

Fiducial Higgs and Drell-Yan distributions at N3LL'+NNLO with RadISH

We present state-of-the-art predictions for the transverse momentum of the colour singlet in gluon-fusion Higgs production and in neutral Drell-Yan lepton-pair production, as well as the pT observable in Drell Yan.

We resum such observables at N3LL' accuracy in momentum space with the RadISH formalism, thus consistently including in our prediction all constant terms of relative order α_s^3 with respect to the Born.

We supplement our results with a transverse-recoil prescription, accounting for dominant classes of subleading-power corrections in a fiducial setup.

The resummed predictions are then matched with fixed-order differential spectra at NNLO accuracy and compared with 13 TeV LHC data relevant to the Higgs to di-photon channel, as well as to neutral Drell-Yan lepton-pair production.

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