

# W + N Jets Study

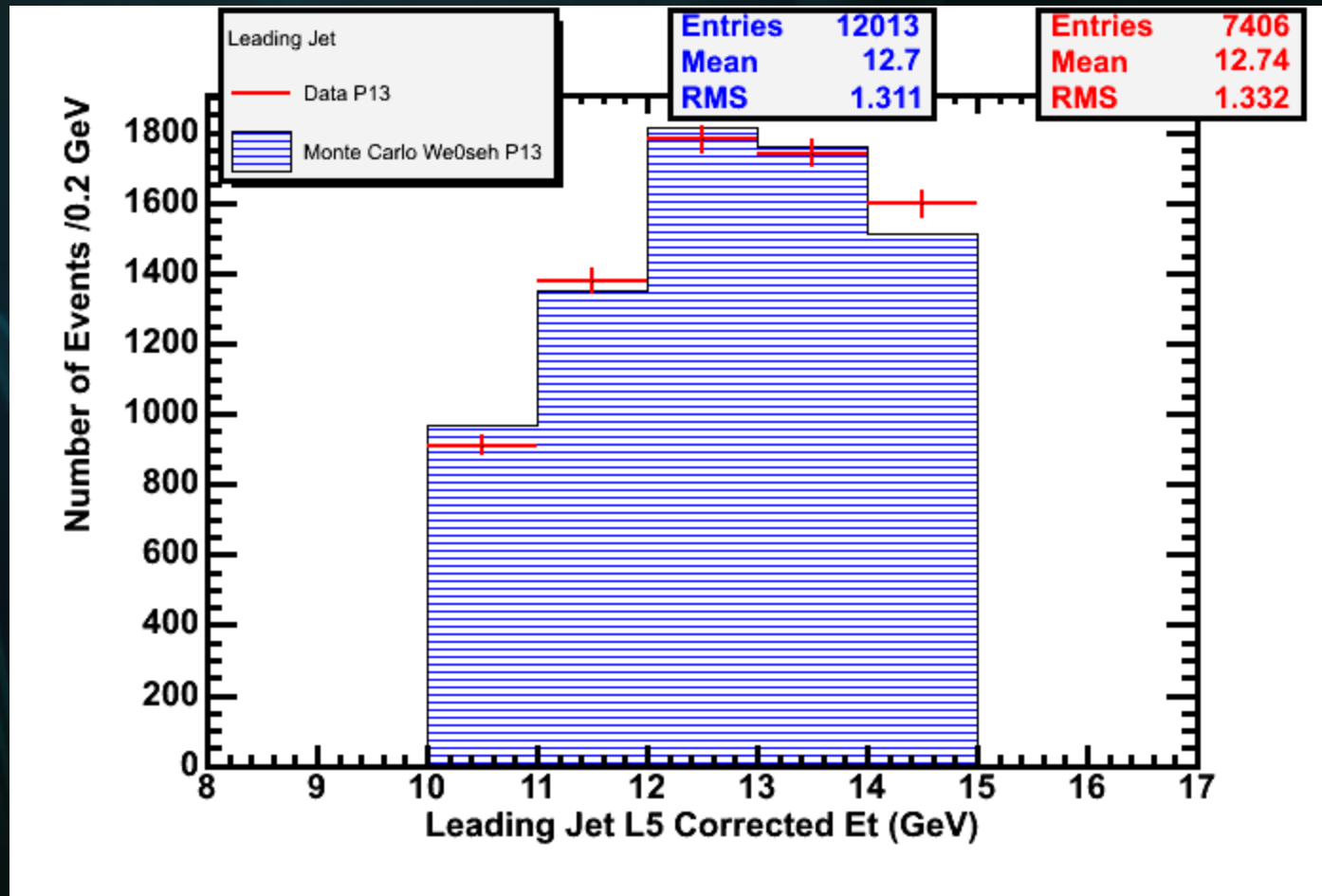
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04/30/09

# Talk Outline

- Study Opening angle Plots between W-Leading Jet for  $W^+$  ( $N \text{ Jets} \geq 1$ )
- Study Opening angle Plots between W-Next-To-Leading Jet for  $W^+$  ( $N \text{ Jets} \geq 2$ ) as well as Jet-Jet Opening angles
- Study Opening angle Plots between W-Third Jet for  $W^+$  ( $N \text{ Jets} \geq 3$ ) as well as Jet-Jet Opening angles
- Look at properties of Tracks Algorithm 11 and 23

