

W + N Jets Study

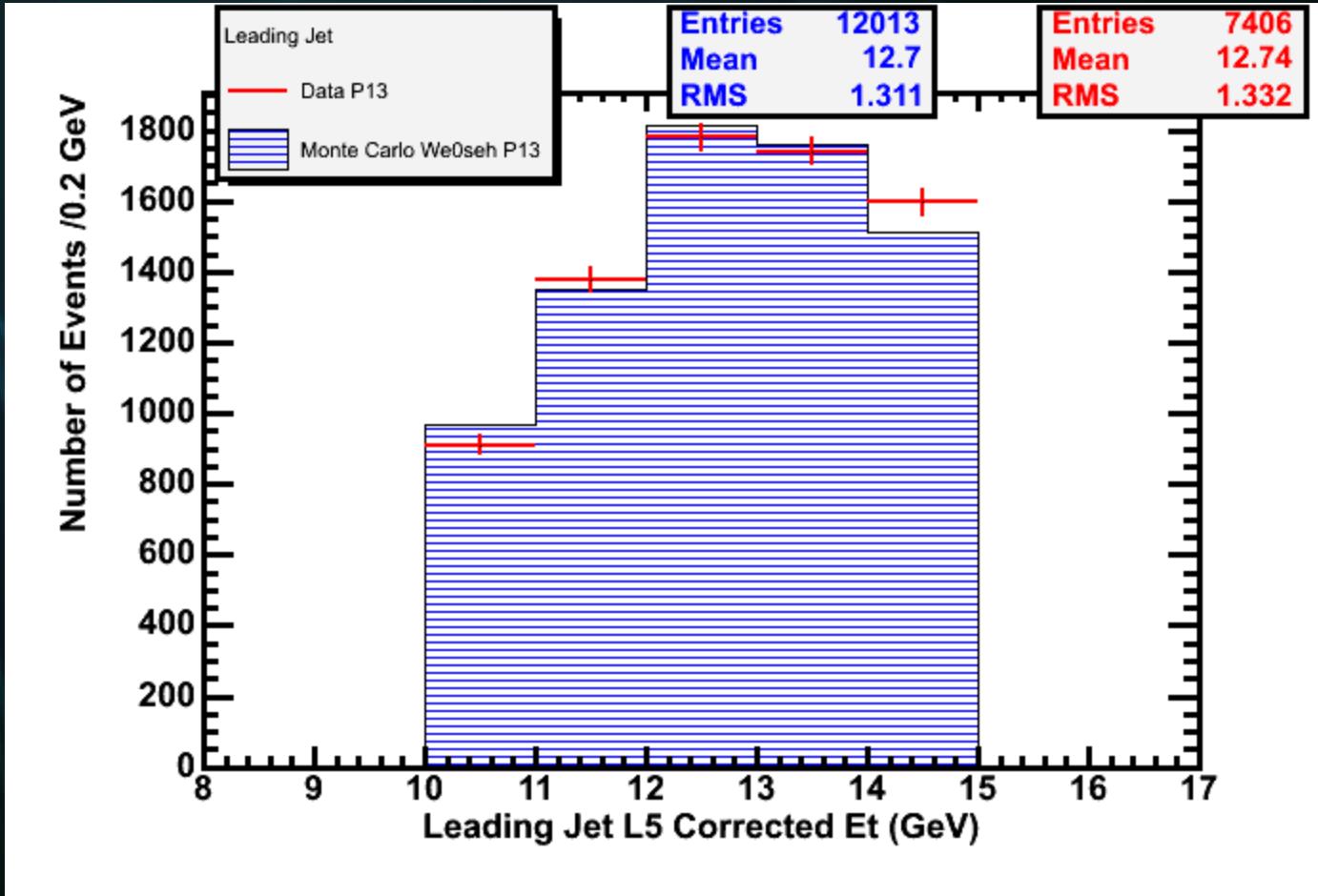
Varsha Ramakrishnan

04/30/09

Talk Outline

- Study Opening angle Plots between W-Leading Jet for W+ (N Jets ≥ 1)
- Study Opening angle Plots between W-Next-To-Leading Jet for W+ (N Jets ≥ 2) as well as Jet-Jet Opening angles
- Study Opening angle Plots between W-Third Jet for W+ (N Jets ≥ 3) as well as Jet-Jet Opening angles
- Look at properties of Tracks Alogrithm 11 and 23

