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Target Single-Spin Asymmetry Measurements in Quasi-Elastic ${}^3\text{He}\uparrow(\mathbf{e}, \mathbf{e}')$ BO ZHAO, College of William and Mary, JEFFERSON LAB HALL A COLLABORATION — The target single-spin asymmetry for the neutron, A_y , was measured using the inclusive quasi-elastic ${}^3\text{He}\uparrow(\mathbf{e}, \mathbf{e}')$ reaction in Hall A at Jefferson Lab with a vertically polarized ${}^3\text{He}$ target for $Q^2 = 0.13, 0.46$ and 0.97 GeV^2 . Since the target single-spin asymmetry is expected to be zero in the one-photon exchange approximation, the non-zero results from this experiment clearly demonstrate the effects due to two-photon exchange. They establish the two-photon exchange process as a powerful tool to probe hadron structure, such as information on Generalized Parton Distributions. The ongoing analysis of this experiment will be presented.

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