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Automated NLO QCD+EW corrections for the LHC

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Run-II of the LHC is probing the Standard Model of particle physics at unprecedented energies and precision. At such large energy scales higher-order electroweak (EW) corrections are strongly enhanced due to the presence of large Sudakov logarithms. In my talk I will present a fully automated implementation of next-to-leading order (NLO) EW corrections in the OpenLoops matrix-element generator combined with the Sherpa and Munich Monte Carlo frameworks. The process-independent character of the implemented algorithms opens the door to NLO QCD+EW simulations for a vast range of Standard Model processes, up to high particle multiplicity. As a first application, I will present NLO QCD+EW predictions for vector boson production in association with up to three jets.

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