

PHOTON 2019 - International Conference on the Structure and the Interactions of the Photon. Satellite Workshop: Photon Physics and Simulation at Hadron Colliders.



Contribution ID: 35

Type: **Talk**

Isolated photon and photon+jet production at NNLO QCD accuracy

Thursday, 6 June 2019 12:15 (20 minutes)

Based on [1904.01044], I present recent results of a Next-to-Next-to-leading order (NNLO) calculation of inclusive isolated photon and photon-plus-jet production using the Monte-Carlo event generator NNLOJET. In order to mimic experimental photon isolation criteria we apply a staged isolation procedure. A Frixione-type isolation with small cone size is used to ensure numerical stability, followed by a hard-cone isolation with larger cone size, tailored to the actual experimental setup. We compare the results to recent 13TeV data by ATLAS [1701.06882,1801.00112] and CMS [1807.00782]. We observe substantial corrections in certain kinematical regions, leading to a significant improvement of theory uncertainty and description of the data.

Summary

Primary author: HÖFER, Marius (Universität Zürich)

Co-authors: GEHRMANN, Thomas; GLOVER, Nigel; CHEN, Xuan; HUSS, Alexander

Presenter: HÖFER, Marius (Universität Zürich)

Session Classification: Gamma Final States

Track Classification: Gamma Final States