

# Accelerating Polarized Protons to High Energy<sup>1</sup>

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The Relativistic Heavy Ion Collider (RHIC) at BNL is designed to provide collisions of high energy polarized protons for the quest of understanding proton spin structure. Polarized proton collisions at a beam energy of 100 GeV has been achieved in RHIC since 2001. Recently, polarized proton beam was also first accelerated to 250 GeV in RHIC. Unlike accelerating unpolarized protons, the challenge for achieving high energy polarized protons is to fight the various mechanisms in an accelerator that can lead to partial or total polarization loss due to the interaction of the spin vector with the magnetic fields. . This talk will report on the progress of the RHIC polarized proton program. This talk will also present the strategies of how to preserve the polarization through the entire acceleration chain, i.e. a 200 MeV linear accelerator, the Booster, the AGS and RHIC.

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