

## **POLARIZATION STUDIES FOR THE eRHIC ELECTRON STORAGE RING**

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A hadron/lepton collider with polarized beams has been under consideration by the scientific community since some years, in the U.S. and Europe. Among the various proposals, those by JLAB and BNL with polarized electron and proton beams are currently under closer study in the U.S. In the BNL Ring-Ring design electrons are stored at top energy in a ring to be accommodated in the existing RHIC tunnel. The transversely polarized electron beam is injected into the storage ring at variable energies, between 5 and 18 GeV. Polarization is brought into the longitudinal direction at the IP by a couple of spin rotators. In addition experimenters call for the simultaneous storage of electron bunches with both spin helicity. In this paper studies of the attainable beam polarization level and lifetime in the storage ring at 18 GeV are presented.

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