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The LHeC as a Higgs facility

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The Large Hadron Electron Collider (LHeC) is a proposed facility for electron-proton/nucleus scattering at CERN, which will collide electrons and positrons from a new 60 GeV accelerator with the LHC beams. After the release of a detailed technical design report in 2012, the configuration of a linac with racetrack shape has been chosen for its default design. Further work to adapt the electron and high luminosity optics and beam parameters, allows to achieve performance levels around $10^{34} \text{ cm}^{-2} \text{ s}^{-1}$ required for precision Higgs physics. In parallel, work has focused on the design of an LHeC Test Facility at CERN, on the validation and preparation of the Energy Recovery Linac operation mode for the LHeC and on the development of the required Superconducting RF technologies. The talk presents an overview on the design, recent activities and an outlook for further developments.

Summary

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