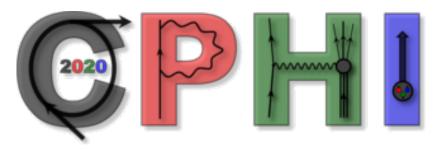
## Correlations in Partonic and Hadronic Interactions - 2020 (CPHI-2020)



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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:

$$\begin{split} \Delta \Sigma(x,Q^2) &= -L_{q+\bar{q}}(x,Q^2) \sim \left(\frac{1}{x}\right) \frac{4}{\sqrt{3}} \frac{\sqrt{\alpha_{\underline{s}} N_{\underline{c}}}}{\sqrt{2}\pi} ,\\ \Delta G(x,Q^2) &\sim L_G(x,Q^2) \sim \left(\frac{1}{x}\right) \frac{13}{4\sqrt{3}} \sqrt{\frac{\alpha_{\underline{s}} N_{\underline{c}}}{2\pi}} . \end{split}$$

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