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Title: Trimming jet substructure technique with analytical methods

Jet substructure techniques have played an essential role in high-energy collider physics computations in the last few years. In this work, we present the study of the production of a Z boson and one jet at the LHC. In particular, we perform an analytical calculation of the jet mass distribution at leading order and next to leading order, using the trimming technique. As a consequence, after applying the clustering algorithm we note the presence of clustering logs and non-global logs that should be calculated as well. Moreover, we shed light on preliminary results from the Monte Carlo event generators madgraph and pythia8. We compare the analytical part with the simulated one and use Rivet to analyze the resulting hepmc file.