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Production of dilepton pairs via photon-photon fusion with proton dissociation.

We present a formalism which uses fluxes of equivalent photons including transverse momenta of the intermediate photons. The formalism reminds the familiar kt-factorization approach used, e.g., to study the two-gluon production of cc^- or bb^- pairs. The results of the new method are compared with those obtained using the code LPAIR, and a good agreement is obtained. The inclusion of the photon transverse momenta is necessary in studies of correlation observables. We present distributions for the dimuon invariant mass, transverse momentum of the muon pair and relative azimuthal angle between muons separately for elasticelastic, elastic-inelastic, inelastic-elastic and inelastic-inelastic mechanisms. Here we discuss especially the dependence on the proton structure function F_2 .

We will also compare with approaches based on photons as DGLAP partons in a proton.

The presentation is based on:

G.G. da Silveira, L. Forthomme, K. Piotrzkowski, W. Schafer and A. Szczurek, "Central $\mu^+\mu^-$ production via photon-photon fusion in proton-proton collisions with proton dissociation", JHEP 02 (2015) 159.

M. Luszczak, W. Schafer and A. Szczurek, a paper in preparation.

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