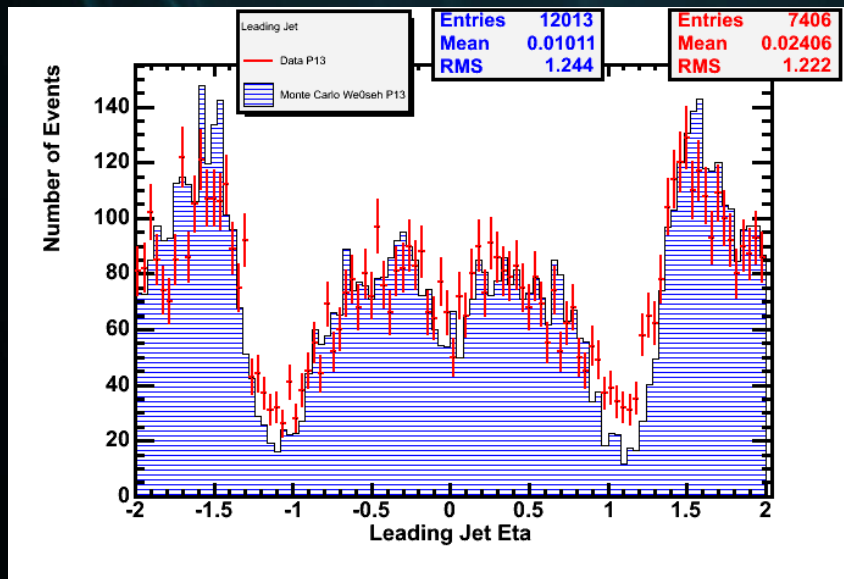
# Leading Jet Variables



- All Jets Selected with L5 Corrected  $E_T$
- $10 \text{ GeV} < E_T < 15 \text{ GeV}$
- All Jets  $|\eta| < 2$

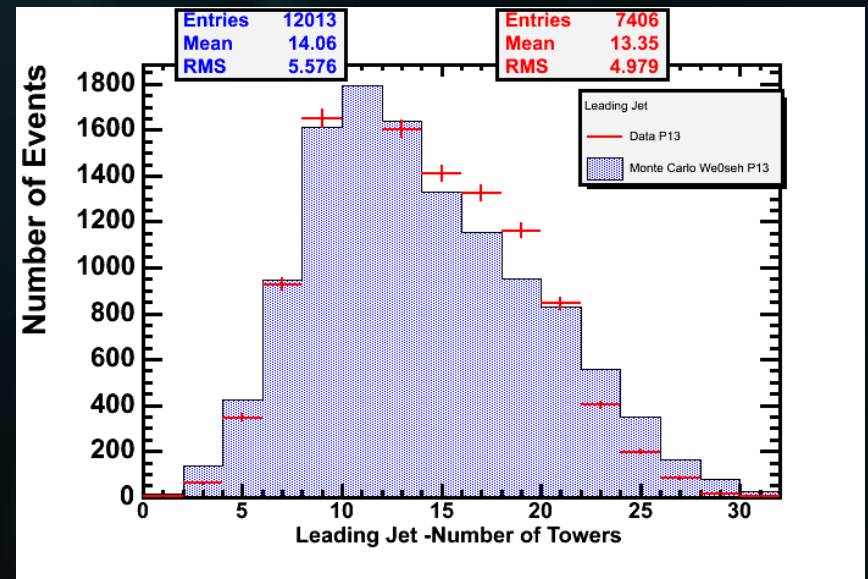
# Leading Jet Variables

## Leading Jet Eta



- More Jets in Forward Region than Central ?

