

Polarimetry based on forward neutrons in pA scattering

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The PHENIX collaboration has observed a large azimuthal asymmetry of forward neutrons produced in polarized pA collisions. The data are well described by a model incorporating photons from the high Z nucleus photoproducing low mass baryonic states from the polarized proton. The model is based on well known electromagnetic effects and well measured photoproduction processes.

We will discuss possible application of this process to polarimetry of high energy polarized proton beams. A simple target/detector system will be described, based on standard detector technology. Rate estimates will be presented, based on feasible targets and realized RHIC and planned EIC polarized proton beams. Possible tests at RHIC runs in the next few years will be outlined.

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