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# Asymmetry measurement of far-forward neutral particles in the RHICf experiment

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The RHICf experiment installed an electromagnetic calorimeter in front of the Zero-Degree Calorimeter (ZDC) of the RHIC-STAR experiment in 2017 to measure the transverse-spin asymmetries of the far-forward neutral particles produced from transversely polarized proton collisions at RHIC. It has been known that the far-forward neutrons have a large transverse-spin asymmetry in RHIC transversely polarized proton collisions, and the ZDC of RHIC serves as a polarimeter to monitor the polarization of the protons at the collision point. The electromagnetic calorimeter installed in the RHICf experiment provided high-precision position information, and by moving the installation position, the kinematic region that can be measured was greatly expanded and the precision of measurement was greatly improved. In addition to neutrons, we also measured the far-forward asymmetry of neutral pions and found that neutral pions also have a large transverse-spin asymmetry in this kinematic region. For these neutral particles, we are further conducting a combined data analysis with the detectors of the STAR experiment to elucidate the far-forward particle production mechanism.

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