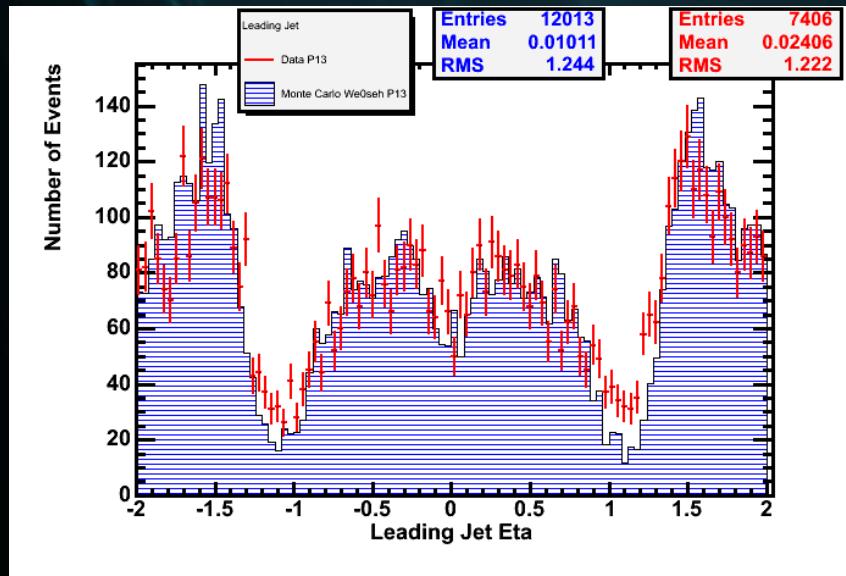
Leading Jet Variables



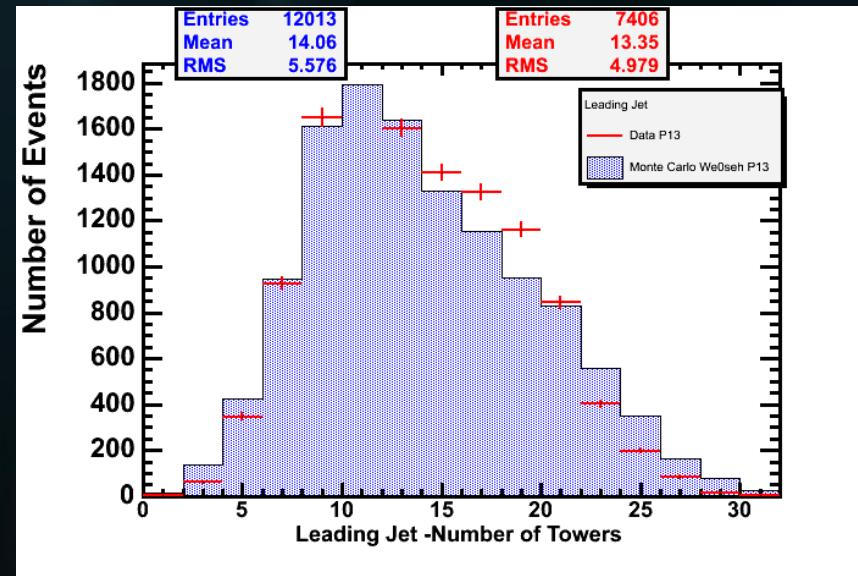
- All Jets Selected with L5 Corrected E_T
- $10 \text{ GeV} < E_T < 15 \text{ GeV}$
- All Jets $|\eta| < 2$

Leading Jet Variables

Leading Jet Eta



Number of Towers

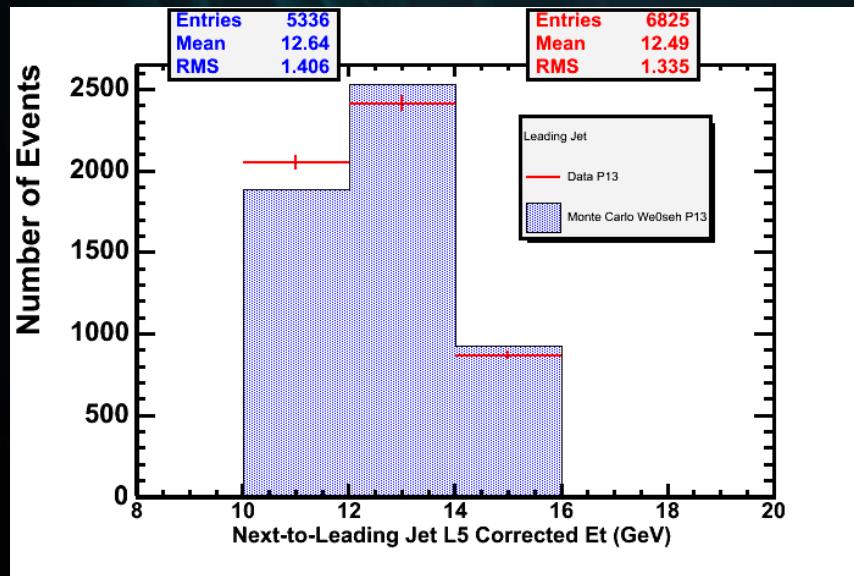


- More Jets in Forward Region than Central ?