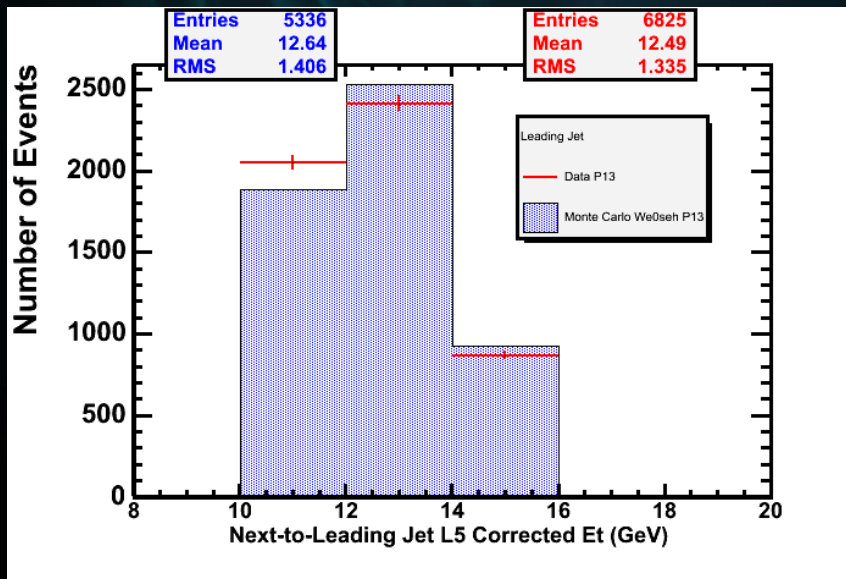
## Number of Towers



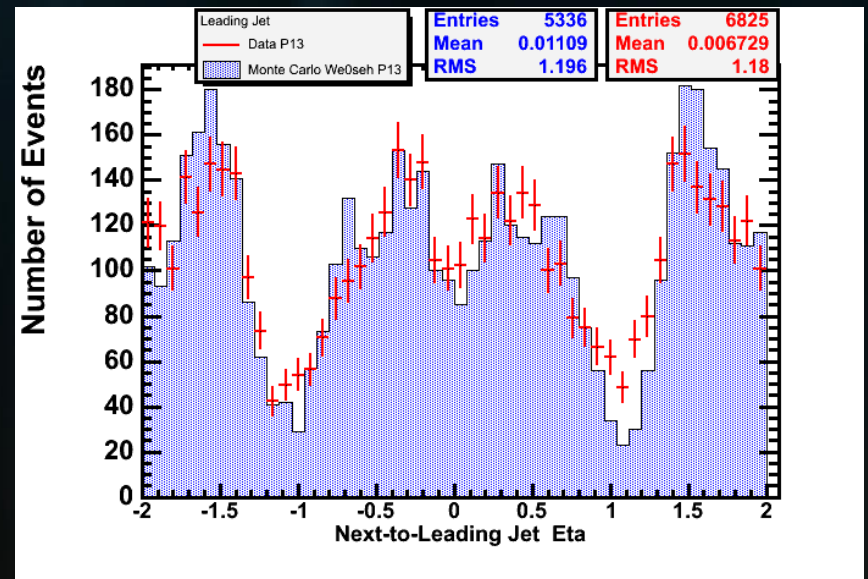
- Peak ~ 12, Jet Et in previous plot peaks ~12 GeV

