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Forward Higgs production at NLO using Lipatov's high energy effective action

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We use Lipatov's high energy effective action to determine the next-to-leading order corrections to Higgs production in the forward region. As a new element we provide a proper definition of the desired next-to-leading order coefficient within the high energy effective action framework, extending a previously proposed prescription. We further propose a subtraction mechanism to achieve for this coefficient a stable cancellation of real and virtual infra-red singularities in the presence of external off-shell legs and discuss aspects related to choice of a reference scale for high energy resummation.

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