

ICHEP2012



Contribution ID: 595

Type: **Parallel Sessions**

Design Concepts for a Large Hadron Electron Collider

Saturday 7 July 2012 11:30 (15 minutes)

A Conceptual Design Report has been completed for a new electron-proton and electron-ion collider, which achieves a cms energy of 1.3 TeV in ep using the high energy beams of the LHC. Designed for synchronous ep and pp operation, the LHeC will be a high luminosity collider with a wide ranging physics program on high precision deep inelastic scattering and new physics. The electron beam is designed as an energy recovery linac in a racetrack configuration with triple return arcs. As well as a summary of the Conceptual Design, the next steps towards a technical design of the LHeC are presented.

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Session Classification: Room 218 - Future Accelerators - Detectors and Computing for HEP - TR14&13

Track Classification: Track 14. Future Accelerators