# Next-To-Leading Jet Variables

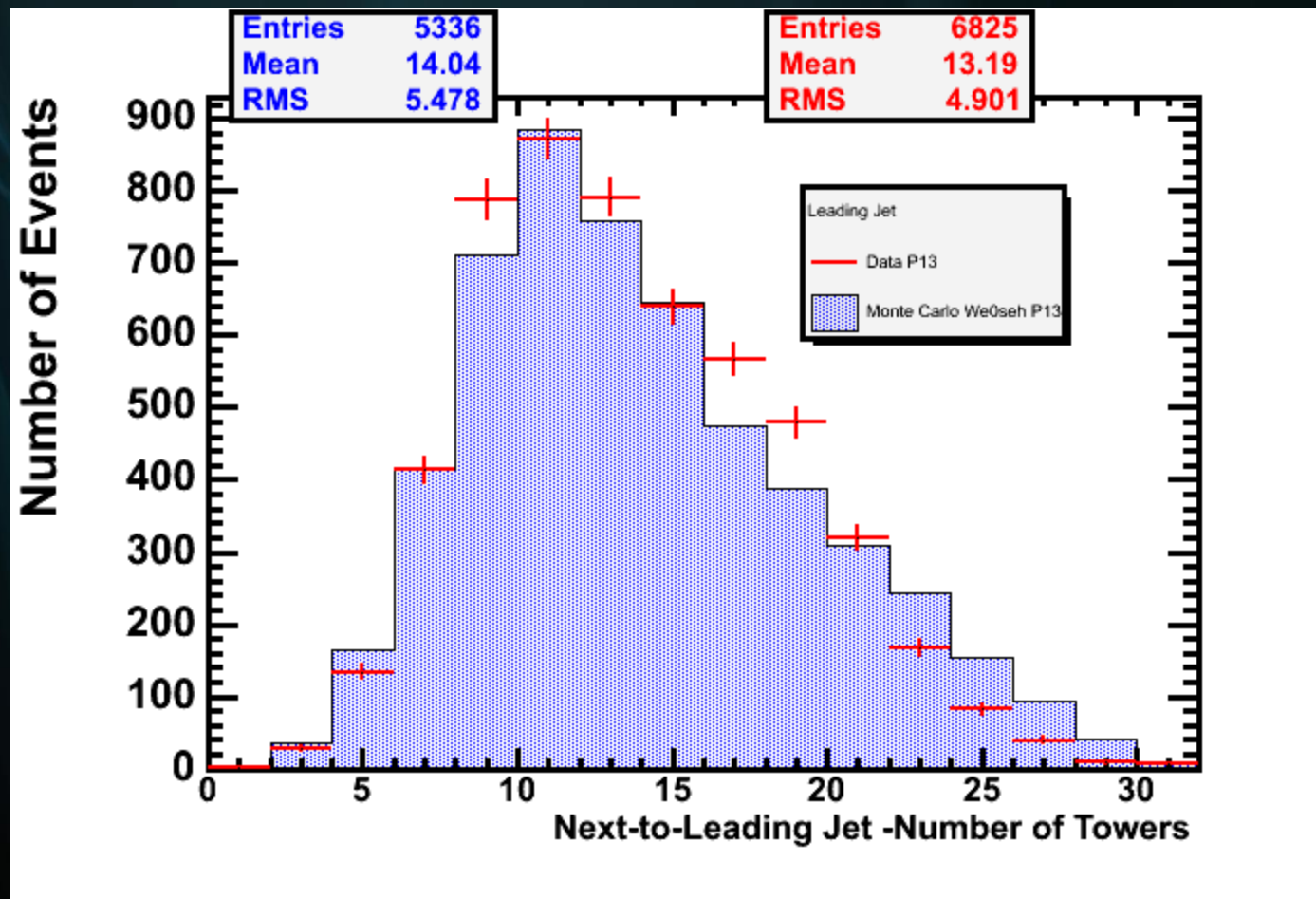
## Next-To-Leading Jet L5 Corrected Et



## Next-To-Leading Jet Eta

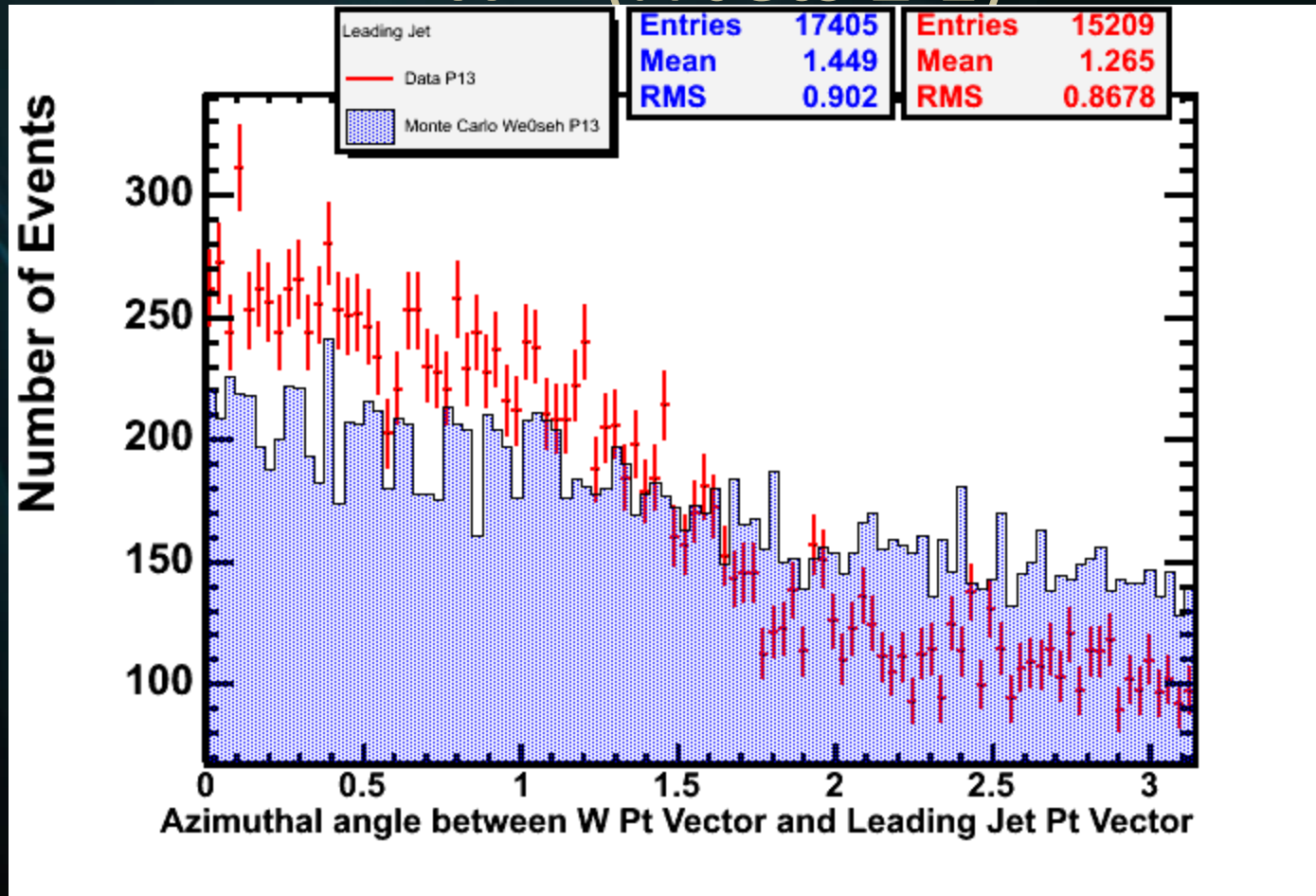


