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Electroweak Corrections to Drell Yan in the POWHEG BOX

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Precision calculations for hadron colliders require numerous computational methods, among others the simulation of parton showers. They provide a good description of collinear radiation, i.e. the internal structure of jets. However, to better describe the production of jets, NLO matrix elements are needed. Their interface to parton showers involves problem, leading to the loss of NLO accuracy.

The POWHEG method overcomes these problems by modifying the parton shower. To provide an easy way to create events according to this method, a computer program, the POWHEG BOX was created.

Up to recently, the POWHEG BOX was only suited for QCD calculations. We present an implementation of electroweak corrections to Drell Yan in this program. Drell Yan processes are easy to detect because of two final-state leptons. Electroweak corrections have a significant effect on the kinematics of those leptons, and the POWHEG BOX is able to describe them.

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