

Third order QCD predictions for W and Z-boson production

Tuesday 16 April 2024 17:00 (30 minutes)

Measurements of W and Z-boson production have reached percent-level precision, imposing challenging demands on theoretical predictions. Such predictions directly limit the precision of measurements like the W-boson mass. We present calculations of W- and Z- boson production at the level of α_s^3 at fixed order and including transverse-momentum resummation. We discuss technical and numerical challenges, future improvements, and compare with LHC measurements with a focus on PDF and truncation uncertainties.

Primary author: NEUMANN, Tobias (William & Mary)

Co-author: CAMPBELL, John (Fermilab)

Presenter: NEUMANN, Tobias (William & Mary)

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