

Abstract Submitted  
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**Physics Opportunities with STAR in the EIC Era** ERNST SICHTERMANN, Lawrence Berkeley National Laboratory, FOR THE STAR COLLABORATION — A future high-energy polarized Electron-Ion Collider (EIC) would enable precision measurements of the partonic structure of nucleons and nuclei, yielding unique insights in the momentum, spin, and spatial substructure of nucleons and nuclei. An upgrade of the Relativistic Heavy Ion Collider, RHIC, at Brookhaven National Laboratory (BNL) with a high-intensity electron beam in stages with increasing electron beam energies is one several possibilities worldwide that are being investigated to realize an EIC. Its concept allows, with suitable redesign of the interaction regions, collisions at the existing RHIC experiments. Selected physics opportunities with, limitations of, and upgrade paths for the STAR experiment at RHIC in the early stages of such an EIC will be discussed.

Ernst Sichtermann  
Lawrence Berkeley National Laboratory

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