

An Improved Glauber-Gribov Approach to Diffractive Hadron-Nucleus Scattering

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Summary

By introducing nucleon short-range correlations and summing inelastic shadowing by the dipole representation [1], the cross sections for a variety of diffractive processes in proton-nucleus scattering, associated with large gaps in rapidity, are calculated at the energies of HERA-B, RHIC and LHC [2, 3]. Whereas Gribov inelastic shadowing makes nuclear matter more transparent, nucleon correlations act in the opposite direction.

[1] B. Z. Kopeliovich, Phys. Rev. C68 (2003) 044906

[2] M. Alvioli, C. Ciofi degli Atti, B. Z. Kopeliovich, I. K. Potashnikova and I. Schmidt, Phys. Rev. C81 (2010) 0252; C84 (2011) 025205

[3] C. Ciofi degli Atti, talk given at QNP12, Palaiseau, France. PoS 2012

Primary author: Prof. CIOFI DEGLI ATTI, Claudio (PG)

Presenter: Prof. CIOFI DEGLI ATTI, Claudio (PG)

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