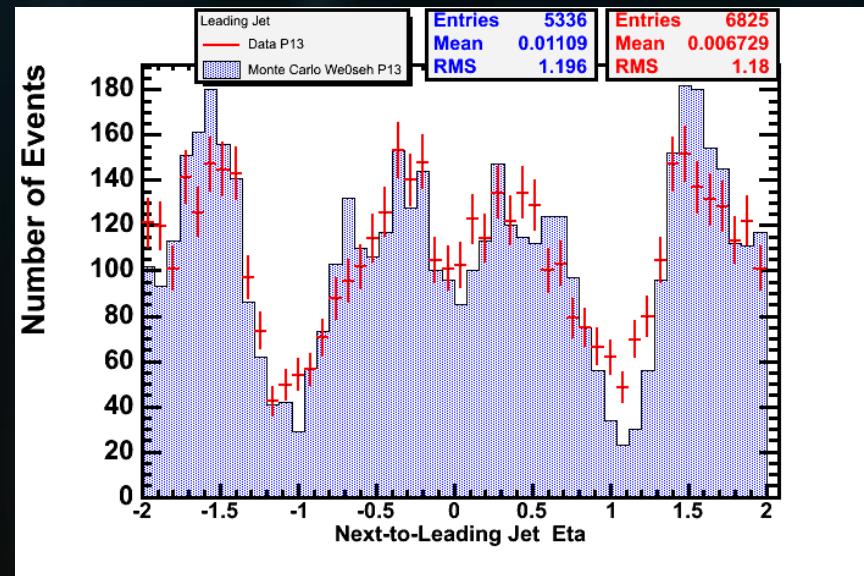
- Peak ~ 12, Jet Et in previous plot peaks ~12 GeV

