

Update on response fit

UHH CMS SUSY Meeting

Matthias Schröder

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GEFÖRDERT VOM



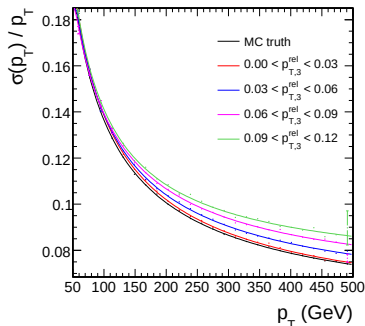
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Current status & studies

- ✓ Finished and checked-in draft for RA2 note (determination of mean resolution in p_T bins)...

→ ... now direct fit of p_T dependent resolution

- Gaussian resolution with $\sigma = \sigma(p_T)$
- Works fine with ToyMC (ideal dijets)
- For QCD events (3rd jet present)
 - ▶ $p_{T,1}$ fluctuates around $p_{T,1}^{\text{gen}}$
 - ▶ $p_{T,2}$ fluctuates around $p_{T,2}^{\text{gen}} < p_{T,1}^{\text{gen}}$
 - ▶ Fit assumes $p_{T,1}^{\text{gen}} = p_{T,2}^{\text{gen}} = p_T^{\text{true}}$
 - Fitted σ too large
- Solution: Inclusion of 3rd jet into pdf?
 - ▶ $\sigma(p_T) \longrightarrow \sigma(p_T, p_{T,\text{rel}}^3)$
 - ▶ Identifying radiating jet (closest to 3rd jet), correcting its $\sigma(p_T)$



ToyMC study demonstrating influence of 3rd jet on fitted σ