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The transverse-momentum distribution of the Higgs boson at the Tevatron and the LHC

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One of the main goals of high-energy colliders is the discovery of the Higgs boson and the study of its properties, either in the Standard Model or in its possible extensions. Among the various kinematical distributions, a major role is played by the transverse-momentum (q_T) spectrum of the Higgs boson. We present a calculation of this distribution that uniformly combines small-q_T resummation at the highest accuracy available to date with the fixed-order prediction valid at large q_T. We show numerical results for the Higgs boson q_T-spectrum and an estimate of the corresponding theoretical uncertainties. The calculation is implemented in the updated version of the numerical code HqT. Our predictions directly impact, through a reweighting procedure, the Higgs search being carried out at the Tevatron and the LHC.

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