# Next-To-Leading Jet Variables



- Peak ~ 11 ,Peak shift s to the right as the Jet Et increases

# W + (N Jets $\geq 1$ )

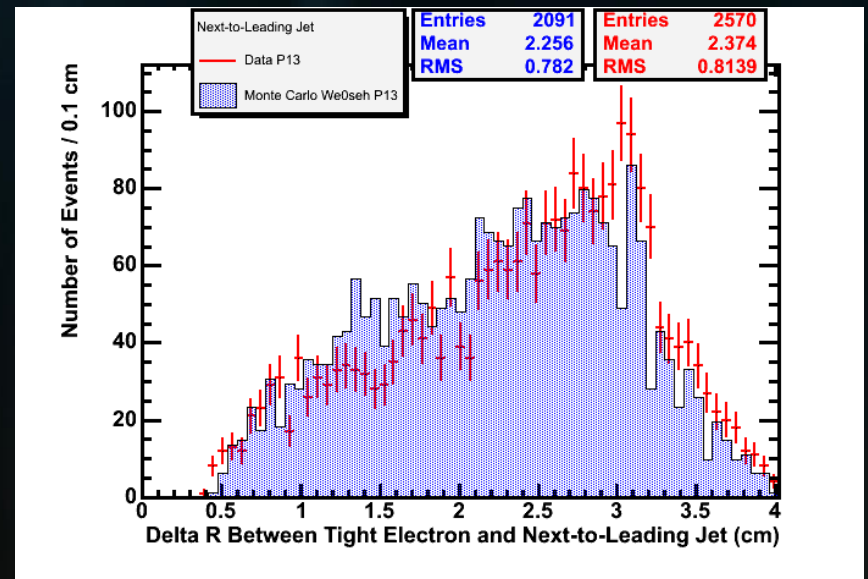
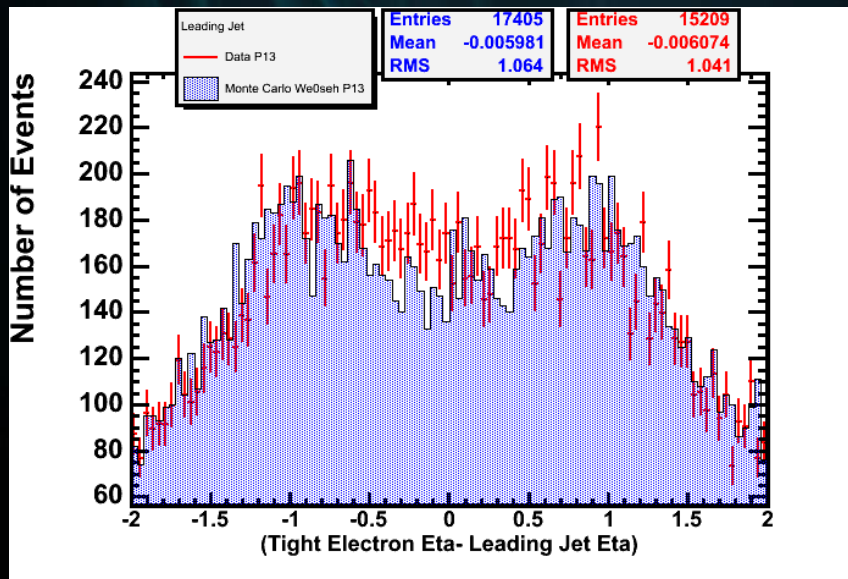


