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Single-Spin Asymmetry Measurement of Very Forward Neutral Particle Production in the RHICf experiment

We installed an electro-magnetic calorimeter in the most forward area of the STAR experiment and took 510 GeV polarized proton collision data for neutral particle production (neutron, photon, neutral pion) at pseudorapidity > 6 . The cross section measurement will give us new inputs to develop high-energy collision models which is essential to understand air-shower from ultra-high energy cosmic rays. The asymmetry measurement will enable us to understand the hadron collision mechanism based on QCD. The data were taken in June of 2017 with three detector positions in order to cover wide kinematic regions. STAR detector data were also recorded for combined data analysis. We will present evaluation of the experimental data and status of the asymmetry data analysis.

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