Unitarity restoration in small-x eA

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Abstract

The behavior of the nuclear structure funtion F_2^A is analised for an eA collider, and compared for available kinematic region, in the QCD eikonal approach, which provides unitarity restoration. It is demonstrated that similarly to the nucleon case it is predicted an inflection of this function. The built in saturation mechanism implies, as a result of high density effects, the A dependence of the maximum of the slope. This result cannot be obtained from a pure DGLAP calculation. The measurement of this quantity would provide a clear evidence of the saturation effects in the small-x region as well as the presence of the A dependence. It is shown that this quantity also allows a dramatic discrimination between the different proposed theoretical approaches.

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