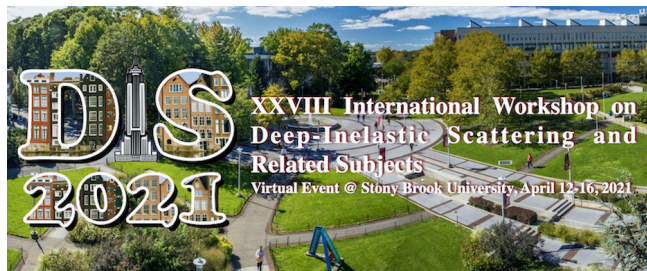


# XXVIII International Workshop on Deep-Inelastic Scattering and Related Subjects



Contribution ID: 533

Type: **Contributed Talk**

## Small- $x$ Physics at the LHeC and FCC-eh

*Thursday, 15 April 2021 13:27 (18 minutes)*

The LHeC and the FCC-eh will extend the kinematic region presently available in DIS to very small values of  $x$  in the perturbative  $Q^2$  region. Therefore, they will be able to establish the dynamics of the strong interaction at small  $x$  or high energies, and unravel the existence of a new non-linear regime of QCD where parton densities are expected to saturate. In this talk we will review the most recent studies as presented in the 2020 LHeC Conceptual Design Report update [1]. On the experimental side, we will show a new study for the determination of the longitudinal structure function. On the phenomenological side, we will analyse the prospects for establishing the existence of saturation through tension in DGLAP fits to the very precise, large acceptance DIS data.

[1] LHeC Collaboration and FCC-he Study Group, P. Agostini et al., e-Print: 2007.14491 [hep-ex].

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