

Parton Shower

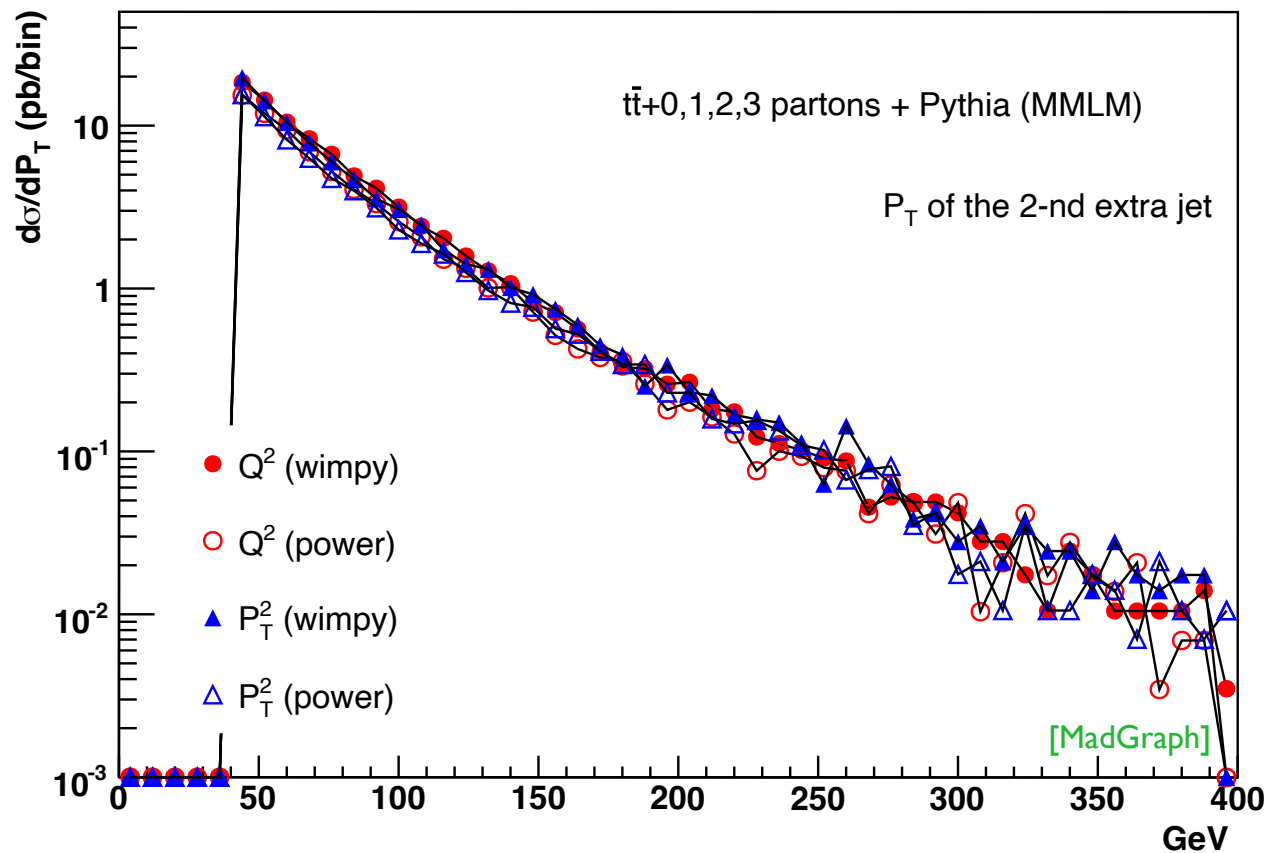
Olivier Mattelaer
CP3/UCLouvain

Matching/Merging

Olivier Mattelaer
CP3/UCLouvain

PS alone vs ME matching

In a matched sample these differences are irrelevant since the behavior at high p_T is dominated by the matrix element.



Summary of Matching Procedure

1. Generate ME events (with different parton multiplicities) using parton-level cuts ($p_T^{\text{ME}}/\Delta R$ or k_T^{ME})
 2. Cluster each event and reweight α_s and PDFs based on the scales in the clustering vertices
 3. Apply Sudakov factors to account for the required non-radiation above clustering cutoff scale and generate parton shower emissions below clustering cutoff:
 - a. (CKKW) Analytical Sudakovs + truncated showers
 - b. (CKKW-L) Sudakovs from truncated showers
 - c. (MLM) Sudakovs from reclustered shower emissions
- I. Apply separation cut