Next-To-Leading Jet Variables

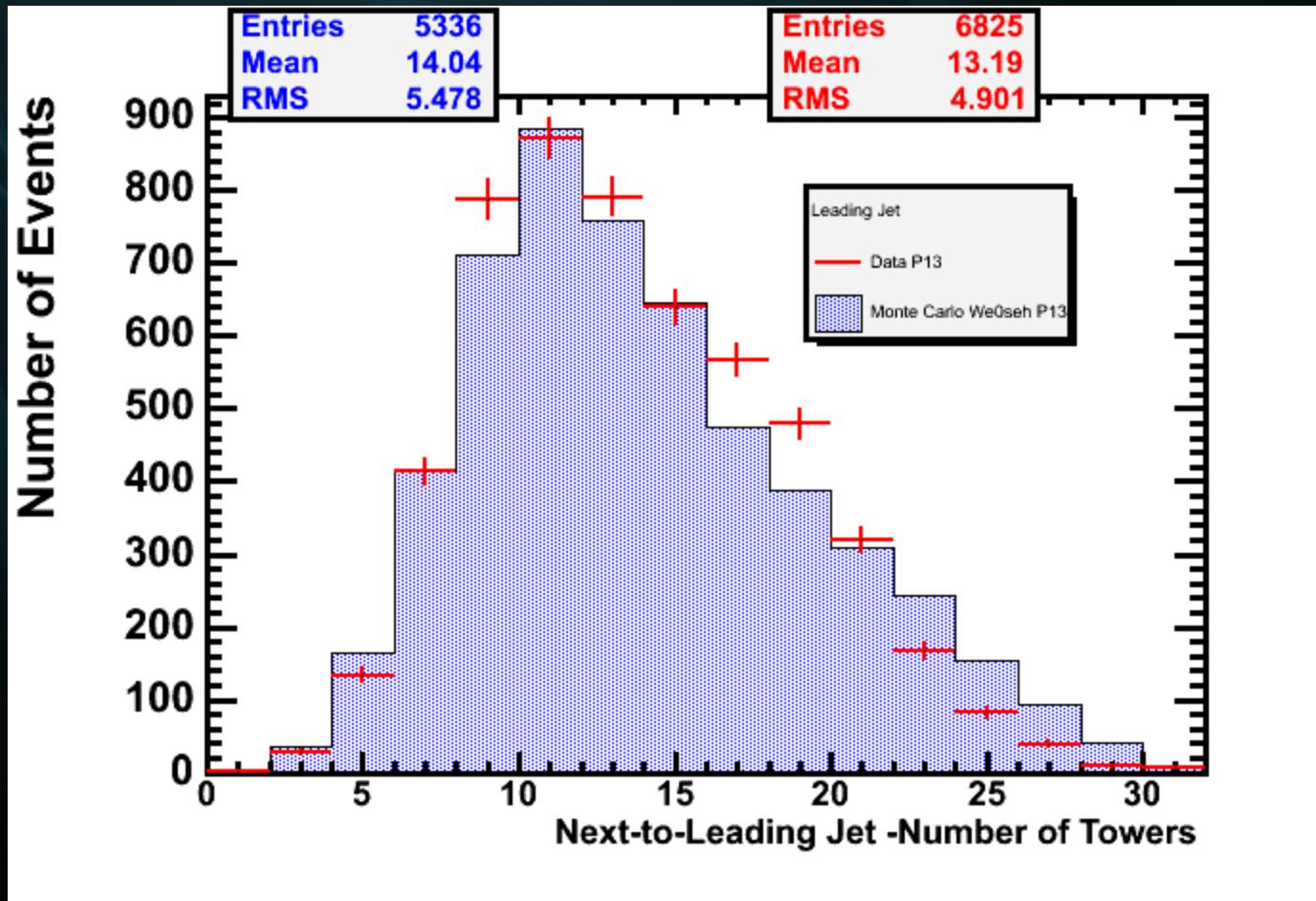
Next-To-Leading Jet L5 Corrected Et



Next-To-Leading Jet Eta

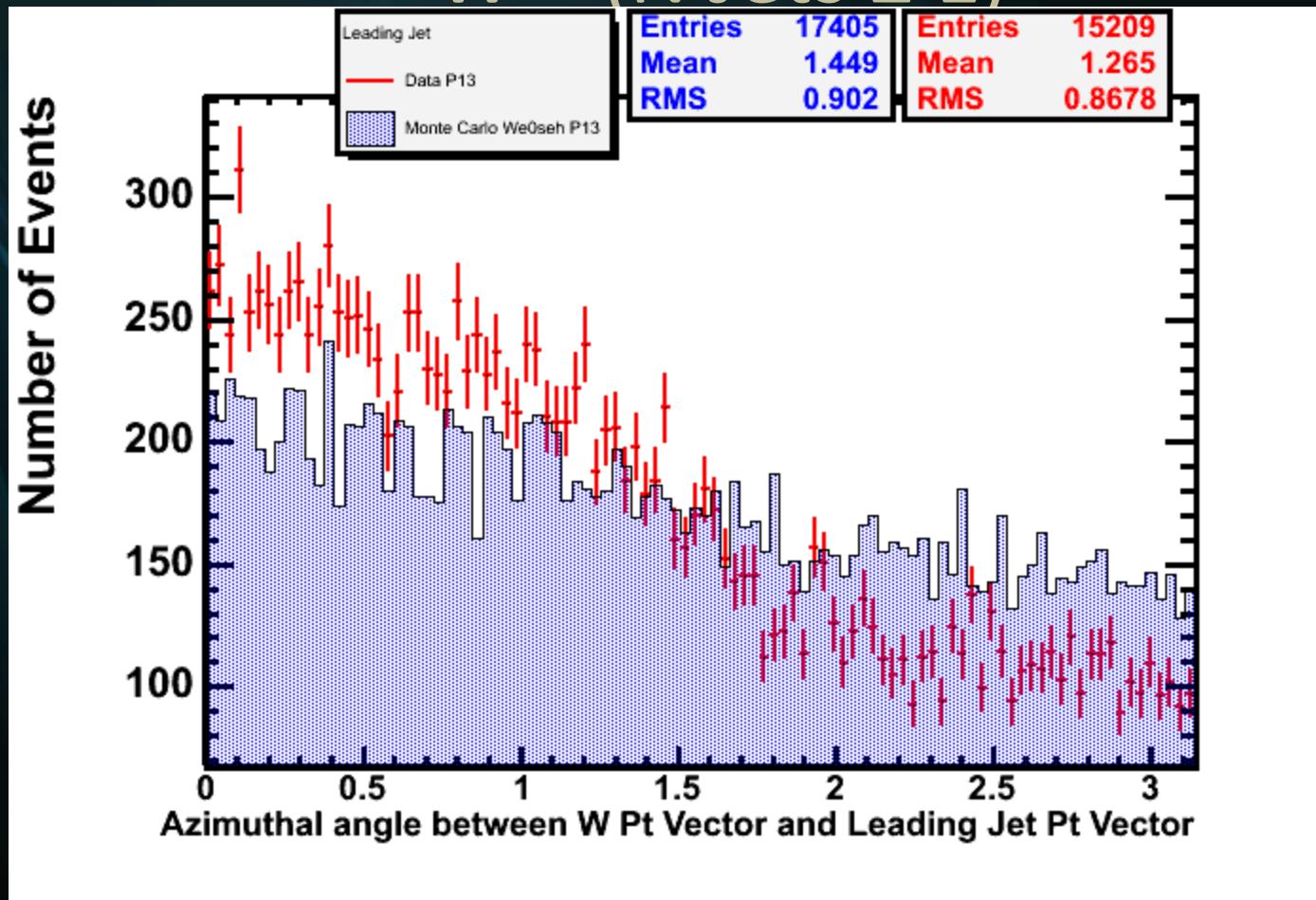


Next-To-Leading Jet Variables



