

Accessing the gluon Wigner distribution in ultraperipheral pA collisions

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We propose to constrain the gluon Wigner distribution in the nucleon by studying the exclusive diffractive dijet production process in ultraperipheral proton-nucleus collisions (UPCs) at RHIC and the LHC. Compared to the previous proposal to study the same observable in lepton-nucleon scattering, the use of UPCs has a few advantages: not only the cross section is larger, but also the extraction of the Wigner distribution from the data becomes simpler, including its elliptic angular dependence. We compute the corresponding cross section and evaluate the coefficients using models which include the gluon saturation effects

Relevant topics

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