

Analytic results for double Higgs production at the LHC

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In this talk I will present recent efforts to calculate analytic results for double Higgs production at the LHC, concentrating on the virtual corrections to the gluon fusion channel.

On the one hand, I will report on recent results on electro-weak corrections to this process.

On the other hand, the extension of the calculation to NNLO QCD corrections is discussed.

Our methods are based on analytic expansions in forward kinematics and the high-energy limit, which can be effectively matched to cover the whole kinematic region of the process.

The results are important for the precise determination of the Higgs self coupling in the future, but are also applicable to a wide range of other collider signatures.

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