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NLO electroweak corrections to gg -> HH

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We consider the next-to-leading order electroweak corrections to the Higgs boson pair 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 120 GeV. The technical challenges are described and results for the virtual corrections are presented.

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