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

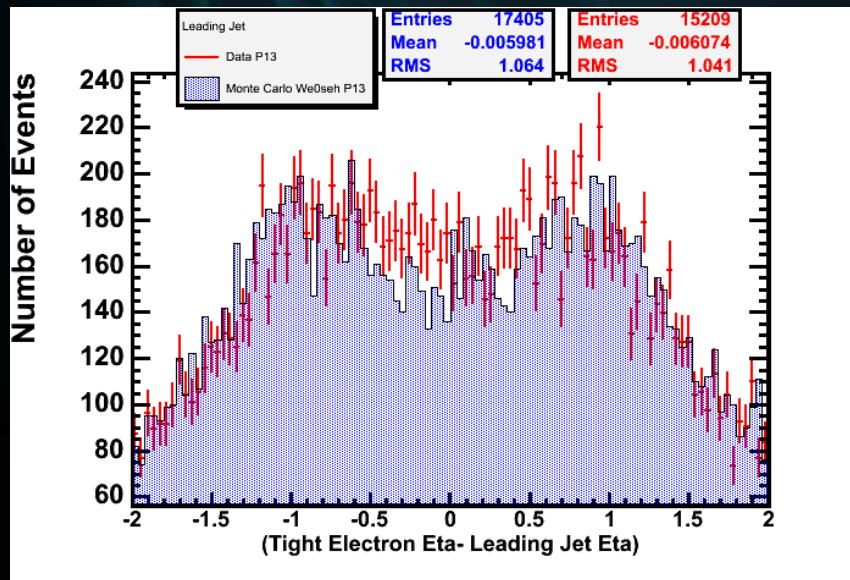
$W + (N \text{ Jets} \geq 1)$



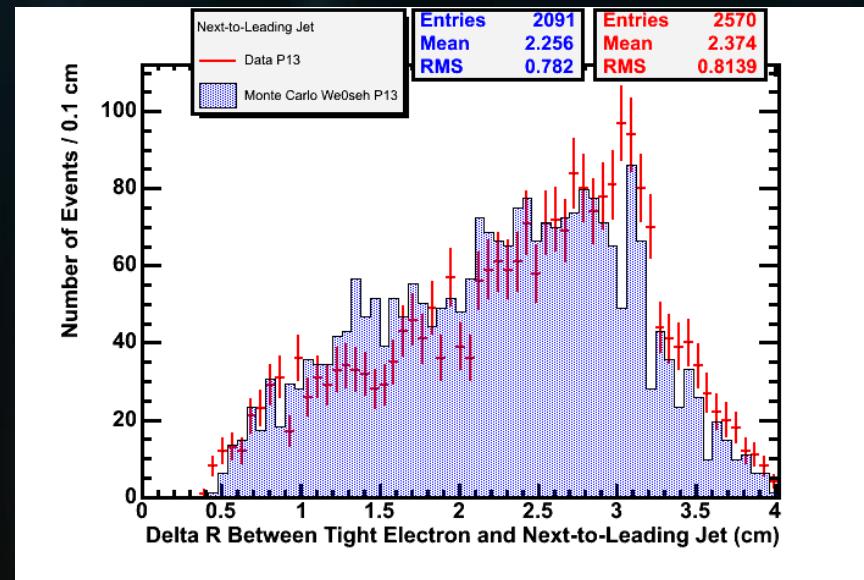
- Plot above is $\Delta\phi(W P_T \text{ and Leading Jet } P_T)$
