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Automated NLO QCD+EW corrections for V+multijet production (15+5min)

Friday 4 September 2015 12:00 (20 minutes)

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. Their inclusion in the experimental analyses will significantly enhance the sensitivity for new phenomena. 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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