

Elastic Polarized Proton Scattering at RHIC

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The PP2PP Collaboration is investigating the elastic scattering process of polarized protons at the Relativistic Heavy Ion Collider at BNL. During the 2002 polarized proton run about 3×10^5 elastic events were collected in a 12 hour engineering run at a center of mass energy of $\sqrt{s} = 200$ GeV. The accelerator was set up in a special tun with a betatron function at the interaction point of $\beta^* = 10$ m and an estimated low emittance of $\varepsilon = 12\pi \times 10^{-6}$ m.

The elastically scattered protons were detected by silicon microstrip detectors housed in Roman Pots, located 57 meters to the left and right from the beam, thus allowing to measure the squared four-momentum transfer, $[t]$, in the interval of $0.005 \text{ GeV}^2 < |t| < 0.0215 \text{ GeV}^2/c^2$. Preliminary results of this first run will be presented.

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