- MET Corrected for Selected Jets and Muons in the Event

$W + (N \text{ Jets} \geq 1)$

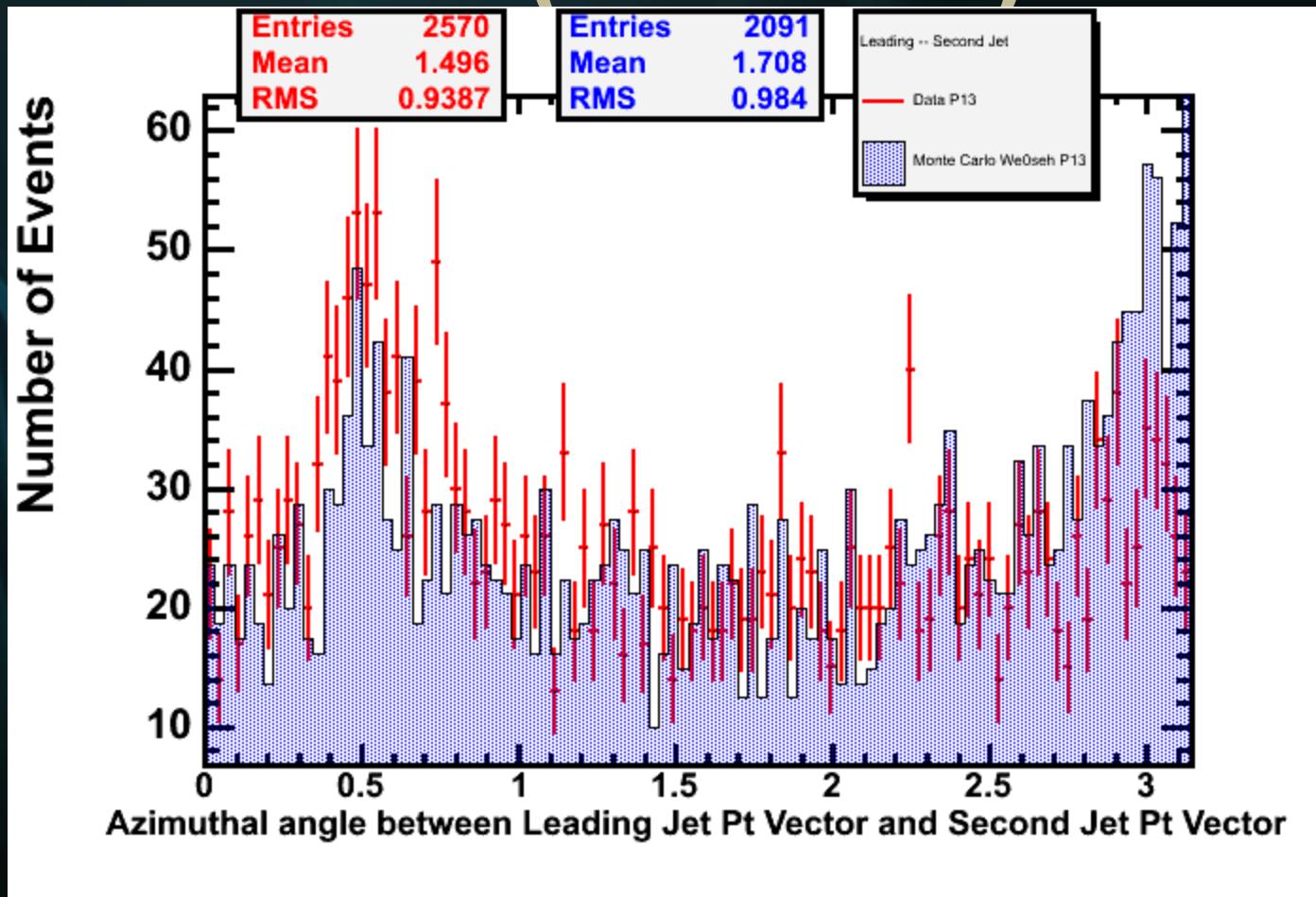
$\Delta\eta(\text{ Tight electron} - \text{Leading Jet Eta})$



