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Contributions of Elliptic Wigner distribution to multi-particle azimuthal correlations

Tuesday, May 15, 2018 7:10 PM (30 minutes)

Multi-particle azimuthal correlations have recently been measured in proton/deuteron-nucleus collisions at RHIC and at the LHC, and call for theoretical explanations. In particular, whether they originate from the initial or final state interaction is a matter of intense debate. We propose a new, initial-state mechanism to generate multiple correlations like $c_2\{4\}$ from the combined effect of multi-parton scattering and the elliptic gluon Wigner distribution of the nucleus. This can arise even if the individual parton-nucleus scatterings are independent of each other. We present a numerical estimate of this effect by using the Wigner distribution computed from the impact parameter dependent Balistky-Kovchegov equation.

Content type

Theory

Collaboration

Centralised submission by Collaboration

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