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Trigger Efficiencies from 2015D

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Introduction

Overview

- ▶ 50ns data control plots and trigger efficiencies shown previously
- ▶ First golden JSONs from 2015D 25ns data have come out in the last couple of weeks
- ▶ $\sim$166.37 pb^{-1} of 25ns data processed
- - Slightly less as 2% of grid jobs failed
- ▶ Updated trigger efficiencies will be shown today

Trigger Efficiencies - first iteration

- ▶ Trigger: HLT_DiPFJet40_DEta3p5_MJJ600_PFMETNoMu140
- ▶ Measure efficiency as a function of each variable
- ▶ Started by cutting on all other variables at trigger threshold
- ▶ MET and jet 2 p_T turn ons found to cause inefficiency in other variables
- - Cuts tightened to: Jet 1 and 2 $p_T > 80$ GeV, METnoMu> 300 GeV, $\Delta\eta_{jj} > 3.5$, $M_{jj} > 600$ GeV

Trigger efficiencies
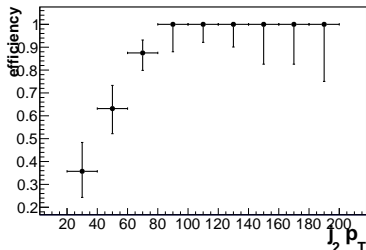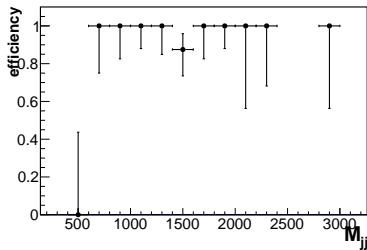
- ▶ Jet 2 p_T turn on is quite slow, 95% efficient only at 80 GeV
- - For the same trigger cut in run 1 the 95% efficient point was ~50 GeV

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Trigger efficiencies
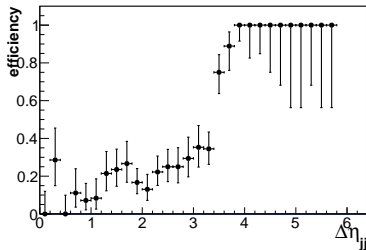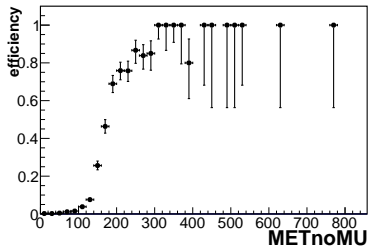
▶ METnoMu turn on has "shelf" at ∼200 GeV before becoming fully efficient at 300 GeV

Summary

- ▶ Trigger efficiencies from 25ns data shown:
  - MET shelf and slow jet 2 p_T turn on interesting
  - $\Delta\eta_{jj}$ and M_{jj} turn ons good
- ▶ Another 80 pb^{-1} of data processing
  - Will update plots when this is done

Backup