

The Project of Electron-Ion Collider in China

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The Electron-Ion Collider in China (EicC) will be constructed based on the upgrade of the High Intensity Heavy-ion Accelerator Facility (HIAF), which is now under construction in Huizhou of Guangdong. The Collider will provide a large integrated experimental platform for research on nuclear and particle physics and related scientific fields. Electron-nucleon scattering is an ideal tool to explore the internal structure of nucleon (nuclei) and its internal dynamical mechanisms. The electron-ion collision experiment with a high precision can measure the 3D structure function of nucleon, and thus reveal the dynamics of its internal strong interactions. The EicC, with center-of-mass energy ranged between 15 and 20 GeV, will focus on the research of the parton distributions of sea quarks in nucleon, the structures and properties of nuclear matter, and exotic hadrons, and so on. The energy region is close to the production threshold of heavy flavor quarks and has unique advantage in studying the heavy-flavor hadron spectrum with low background, which is possible to discover new exotic hadron states. This talk will report the prospects of the research on nucleon structure and hadron physics on EicC, and the progress of the research and development of its detectors.

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