

Exp. analysis uses cuts on jets – how to compare

σ_{exp} with σ_{th} in the absence of NLO generator ?

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- Example: pp->bh (Z) analysis:
 - Exp. cuts: $p_T^b > p_{T \text{ exp}}^{\text{cut}}$, $|\eta^b| < \eta_{\text{exp}}^{\text{cut}}$
 - Gen cuts at LO ME+PS : $p_T^b > p_{T \text{ gen}}^{\text{cut}}$, $|\eta^b| < \eta_{\text{gen}}^{\text{cut}}$
 - Th. cuts for σ_{th} at NLO : $p_T^b > p_{T \text{ th}}^{\text{cut}}$, $|\eta^b| < \eta_{\text{th}}^{\text{cut}}$
- The way to proceed could be:
 - use $p_{T \text{ gen}}^{\text{cut}} = p_{T \text{ th}}^{\text{cut}}$
 - use $p_{T \text{ exp}}^{\text{cut}} > p_{T \text{ th}}^{\text{cut}} + \sim 2 \times \sigma_{\text{jet resolution}}$
 - correct p_T, η acceptance efficiency given by LO+PS using factor:
 - $R = [\sigma_{\text{th}}^{\text{exp.cuts}} / \sigma_{\text{th}}^{\text{th.cuts}}] / [\sigma_{\text{LO+PS}}^{\text{exp.cuts}} / \sigma_{\text{LO+PS}}^{\text{th.cuts}}]$, using cut on p_T/η of parton b-jets in ME+PS case