

Update on jet smearing — data driven event selection

UHH CMS SUSY Meeting

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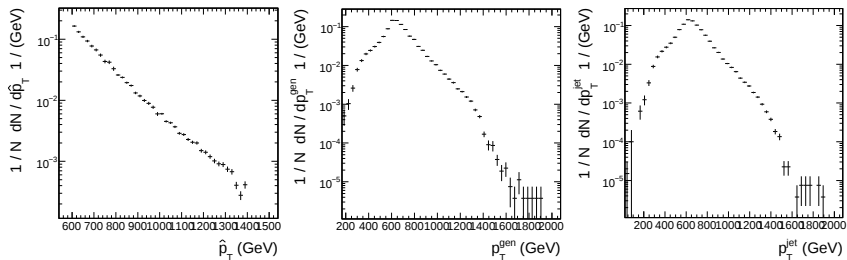
July 20th, 2009



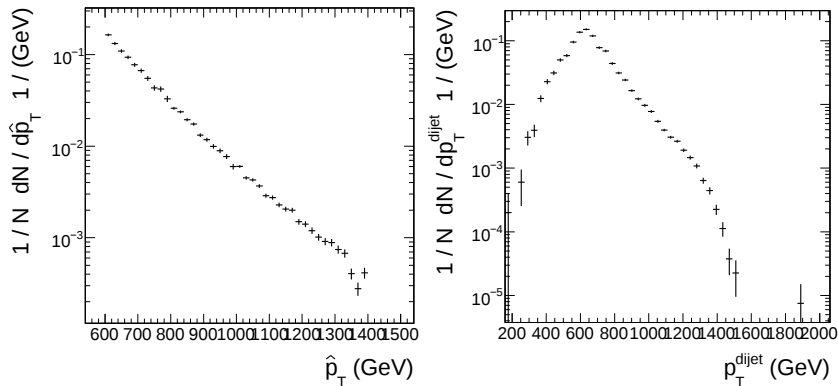
Summer08 QCDDijets $600 < \hat{p}_T < 1400 \text{ GeV}$

- Similar to CMS AN-2008/031
 - ▶ 3 leading jets with $|\eta| < 1.3$
 - ▶ $p_T^{\text{jet3}}/p_T^{\text{dijet}} < 0.1$ or $p_T^{\text{jet3}} < 2 \text{ GeV}$
 - ▶ $|\Delta\phi_{12}| > 2.7$
- Additionally
 - ▶ Jet - GenJet matching $\Delta R < 0.25$
 - ▶ $0.07 < p_T^{\text{had}}/p_T^{\text{jet}} < 0.95$
 - ▶ $900 < p_T^{\text{dijet}} < 1200 \text{ GeV}$

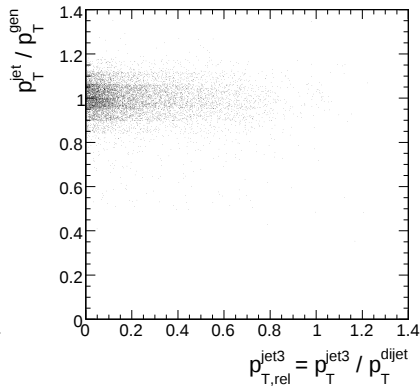
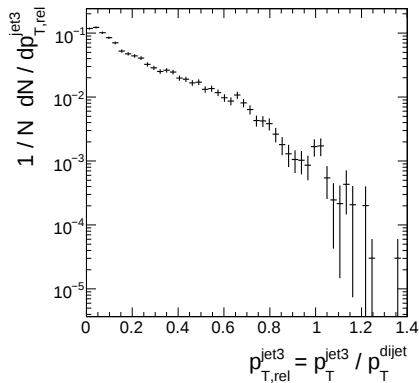
Before cuts: p_T^{jet12}

