

PDF-independent Electroweak and Photon-induced Theoretical Predictions

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Storing theoretical predictions for collider observables independent from PDFs is a worthwhile goal from at least two different perspectives: As a theorist producing the theoretical predictions this enables one to quickly change the PDF set and thereby to assess possible differences of the PDF sets. From the perspective of someone fitting a new PDF set, the PDF-independent theoretical predictions are one necessary ingredient of the fitting procedure.

The problem described above is well-known and solved for QCD in the public frameworks APPLgrid and fastNLO. Two points which are so far unaddressed, however, are the treatment of electroweak corrections and the inclusion of photon-induced contributions. They will become important because the next generation of PDFs are about reach a level of precision where the inclusion of next-to-leading order electroweak effects becomes important.

In this talk I am going to describe the problem in more detail and the status of our effort addressing it.

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