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Two-loop Electroweak corrections to $gg \rightarrow HH$ and $gg \rightarrow Hg$

Tuesday, 28 November 2023 09:00 (15 minutes)

We consider the next-to-leading order electroweak corrections to the Higgs boson pair and Higgs plus jet productions in gluon fusion. This requires the computation of two-loop four-point amplitudes with massive internal particles such as top quarks, Higgs and gauge bosons. We perform analytic calculations both in the high-energy and large top-quark mass limits. In particular, we show that our high energy expansion can even yield precise results above $p_t \approx 120$ GeV. The technical challenges are described and results for the virtual corrections are presented.

You are

non-PhD student

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