

Abstract Submitted
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Development of a Polarized He3 Ion Source for RHIC¹ CHARLES EPSTEIN, Laboratory for Nuclear Science, MIT, J. ALESSI, E. BEEBE, Collider-Accelerator Division, Brookhaven National Laboratory, W. HEIL, S. KARPUK, Institut für Physik, Universität Mainz, R. MILNER, Laboratory for Nuclear Science, MIT, E. OTTEN, Institut für Physik, Universität Mainz, A. PIKIN, A. ZELENSKI, Collider-Accelerator Division, Brookhaven National Laboratory — A polarized ^3He beam in RHIC would enable new, unique, high-energy QCD studies of neutron structure with existing polarized proton beams, as well as important tests of the standard model in a future electron-ion collider (eRHIC). A new polarized ^3He ion source using the Electron Beam Ionization Source (EBIS) at BNL is under development. ^3He atoms are first polarized using metastability exchange optical pumping (MEOP) and then transferred to EBIS. Fully stripped $^3\text{He}^{++}$ ions would be extracted from EBIS and their polarization measured at low energies before acceleration in RHIC.

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