- Plot above is  $\Delta\phi(W P_T \text{ and Leading Jet } P_T)$
- MET Corrected for Selected Jets and Muons in the Event

# W + (N Jets $\geq 1$ )

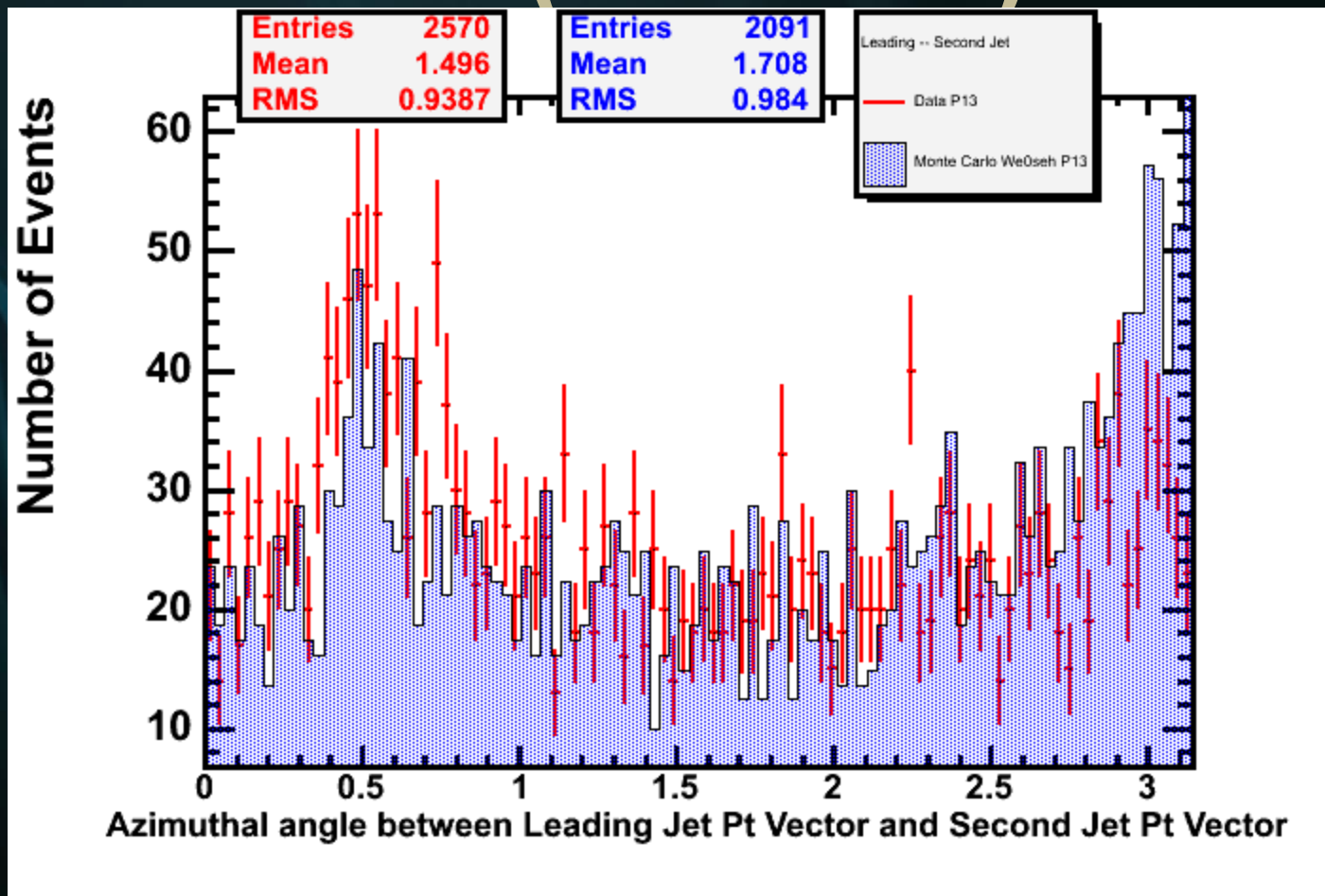
$\Delta\eta$ ( Tight electron – Leading Jet Eta)

