

Abstract Submitted
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Upgrading the PHENIX Muon Trigger using Resistive Plate Chambers to Enhance Proton Spin Measurements RUSTY TOWELL, Abilene Christian University, PHENIX COLLABORATION — Determining the contributions of the sea quarks and other partons to the spin structure of the proton is important to our understanding of QCD. Collisions of longitudinally polarized protons at high energies provide a measurement of the flavor dependent contributions. In particular, the production of W-bosons at forward rapidity is sensitive to the flavor dependent spin contributions. The PHENIX detector at RHIC is well designed to make this measurement but required an upgrade to the forward trigger. The new PHENIX Muon Trigger will help select W-bosons events that can be detected through the appearance of a high-energy muon in one of the two existing muon spectrometers. The trigger upgrade is based on new front-end electronics for the muon tracking chambers and the addition of two stations of Resistive Plate Chambers in both muon arms. The stations of RPCs closest to the interaction point have recently been assembled and installed. The design and performance of these chambers will be reviewed along with the measurements possible in the next polarized proton run.

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