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# Expansions for multi-scale two-loop processes

*Wednesday, 11 September 2024 09:30 (30 minutes)*

I will show how expansion methods can be used to analytically evaluate multi-scale gluon fusion processes at two-loop order. In particular, an expansion for small transverse momentum covers most of the phase space for the gg-> ZZ, gg-> HZ and gg-> HH processes. When combined with a high-energy expansion the whole phase space is covered. Since this approach allows to express the amplitudes analytically, the results can be easily implemented into flexible Monte Carlo codes.

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