

# Padé approach to top-quark mass effects in gluon fusion amplitudes

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Gluon fusion processes like single and double Higgs production exhibit slow convergence and pose severe computational challenges. We show how the top-quark mass dependence of the virtual amplitudes can be reconstructed with a conformal mapping and Padé approximants based on the expansion in the inverse top-quark mass and the non-analytic terms in the expansion around the top threshold. The method is then applied at two- and three-loop order.

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