

Tau_{jet} resummation in Higgs production at NNLL + NLO

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Jet vetoes play a crucial role in the precise measurement of the Higgs properties at the LHC. The vetoes on additional jets introduce sensitivity to soft and collinear radiation and induce logarithms of the jet-veto variable that need to be resummed. In this talk, we consider Higgs production via gluon fusion with a veto on jet beam thrust, Tau_{jet}, which is a jet-based variable that can be used as an alternative to p_{T,jet} in current experiments. Tau_{jet} denotes the maximum of the plus momenta (with respect to beam direction) assigned to identified jets with radius R. This is in contrast to considering the maximum p_T of a jet. We present the resummed 0-jet Higgs production cross section for Tau_{jet} at next-to-next-to leading logarithmic (NNLL) accuracy, incorporating the NLO fixed order result. For small R, typically used in current experiments, the clustering logarithms arising from the correlated emissions within the beam and soft functions become important at NNLL. We compute the leading jet clustering corrections to the soft function anomalous dimension at O(α²) and incorporate them in our resummed results.

Primary author: Ms GANGAL, Shireen (DESY)

Co-authors: Dr TACKMANN, Frank (DESY); Dr STAHLHOFEN, Maximilian (DESY)

Presenter: Ms GANGAL, Shireen (DESY)

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