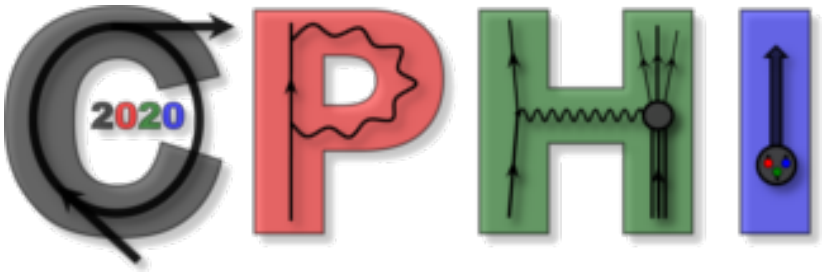

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Helicity Distributions and OAM at Small x

Monday 3 February 2020 11:20 (25 minutes)

We derive and solve small-x evolution equations determining the small-x asymptotics of quark and gluon helicity PDFs and TMDs and orbital angular momentum (OAM) distributions. Our evolution equations resum powers of $\alpha_s \ln^2(1/x)$. At large N_c, solving our equations, we obtain the following small-x asymptotics for helicity PDFs and OAM:

$\Delta\Sigma(x,Q^2) = -L_{q+\bar{q}}(x,Q^2) \sim \left(\frac{1}{x}\right)^{\frac{4}{\sqrt{3}}\sqrt{\frac{\alpha_s N_c}{2\pi}}}$,

$\Delta G(x,Q^2) \sim L_G(x,Q^2) \sim \left(\frac{1}{x}\right)^{\frac{13}{4\sqrt{3}}\sqrt{\frac{\alpha_s N_c}{2\pi}}}$.

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