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The Weizsaecker-Williams distribution of linearly polarized gluons (and its fluctuations) at small x

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Content

Consider the production of a hard dijet in high-energy DIS with large average transverse momentum $\vec{P} = (\vec{k}_1 - \vec{k}_2)/2$ and small(er) momentum imbalance $\vec{q} = \vec{k}_1 + \vec{k}_2$. The cross section involves a sum of an isotropic contribution proportional to the conventional Weizsaecker-Williams gluon distribution and of a contribution proportional to $\cos(2\phi)$ times the WW distribution of linearly polarized gluons. Here ϕ is the angle between \vec{P} and \vec{q} . These gluon distributions are given in terms of correlators of the gluon field in light-cone gauge. Numerical solutions of the LO JIMWLK evolution equations indicate a substantial “ v^2 ” given by the ratio of the two gluon distributions which approaches $O(1)$ at $q > Q_s$. The fluctuation of the azimuthal anisotropy at small x has also been analyzed.

Session

Proton structure, small and large x physics

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