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Ongoing Electroweak Corrections to Higgs Pair Production in Gluon-Gluon Fusion

Monday, July 21, 2025 5:00 PM (20 minutes)

Despite being a mainstay in particle physics textbooks throughout several decades, the actual shape of the Higgs potential is rather loosely constrained. Soon, through the high luminosity phase of the LHC program, our field will get the possibility to examine one process in particular: Higgs pair production from gluon-gluon fusion. Measuring this in an unprecedented precision will allow to tighten the bounds on the shape of the potential. At least, as long as the theoretical prediction is of comparable precision.
This requires the calculation of higher order corrections; in the present case the corrections in question are of electroweak nature. Extending upon last year's presentation of the Yukawa and self-coupling induced corrections at the YSM, this talk will show the status quo of our calculation for the full electroweak sector.

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