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Induced Polarization in ${}^4\text{He}(e, e'\vec{p}){}^3\text{H}$ ¹ STEFFEN STRAUCH, University of South Carolina, JEFFERSON LAB HALL A COLLABORATION — Polarization transfer in the ${}^4\text{He}(\vec{e}, e'\vec{p}){}^3\text{H}$ reaction up to $Q^2 = 2.6$ (GeV/c)² has been measured in an attempt to study possible medium modifications of the proton form factors. Indeed, the measured ratio of polarization-transfer coefficients are described by the inclusion of a medium modification of the proton form factors. This interpretation is challenged by a recent calculation including, particularly, a spin-dependent charge exchange in the final-state interaction. The induced polarization in this reaction is a measure of final-state interactions. Precise data on these are key to shed more light on this controversy. In our recent follow-up experiment E03-104 at Jefferson Lab data were taken at a Q^2 of 0.8 (GeV/c)² and 1.3 (GeV/c)² on ${}^1\text{H}$ and ${}^4\text{He}$ targets. The extraction of the small induced polarization of the recoiling proton for the ${}^4\text{He}(e, e'\vec{p})$ reaction is complicated by the possible presence of instrumental asymmetries in the focal-plane polarimeter. The induced polarization in the elastic ${}^1\text{H}(e, e'\vec{p})$ reaction is (in one-photon approximation) zero and provides crucial information about these false asymmetries. Our extraction procedure and preliminary results will be presented.

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Steffen Strauch
University of South Carolina

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