$\Delta R(\text{ Tight electron} - \text{Leading Jet Eta})$

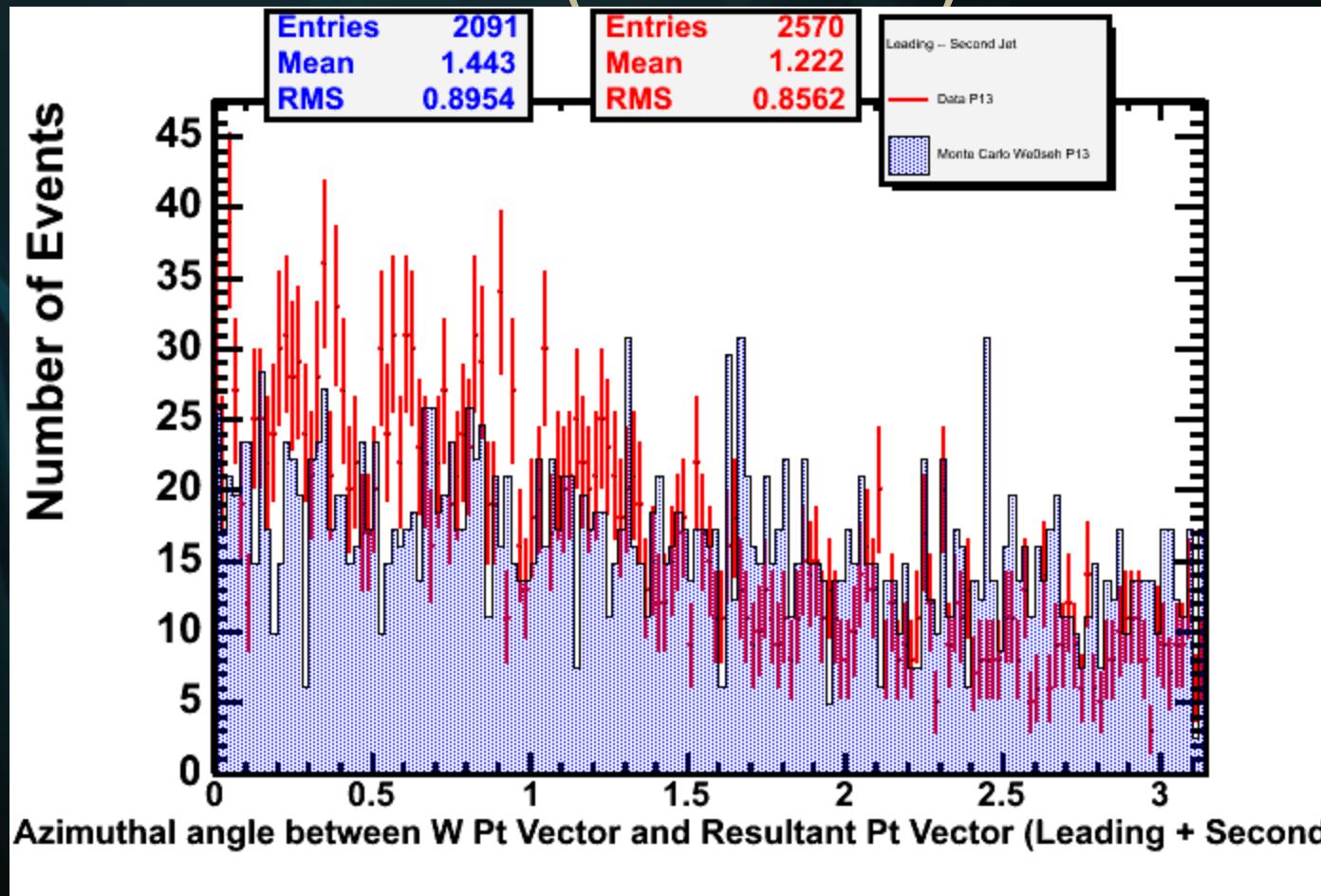


$W + (N \text{ Jets} \geq 2)$

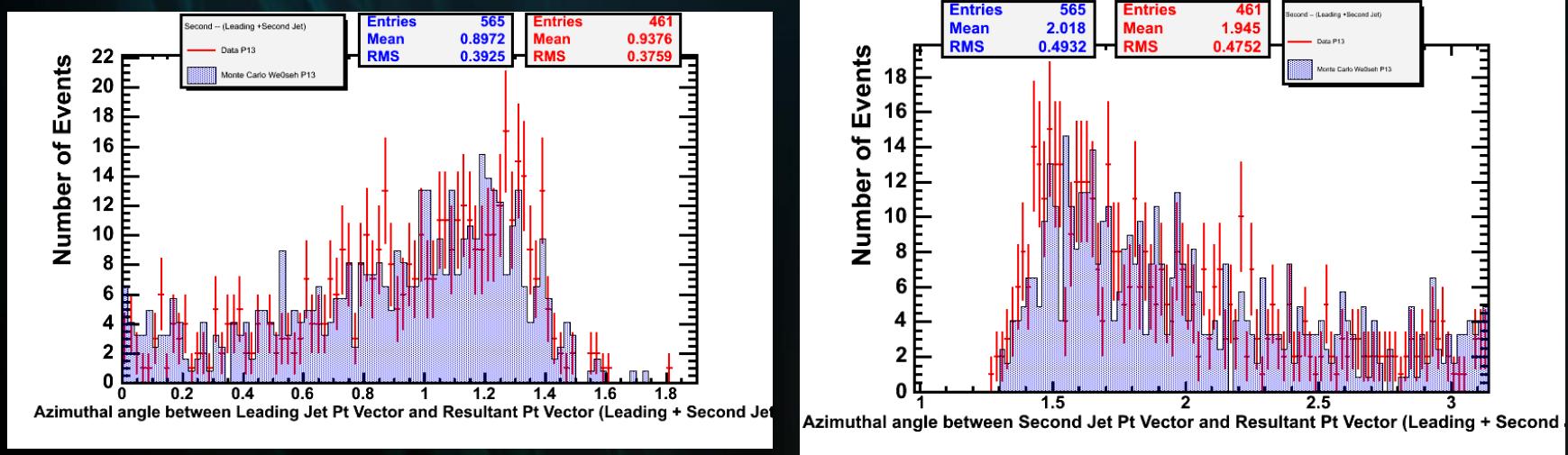


- Plot above is $\Delta\phi(W P_T \text{ and Leading Jet } P_T)$
- MET Corrected for Selected Jets and Muons in the Event

