

# Higher order corrections to Higgs boson pair production

*Friday 13 September 2019 09:30 (25 minutes)*

In this talk we discuss NNLO and N3LO order corrections to the process  $gg \rightarrow HH$  in the Standard Model. In particular, we consider three-loop corrections to the form factors entering the virtual corrections in the large- $m_t$  limit and compute five expansion terms.

In the same approximation we also evaluate the real radiation corrections at NNLO. Finally, we present a building block for the N3LO corrections, namely the four-loop matching coefficient for the effective coupling of two Higgs bosons to gluons.

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**Session Classification:** Friday Morning

**Track Classification:** H