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**Physics with Tagged Forward Protons at STAR** IVAN KORALT,  
Old Dominion University, STAR COLLABORATION — One of the goals of the physics program with tagged forward protons with the STAR detector at RHIC is the study of elastic scattering of polarized protons at small four-momentum transfer squared ( $-t$ ) in the RHIC center of mass (cms) energy range. Coulomb and nuclear amplitudes plus their interference describe elastic scattering of polarized protons at these ranges. Studying the kinematic region of low  $|-t|$  provides also an opportunity to study the spin averaged nuclear amplitude. In order to achieve this goal, silicon strip detectors are installed inside Roman Pots at 55.5 m and 58.5 m on either side of the STAR interaction point (IP), detecting the very forward scattered protons. During the RHIC 2009 data taking period, the collaboration collected approximately 30M elastic triggers with transversely polarized proton beams at  $\sqrt{s}= 200$  GeV and four-momentum transfer squared range of  $0.005 \text{ GeV}^2/c^2 \leq -t \leq 0.035 \text{ GeV}^2/c^2$ . In this talk, we describe the experimental setup and performance during the 2009 data taking period. We elaborate on the quality of the recorded data, techniques used for event reconstruction, and efficiencies of the Si detectors. We will present preliminary results, including the single spin asymmetry  $A_N$ .

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