

QCD and leading Yukawa corrections to $gg \rightarrow HH$

Thursday, November 10, 2022 6:00 PM (15 minutes)

In this talk, I will present a first look at the two-loop electroweak corrections to Higgs boson pair production in gluon-fusion, which might have a sizeable impact on the cross section. We have performed an analytic calculation of the two-loop diagrams contributing to $gg \rightarrow HH$ where a virtual Higgs boson is exchanged in the top quark loop. I will briefly describe our method used to solve massive two-loop box integrals and then discuss results for the form factors. We show that precise results can be obtained, even for $p_t \approx 100$ GeV and above.

Type of talk

Theory

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