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Matching NLO with parton shower in Monte Carlo scheme

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I will discuss a new method of including NLO QCD corrections to the hard process in the LO Monte Carlo (MC) shower. The method is based on the recently proposed MC factorization scheme, which dramatically simplifies the NLO coefficient functions. The NLO corrections are introduced by a simple reweighting of the events produced by the LO shower, with a single, positive MC weight. I will show a practical implementation of the method for the case of electro-weak boson production in the hadron-hadron collision and compare it with the well established approaches to NLO+PS matching. I will advocate the theoretical and practical advantages of the new method. I will also briefly discuss the perspectives of using it to include NLO corrections in the ladder part.

Summary

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