

NLO QCD corrections to inclusive J/ψ and Upsilon photoproduction cross sections at lepton-hadron colliders

Tuesday 3 May 2022 12:50 (20 minutes)

We revisit inclusive J/ψ and Υ photoproduction at lepton-hadron colliders, namely in the limit when the exchanged photon is quasi real. Our computation includes the next-to-leading-order (NLO) α_s corrections to the leading-order contributions in v^2 .

We consider first large- P_T inclusive photoproduction of J/ψ at HERA and provide NLO predictions for the EIC (Phys.Lett.B 811 (2020), 135926).

Then we focus on the total inclusive J/ψ and Υ photoproduction cross sections at NLO all the way from AMBER to FCC-eh energies, passing by those of the EIC and LHeC. We investigate where such measurements could be used to improve our knowledge of gluon densities at scales as low as a couple of GeV (e-Print: 2112.05060 [hep-ph]).

Submitted on behalf of a Collaboration?

No

Authors: YEDELKINA, Yelyzaveta (Paris-Saclay University, IJCLab Orsay); COLPANI SERRI, Alice (Paris-Saclay University); SHAO, Huasheng (Centre National de la Recherche Scientifique (FR)); FENG, Yu (Third Military Medical University, Chongqing, Southwest of China); FLORE, Carlo (IJCLab Orsay, Paris-Saclay U. / IN2P3-CNRS); LANSBERG, Jean-Philippe (Université Paris-Saclay (FR)); OZCELIK, Melih Arslan (KIT - Karlsruhe Institute of Technology (DE)); NEFEDOV, Maxim (NCBJ, Warsaw)

Presenter: NEFEDOV, Maxim (NCBJ, Warsaw)

Session Classification: WG2: Small-x, Diffraction and Vector Mesons

Track Classification: WG2: Small-x, Diffraction and Vector Mesons