Induced Polarization in $^4\text{He}(e, e'\vec{p})^3\text{H}$ SIMONA MALACE, University of South Carolina, HALL A COLLABORATION — The transferred polarization in the $^4\text{He}(e, e'\vec{p})^3\text{H}$ reaction at $Q^2$ values of 0.4, 0.5, 1.0, 1.6, and 2.6 GeV$^2$ have been measured to study possible medium modifications of the proton form factors. The measured ratio of polarization-transfer coefficients was described by the inclusion of in-medium proton form factors. This interpretation was recently challenged by a calculation by Schiavilla et al including, particularly, a spin-dependent charge exchange in the final-state interaction (FSI). The induced polarization of the recoiling proton in this reaction is a measure of FSI. Precise data on these are key to shed more light on this controversy. Even more, a precise knowledge of the induced polarization will allow improvement of the FSI treatment by providing additional experimental constraints to existing theoretical calculations. In our follow-up experiment E03-104 at JLab high statistics data were taken at a $Q^2$ of 0.8 GeV$^2$ and 1.3 GeV$^2$ on $^1\text{H}$ and $^4\text{He}$ targets. The extraction of the small induced polarization 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 preliminary results indicate an induced polarization of about $-0.03$ and seem to be in reasonable agreement with the RDWIA calculation of Udias et al.

$^1$Work supported in part by NSF PHY-0555604.