LIGHT CONE 2019

LC2019 – QCD ON THE LIGHT CONE: FROM HADRONS TO HEAVY IONS

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Singularities in Twist-3 Quark Distributions

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We find in one-loop calculations and spectator models that twist-3 GPDs exhibit discontinuities. In the forward limit, these discontinuities grow into Dirac delta functions which are essential to satisfy the sum rules involving twist-3 PDFs. We calculate twist-3 quasi-PDFs as a function of longitudinal momentum, and identify the Dirac delta function terms with momentum components in the nucleon state that do not scale as the nucleon is boosted to the infinite momentum frame.

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