$W + (N \text{ Jets} \geq 2)$

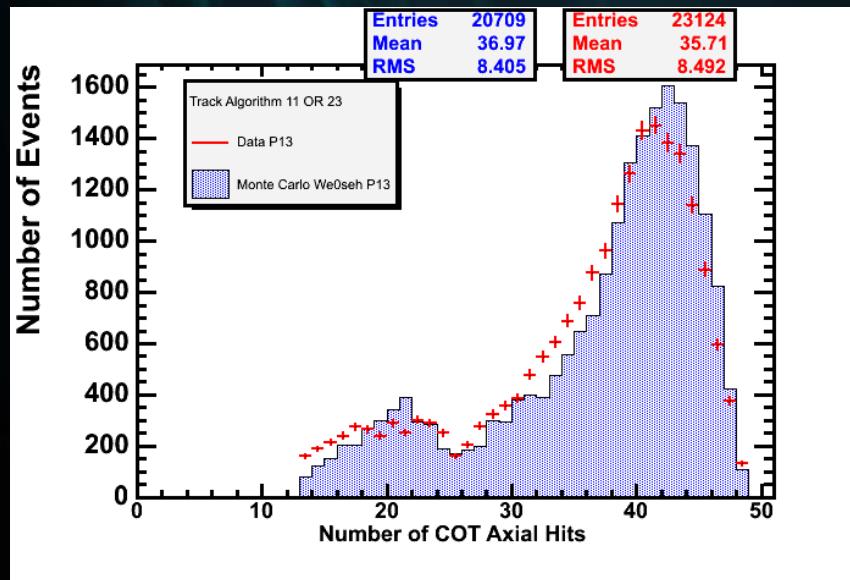


$W + (N \text{ Jets} \geq 2)$

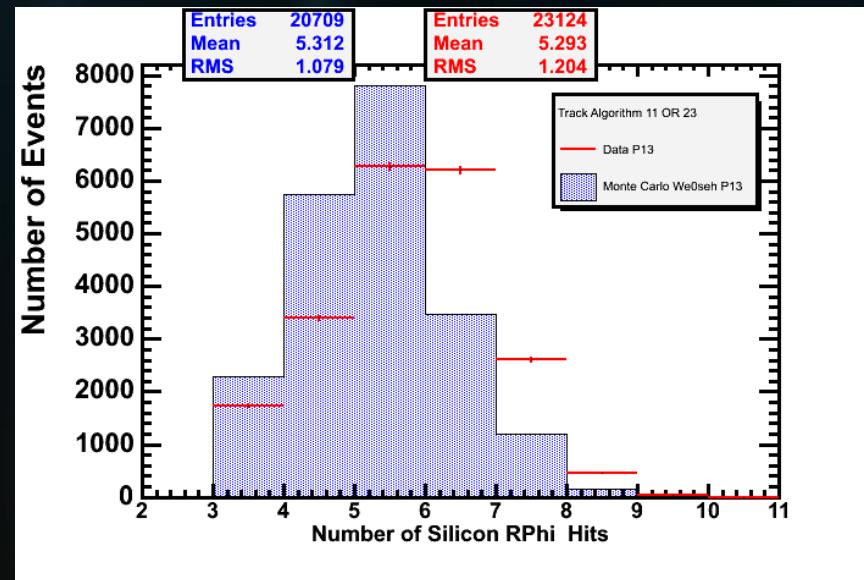


Track Algorithm 11 OR 23

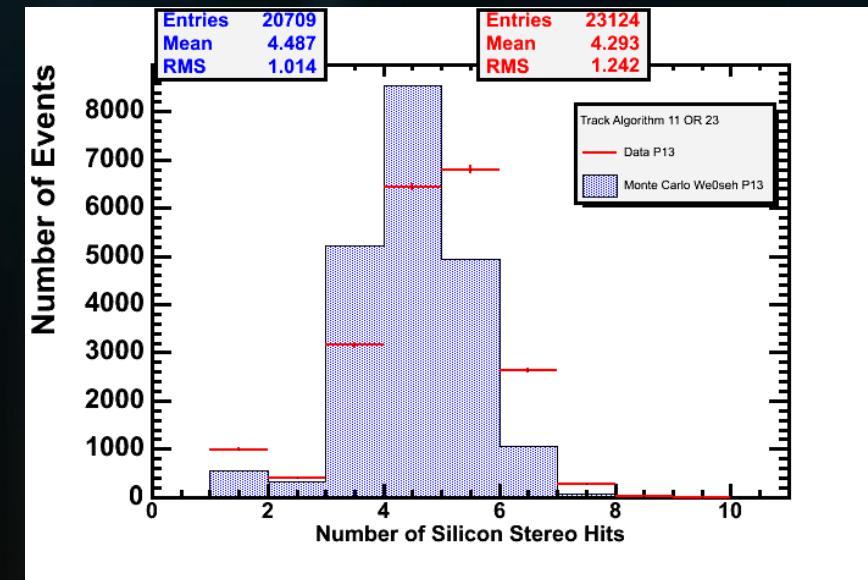
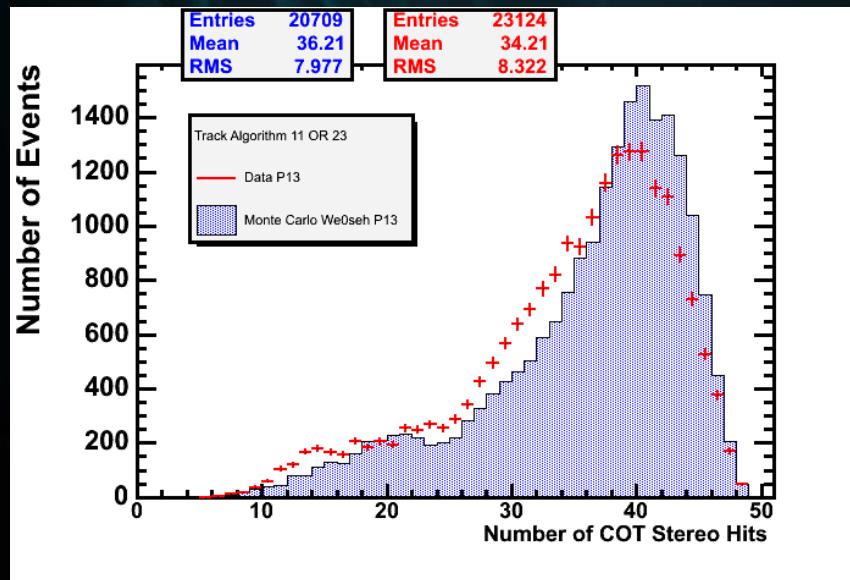
Number of COT Axial Hits



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