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Top and EW Physics at the LHeC and FCC-he

Friday, 8 July 2022 18:15 (15 minutes)

The LHeC and the FCC-he offer singular possibilities for measurement of top properties and EW parameters in DIS, both due to their large centre-of-mass energies and high luminosities. In this talk we will review the most recent studies. We will revisit the determination of the top mass through inclusive measurements. In addition, we will address the possibilities for precise measurements of α_s and γ couplings, and competitive searches for FCNC top couplings. We will show the possibilities for precise measurement of EW parameters in a simultaneous PDF+EW fit, including the W , Z and top mass, weak neutral current couplings and the effective EW mixing angle, and the unique possibilities for anomalous couplings in charged current DIS.

Reference: P. Agostini et al. (LHeC Study Group), The Large Hadron-Electron Collider at the HL-LHC, J. Phys. G 48 (2021) 11, 110501, e-Print: 2007.14491 [hep-ex].

In-person participation

Yes

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