Abstract Submitted
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Probing for high momentum protons in ^{4}He via the ^{4}He(e,e/p)X reaction[1] KONRAD ANIOL, California State University, FATIHA BENMOKHTAR, Duquesne University, JEFFERSON LAB HALL A COLLABORATION COLLABORATION — Experimental cross sections for the ^{4}He(e; e'p)X reaction up to a missing momentum of 0.632 GeV/c at x_B =1.24 and Q^2 =2 (GeV/c)^2 are reported.The data are compared to Relativistic Distorted Wave Impulse Approximation (RDWIA) calculations for the ^{4}He(e; e'p)^{3}H channel. Significantly more events in the narrow triton missing mass region that we used, 0.017 GeV $\leq$ Emiss $\leq$ 0.022 GeV, are measured for missing momenta pm $\geq$ 0:45 GeV/c than are predicted by the theoretical model. This narrow missing mass region was chosen to minimize (pnn) and (p,d) background bleeding into the (p,t) state in the theoretical model. These excess events suggest that the effects of initial-state multi-nucleon correlations are stronger than expected by the RDWIA model. The ratio of the experimental cross sections to the theory cross sections shows a smooth dependence with missing momentum except in the region where the proton's predicted momentum distribution has a deep minimum.

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Fatiha Benmokhtar
Duquesne University

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