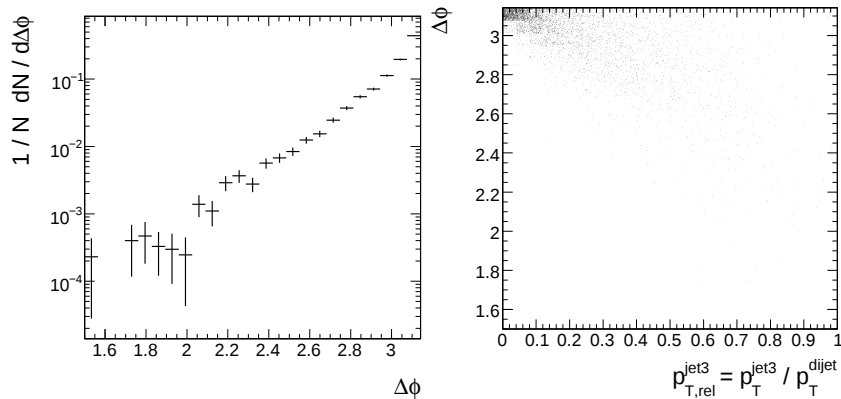


Before cuts: p_T^{dijet}

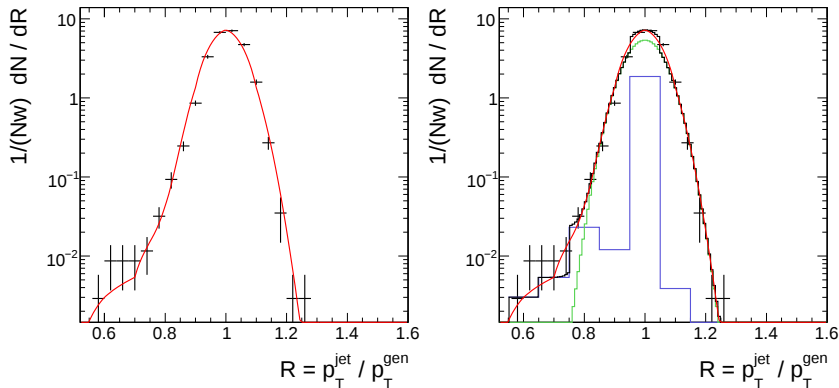


Before cuts: relative third jet p_T



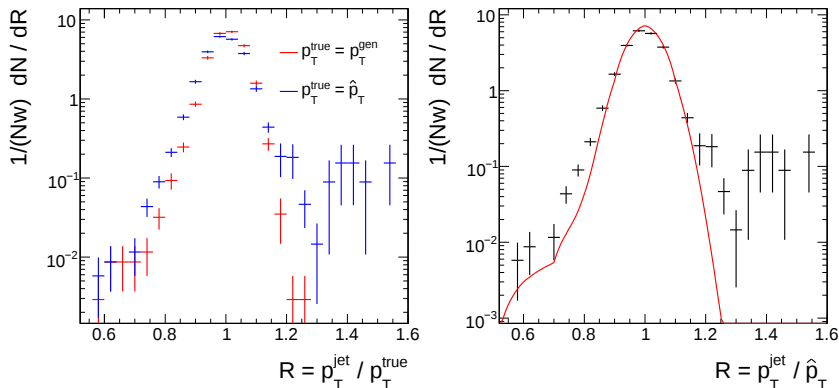
Before cuts: $\Delta\phi$ 

Fit results



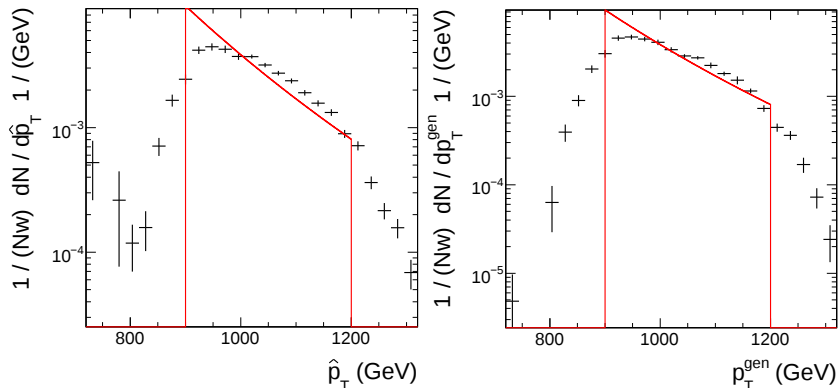
- Step function: 7 bins from $0.55 < R < 1.25$

Comparison: response as $p_T/\hat{p}_T$



- The response probability density of an event configuration is calculated by $R = p_T/p_T^{\text{gen}}$

Fitted p_T spectrum



- The response probability density of an event configuration is non-zero from $900 < p_T^{\text{gen}} < 1200 \text{ GeV}$