$\Delta R$ ( Tight electron – Leading Jet Eta)



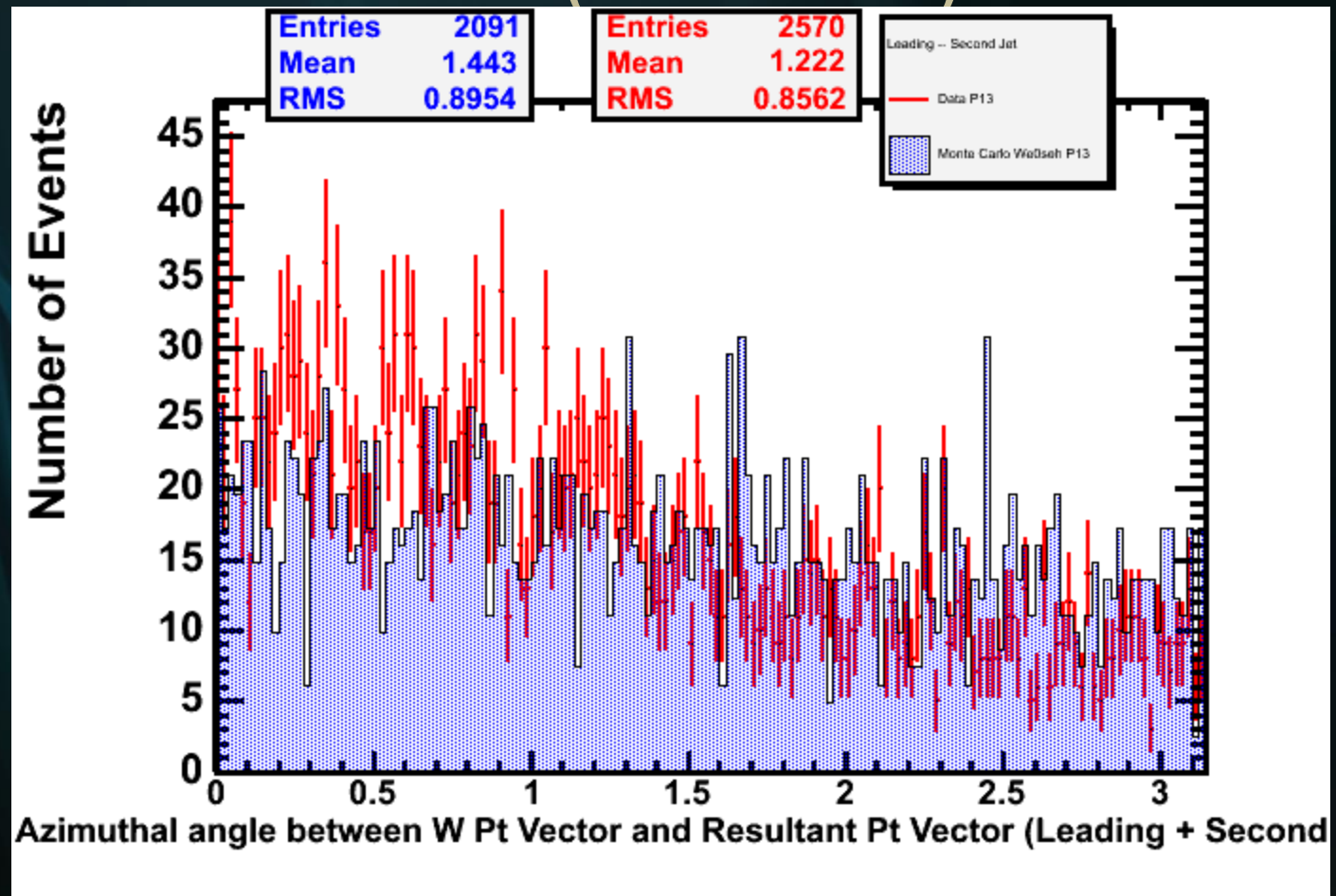


# W + (N Jets $\geq 2$ )

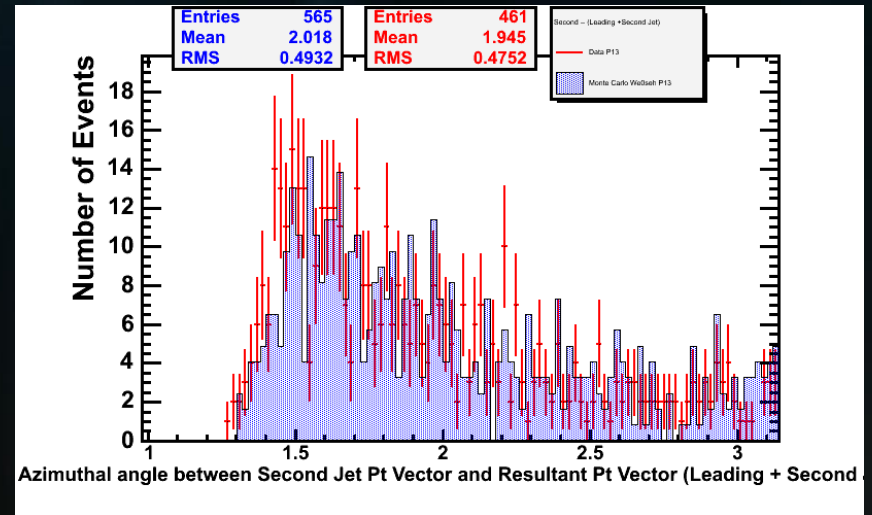
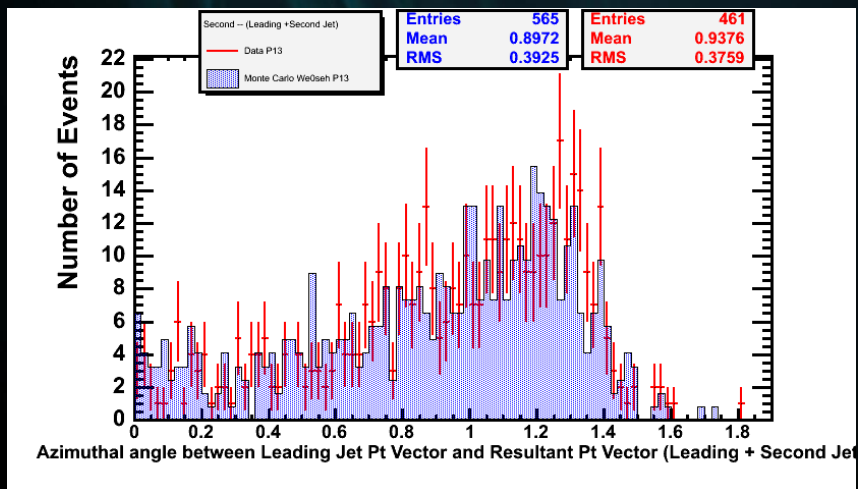


- Plot above is  $\Delta\phi(W P_T \text{ and Leading Jet } P_T)$
- MET Corrected for Selected Jets and Muons in the Event

