

## Higgs production at NLO in the Standard Model Effective Theory

The Effective Field Theory approach is a fruitful way of putting model independent constraints on heavy new physics.

As the Higgs sector is one of the most popular candidates for deviations from the Standard Model prediction, it is particularly important that the constraints extracted from the experimental data on the Higgs boson be as meaningful as possible, which entails making accurate and precise theoretical predictions.

In this talk, I will discuss the computation of two loop amplitudes which are needed to compute next-to-leading corrections to the Higgs gluon-fusion cross-section in the Standard Model Effective Field Theory. I will review modern multi-loop calculation techniques used throughout the computation and I will present the first result for a two-loop form factor with an insertion of a chromomagnetic operator in the Standard Model EFT.

Finally, I will comment on the impact of this computation on future precision Higgs studies at the LHC.

### I intend to submit my contribution for the proceedings

Yes

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