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Polarization Transfer in ^{4}He($\vec{e}$,$e'\vec{p}$)^{3}H[1] MICHAEL PAOLONE, SIMONA MALACE, STEFFEN STRAUCH, University of South Carolina, JEFFERSON LAB E03-104 COLLABORATION — Polarization transfer in quasi-elastic nucleon knockout is sensitive to the properties of the nucleon in the nuclear medium, including possible modification of the nucleon form factor. In experiment E03-104 at Jefferson Lab we measured the proton recoil polarization in the ^{4}He($\vec{e}$,$e'\vec{p}$)^{3}H reaction at a Q^2 of 0.8 (GeV/c)^2 and 1.3 (GeV/c)^2 with unprecedented precision, allowing the individual polarization transfer coefficients and their ratio to be studied as a function of the missing momentum. The data differ from a fully relativistic distorted wave impulse approximation (RDWIA) calculation which uses free space proton form factors, but strong agreement is obtained if medium modified form factors are used. The data also agree with a model calculation including a charge-exchange final-state interaction with no medium modification of the nucleon form factors. The polarization transfer ratio has also been studied as a function of the virtuality of the proton; the ratio increases in an almost linear fashion from the farthest off-shell measurements of the recoiling proton to the extrapolated value of an unbound proton expected at virtuality equal to zero.

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