



**HEP 2013
Stockholm
18-24 July 2013**



Contribution ID: 621

Type: **Talk presentation**

An energy recovery electron accelerator for DIS at the LHC

Saturday, 20 July 2013 11:50 (25 minutes)

The Large Hadron Electron Collider (LHeC) is a proposed facility which will exploit the LHC beams for electron-proton/nucleus scattering, using a new 60 GeV electron accelerator. Following the release of its detailed technical design report last year, the configuration of a linac with racetrack shape has been chosen for its default design. Further work has been pursued in order to adapt the electron and high luminosity beam optics, to design an LHeC Test Facility at CERN and to maximise the ep luminosity to achieve values close to $10^{34} \text{ cm}^{-2} \text{ s}^{-1}$ as is desirable for precision Higgs physics with the LHeC. The talk presents an overview on the design, recent activities and an outlook for further developments.

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Session Classification: Accelerators

Track Classification: Accelerators