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The Electron Ion Collider and ATHENA experiment

The Electron Ion Collider (EIC) will be built at the Brookhaven National Laboratory as one of big facilities in nuclear physics in the world. The EIC will be able to collide polarized electron-proton and electron-ion collisions up to center-of-mass energies of 140 GeV with luminosities up to $10^{34} \text{ cm}^{-2}\text{s}^{-1}$. The EIC will study the internal structure of protons, neutrons and atomic nuclei with the most powerful electron microscope, and will be able to address some of the most fundamental questions including the origin of the nucleon mass, the nucleon spin, and the emergent properties of a dense system of gluons. I will talk about the current status of EIC and the ongoing detector proposals in particular the ATHENA experiment at EIC including the participation of Chinese institutions.

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