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Towards high-energy Higgs+jet distributions at NLL matched to NLO

Monday 21 August 2023 10:12 (18 minutes)

We report progress on the inclusive hadroproduction of a Higgs+jet system at LHC and FCC collision energies. Kinematic sectors explored fall into the so-called semi-hard regime, where both the fixed-order and the high-energy dynamics come into play. We propose a novel version of a matching procedure aimed at combining NLO fixed-order computations, as obtained from POWHEG, with the NLL resummation of energy logarithms via JETHAD. We present preliminary analyses on assessing the weight of systematic uncertainties, such as the ones coming from: finite top- and bottom-quark masses, collinear parton densities, energy-scale variations. According to our knowledge, POWHEG+JETHAD represents a first and pioneering implementation of a matching in the context of the high-energy resummation at NLL and for rapidity-separated two-particle final states.

Collaboration / Activity

None.

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