

Abstract Submitted  
for the HAW14 Meeting of  
The American Physical Society

**eRHIC – future High-Luminosity, High- Energy Electron-Ion Collider at BNL** VLADIMIR LITVINENKO, Stony Brook University, ERHIC COLLABORATION — I will present our plans for future electron-ion collider (EIC), based on the existing Relativistic Heavy Ion Collider (RHIC) hadron facility. We plan adding a polarized electron-beam driven by Energy-Recovery Linac with energy tunable within the 5-21-GeV range to collide with variety of species in the existing RHIC-accelerator complex, from polarized protons with a top energy of 250 GeV, to heavy fully striped ions with energies up to 100 GeV/u. I will present original design of the collider using two FFAG arcs for 16-passes of electron beam as well as the design parameters. I will discuss progress of an intensive R&D program towards eRHIC, which is underway at BNL.

Vladimir Litvinenko  
Stony Brook University

Date submitted: 18 Aug 2014

Electronic form version 1.4