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Systematic Studies of Final State Bremsstrahlung for LHC Phenomenology using Exact

cal O($\alpha^2 L$) CEEX EW Results from

cal KKMC4.22

Monday 8 August 2016 18:30 (2 hours)

With an eye toward the precision physics of the LHC, we present here some systematic studies relevant to the assessment of the expected size of multiple photon radiative effects in heavy gauge boson production with decay to charged lepton pairs. We use the new version 4.22 of \KK˙MC so that we have CEEX exact $calO(\alpha^2 L)$ corrections and control over the corresponding initial-final interference effects as well. In this way, we illustrate the interplay between cuts of the type used at the LHC and the sizes of the expected responses of the attendant higher order corrections. Thus, our results are directly applicable to ongoing LHC experimental data analyses.

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