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## Top-quark loops for precision Higgs physics

*Wednesday, October 18, 2023 9:00 AM (30 minutes)*

Theoretical calculations for Higgs-related processes at the LHC have reached an impressive level of accuracy. One of the technical challenges that still need to be addressed is the computation of two-loop box diagrams with massive internal lines, e.g. those arising in the NLO QCD corrections for  $gg \rightarrow ZH$  and  $gg \rightarrow ZZ$ . In this talk I will present a method for approximating these diagrams analytically, via an expansion in terms of a small transverse momentum. Combining this approximation with a complementary expansion in the high-energy limit, the two-loop amplitude can be efficiently evaluated over the complete phase space.

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