Joint DESY and University of Hamburg Accelerator Physics Seminar

Tuesday June 15, 2004

(16:00 in Room 459/30b)

eRHIC - A Polarized ep/eA Collider at Brookhaven National Lab

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Abstract

Brookhaven National Laboratory, MIT and the Budker Institute for Nuclear Physics have prepared a pre–conceptual design for a polarized electron ion collider. A highly polarized beam of 10 GeV electrons (or positrons) will collide with a beam of polarized protons (or unpolarized ions) in one of the existing RHIC rings. The physics program will benefit from both high luminosity, 10^{32}-10^{33}, and high polarization. A description of the proposed collider accelerator will be presented. The electron ring and injector will be described in some detail with an emphasis on the special considerations necessary for optimal polarization handling and maximal integrated luminosity. The current status of the project is described in a zero order design report. Plans for future activities will also be presented.

D.P.Barber (MPY), J.Rossbach (Univ. HH), P.Schmüser (Univ. HH), and M.Vogt (MPY).