

Update on resolution fit

UHH CMS SUSY Meeting

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GEFÖRDERT VOM



Bundesministerium
für Bildung
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Consideration of p_T^{true} imbalance in fit

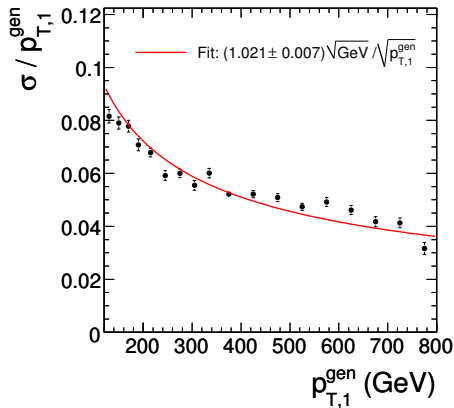
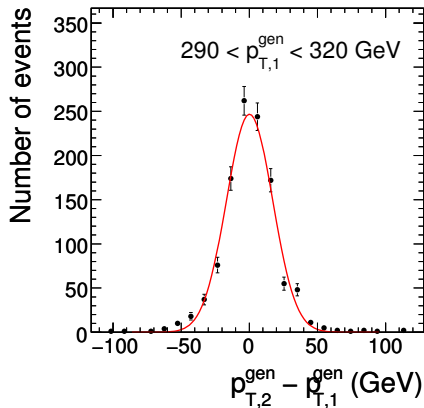
- Pdf for $p_{T,2}^{\text{true}}$ given $p_{T,1}^{\text{true}}$

$$f(p_{T,2}^{\text{true}} | p_{T,1}^{\text{true}})$$

- Dijet pdf

$$\begin{aligned} f(p_{T,1}^{\text{meas}}, p_{T,2}^{\text{meas}}) &= \int_0^\infty dp_{T,1}^{\text{true}} f(p_{T,1}^{\text{true}}) f(p_{T,1}^{\text{meas}} | p_{T,1}^{\text{true}}) \\ &\cdot \int_0^\infty dp_{T,2}^{\text{true}} f(p_{T,2}^{\text{true}} | p_{T,1}^{\text{true}}) f(p_{T,2}^{\text{meas}} | p_{T,2}^{\text{true}}) \end{aligned}$$

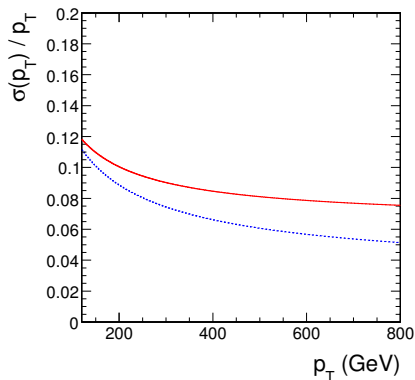
Parameterisation of p_T^{true} imbalance



- Examples for Summer09 QCD MC
- Parameterisation of p_T^{true} imbalance with a Gaussian
- Cut on 3rd jet: $p_{T,\text{rel}}^3 < 0.1$

Fitted resolution still too large

Fit, MC truth



- Code seems alright; works fine for ToyMC examples

Conclusions

- Still seem to miss some important point. . .
- Try tighter event selection → more dijet-like events
 - ▶ Cut on third jet on gen-level
 - ▶ PF jets
 - ▶ No track activity outside dijets