

Small- x Resummed Gluon Densities from HELL and Applications with JETHAD (Zoom)

Tuesday 15 July 2025 18:00 (20 minutes)

We review the state of the art in applying the small- x resummation to parton distribution functions in the proton, with particular emphasis on the gluon content. In the first part, we briefly discuss small- x resummed 1D collinear distributions, highlighting their connections with the 3D transverse-momentum dependent counterparts at both small and moderate x , including the effects of gluon-proton spin correlations. In the second part, we present a novel determination of unintegrated gluon densities, obtained from the small- x resummation formalism as implemented in the HELL approach. Finally, we discuss applications to HERA and LHC phenomenology, leveraging the JETHAD multimodular interface.

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Session Classification: Parton densities and soft resummation