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## The Large Hadron Electron Collider (LHeC) Project

*Saturday 24 July 2010 15:20 (20 minutes)*

Under the auspices of CERN, ECFA and NuPECC, a Conceptual Design Report is being prepared on the physics, detector and accelerator for an ep/eA collider, which by adding an O(60) GeV energy electron beam to the proton/ion beams of the LHC, will open a path to high mass and lowest Bjorken  $x$  explorations of polarised electron/positron-quark/gluon interactions at TeV energies. The LHeC will extend the kinematic range of ep deep inelastic scattering (in  $1/x$  and  $Q^2$ ) and the integrated luminosity by factors of 100 as compared to HERA. The presentation will highlight the physics programme and describe the design of a new detector and the two options of the accelerator considered, a ring-ring and a linac-ring version of the LHeC.

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