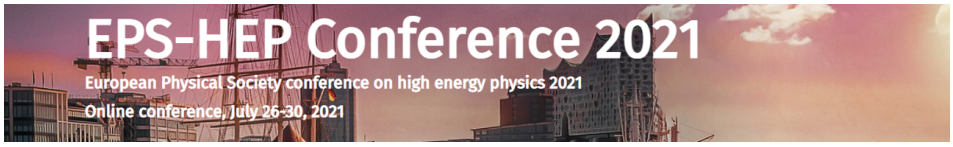

Contribution ID: **1169** Type: **Parallel session talk**

Status of the Electron Ion Collider

Tuesday 27 July 2021 09:50 (20 minutes)

The Electron Ion collider will enable collisions of high energy ions with high energy electrons. It will shed light on many open questions of nuclear physics such as the origin of masses of nuclei and nucleons, the origin of nuclear spin, details on the distributions of constituents inside the nuclei, and the questions that emerge from the observed high density of gluons inside the nucleons. On December 19, 2019, the Department of Energy has granted Critical Decision-Zero (CD-0), the acknowledgement of Mission Need of the Electron Ion Collider proposal. On January 9, 2020, Brookhaven National Laboratory was chosen as the site of the new facility. Brookhaven National Laboratory is forming a partnership with Thomas Jefferson Laboratory to design, build and commission the new collider and its detector systems.
The EIC has very ambitious performance parameters that include high luminosity of up to 10^34 cm^-2s^-1, highly polarized beams with P<70%, large range of center of collision center of mass energies between 20 GeV and 140 GeV, large range of ion beams from protons to Uranium and the possibility of up to two detectors and interaction points.
Present plans call for start-up of collider operations in 2030. The design of the new collider is well advanced and recently passed successfully a series of thorough reviews of the conceptual design layout that is documented in a comprehensive conceptual design report.
Scientists from around the world are envisioned to use this exciting facility. There are expectations, that the worldwide science community will contribute to the detector and machine with in-kind contributions. This report will emphasize the status the verification of the design parameters and the accelerator design.

Collaboration / Activity

None

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