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Towards the $N^3\text{LO}$ evolution of parton distributions

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We present a status report on calculations for the four-loop splitting functions in perturbative QCD, which will pave the way to future determination of $N^3\text{LO}$ parton distribution functions of hadrons. In the large- N_c limit, the exact four-loop contribution to the flavour non-singlet splitting functions has been obtained. For the remaining large- N_c suppressed terms, we provide approximate expressions that are sufficient for phenomenological applications. The status of the calculations in the flavour-singlet sector will be also briefly discussed.

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