

Interpretation of the MC top mass parameter with the soft-dropped groomed jet mass

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In this contribution we will present new results that relate the top quark mass parameter in Monte Carlo generators with a field-theoretical mass scheme. In our study, Pythia8 predictions for the groomed top jet mass distribution in $pp \rightarrow t\bar{t}$ production are compared with first-principle calculations at NNLL accuracy. The formal accuracy is improved (from NLL to NNLL) with respect to previous results in proton-proton collisions. Soft-Drop grooming plays a key role in this analysis to reduce non-perturbative corrections; the grooming strategy is studied in detail and revised in comparison with previous results. A chi-squared minimization is used to determine the best-fit value for the pole mass and two parameters of the shape function describing non-perturbative effects in hadronization.

[This result is currently not yet published; the team aims for a publication on the time scale of the conference; a numerical result will be added to the abstract well before the conference].

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