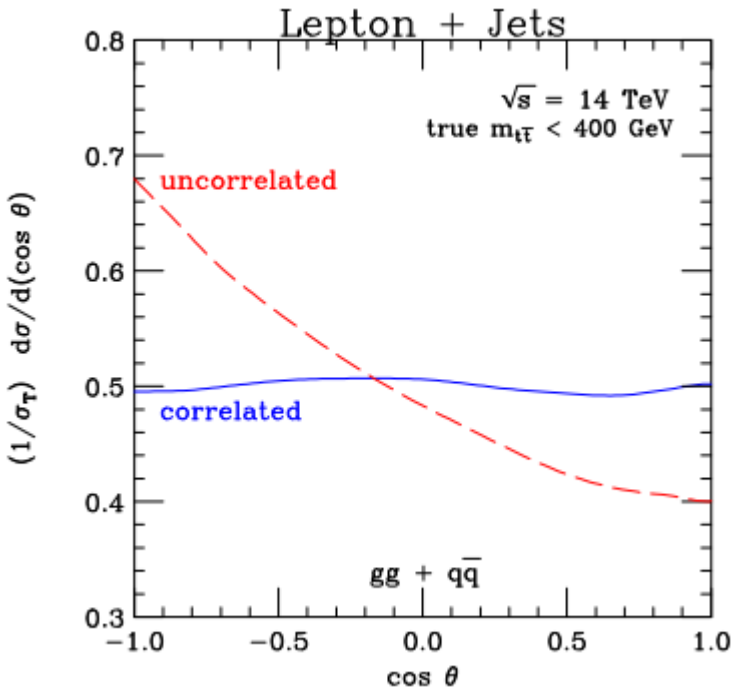




Angular Distributions

This is the $\cos(\theta_{lepton,down})$ distribution from l+, down (or l^-, dbar) where θ=opening angle between lepton and down quark in ttbar rest frame (Zero Momentum Rest Frame)
I am not sure about this histogram…. I see different shape than the expected





- DCS:
  - fwInstallationUtils components
  - Testing a modification Giannis made and checking some bugs, etc
  - CMSfwFsmXml component
    - Reported bug when importing an already set device type in the project via XML file
- Ordered new PCB for ArdEnvino
  - Probably will have by the end of this week
  - If this PCB is bug-free will continue with a 3D printed case
  - The idea is to have this project as a black box with a screen and 1-4 connected sensors