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Fiducial predictions for the Higgs Transverse Momentum at N³LL'+NNLO

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We present state-of-the-art predictions for the transverse momentum of the colour singlet in gluon-fusion Higgs production. We resum this observable 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.

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