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Future high-luminosity electron-ion colliders¹

WOLFRAM FISCHER, Brookhaven National Laboratory

A new generation of electron-ion colliders is under design. In these colliders electron beams collide with light and heavy ions, polarized protons, and possibly other polarized light ions. The ELIC and eRHIC proposals emphasize high luminosity, polarization, and flexibility in the change of colliding species and collision energy. The LHeC aims at very high center-of-mass energies. The talk compares the main features of these designs, discusses their performance limitations, their use of existing facilities, and the necessary R&D effort to achieve the stated performance parameters.

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