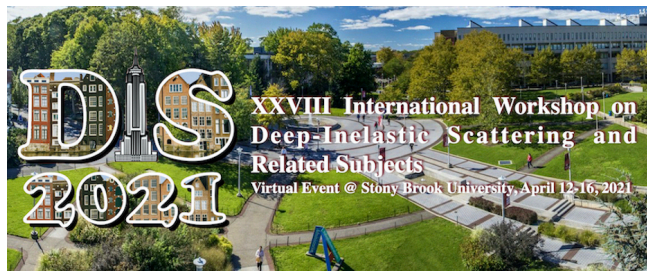


# XXVIII International Workshop on Deep-Inelastic Scattering and Related Subjects



Contribution ID: 535

Type: **Contributed Talk**

## The LHeC as Part of the HL-LHC Programme

*Thursday, 15 April 2021 08:50 (18 minutes)*

The LHeC provides a comprehensive physics programme with strong implications on that of the HL-LHC. We will present a chapter of the 2020 LHeC Conceptual Design Report update [1], that is firstly the implications of the precise determination of proton PDFs at the LHeC on the measurement of key SM parameters at the HL-LHC: EW mixing angle, W mass and their impact on EW precision measurements. Then we will address the impact of the LHeC PDFs on Higgs measurements at the HL-LHC, and the results for Higgs couplings from a joint  $ep + pp$  analysis. We then discuss the impact of LHeC results on high-mass searches. Finally we discuss the impact of  $ep$  and  $eA$  measurement on the heavy-ion programme at the HL-LHC.

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

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