

Electroweak logarithms in OpenLoops

Thursday, 12 September 2024 11:00 (25 minutes)

I will present a fully automated implementation of next-to-leading order electroweak (NLO EW) corrections in the logarithmic Sudakov approximation in OpenLoops. For energies above the electroweak scale, NLO EW corrections are logarithmically enhanced and for tails of kinematic distributions of crucial LHC processes yield correction factors of several tens of percent. The considered Sudakov approximation reproduces the full one-loop result at the percent level, while retaining tree-level computing complexity. The presented implementation relies on an efficient representation of the Denner-Pozzorini algorithm in terms of an effective vertex approach. The implementation is model independent, supports the computation of EW corrections to resonant processes, as well as to VBF/VBS-topologies, and is suitable for extensions to the two-loop NNLO EW level.

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