# W + (N Jets $\geq 2$ )

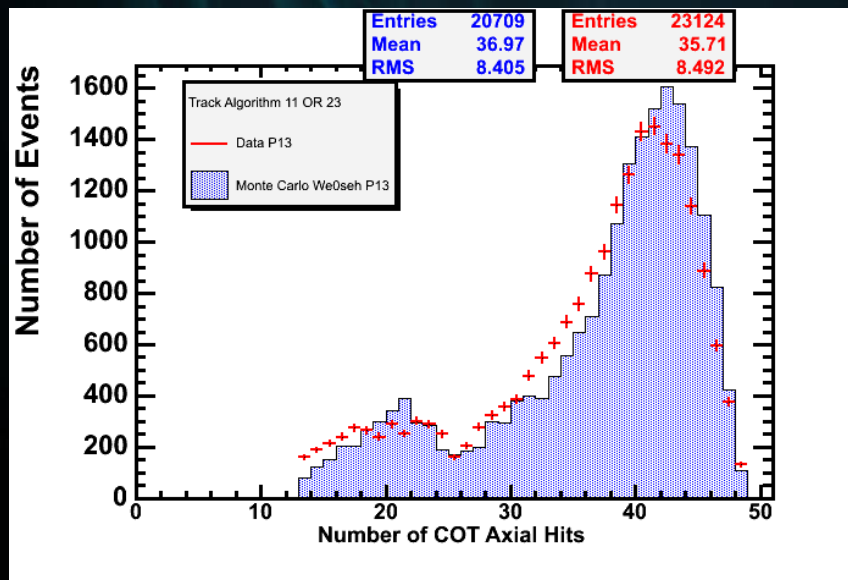


# W + (N Jets $\geq 2$ )

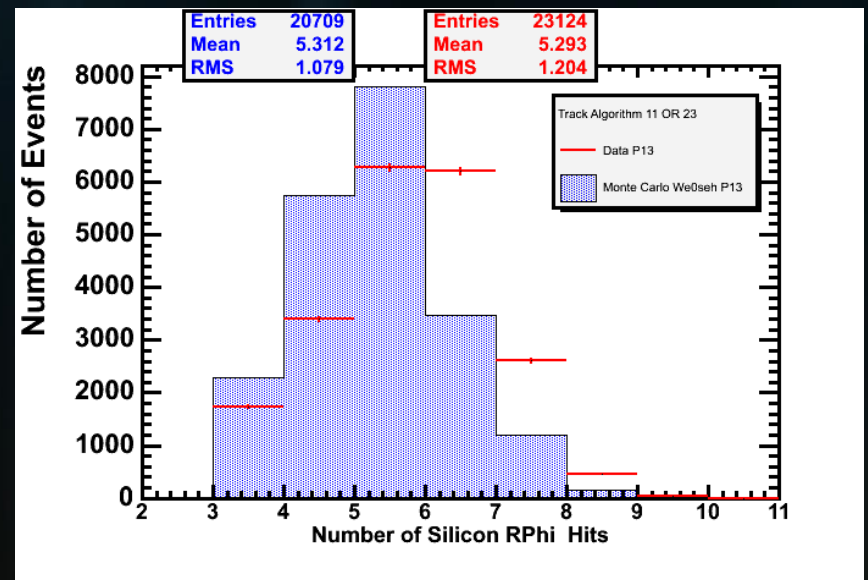


# Track Algorithm 11 OR 23

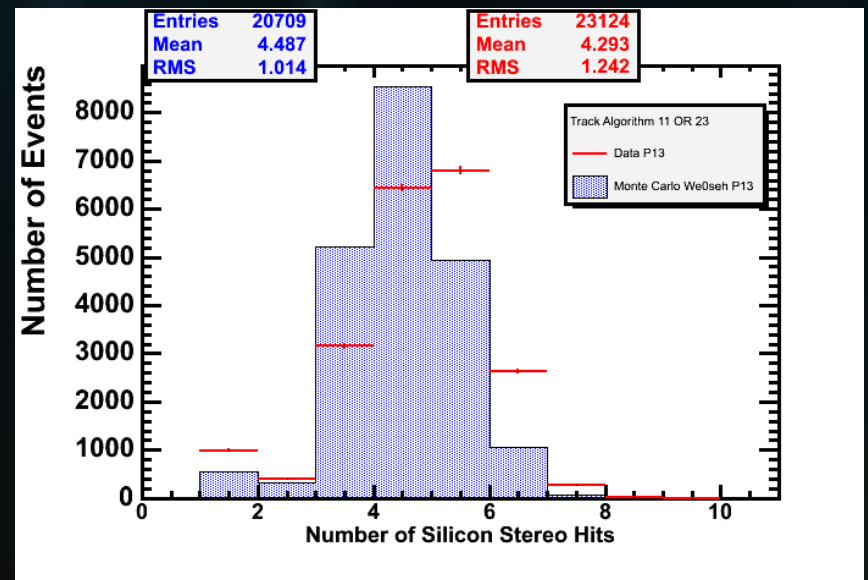
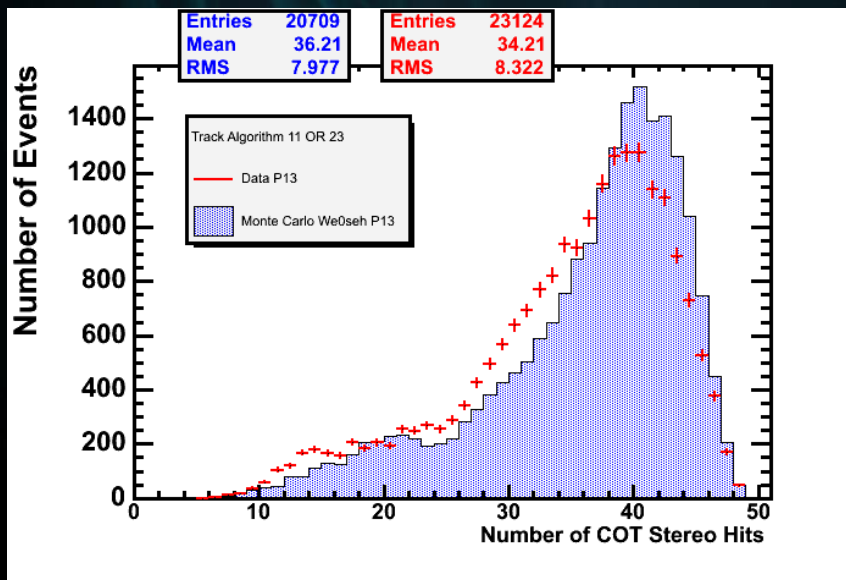
## Number of COT Axial Hits



## Number of Silicon RPhi Hits



# Track Algorithm 11 OR 23



# Conclusions

- Need to understand the effect of Muon Correction on MET with respect to Low energy Jets
- Make the same plots for Jet  $E_t > 15$  GeV