

Abstract Submitted
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Measurement of the Target Single-Spin Asymmetry in Quasi-Elastic ${}^3\text{He}^\uparrow(e,e')$ Yawei Zhang, Rutgers University, JLAB HALL A QUASI-ELASTIC FAMILY COLLABORATION — Jefferson Lab Hall A E05-015 (A_y) experiment measures target single-spin asymmetries, A_y , through electron scattering from a vertically polarized Helium-3 target in the quasi-elastic ${}^3\text{He}(e, e')$ at Q^2 values of 0.13, 0.46 and 0.96 GeV^2 . Single spin asymmetry is forbidden under one photon exchange assumption and parity conservation. But with two photon exchange, the amplitudes interference term gives rise to an imaginary piece, such that single spin asymmetry is allowed. This experiment is to be the first to firmly establish a non-vanishing A_y , providing new constraints on Generalized Parton Distribution (GPD) models and new information on the dynamics of the two-photon exchange process. The experiment will be introduced and the results from this experiment will be presented in this talk.

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