

Heavy quark production in photon-hadron interactions at high energies

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The photon-induced interactions, as those present in the deep inelastic scattering (DIS) process and in ultraperipheral hadronic collisions, can be used to improve our understanding of the strong interactions in the high energy regime. In particular, the photon-induced interactions where one of the incident hadrons fragments and only one rapidity gap is present in the final state, usually denoted inclusive processes. In this work we present a study of the inclusive heavy quark photoproduction in ep and eA collisions using the color dipole formalism. The structure functions and the total cross sections for the charm and bottom production are estimated using the more recent phenomenological models for the dipole scattering amplitude available in the literature. Moreover, a comparison with the experimental results from ep HERA collider is performed.

Summary

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