

Abstract Submitted
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Systematics of Nuclear Effects in Polarized ^3He Structure Functions and Asymmetries JACOB ETHIER, College of William & Mary, WALLY MELNITCHOUK, Jefferson Lab — We present a detailed analysis of nuclear effects in inclusive electron scattering from polarized ^3He nuclei, including for polarization asymmetries and structure function moments, in both the nucleon resonance and deep-inelastic scattering regions. We compare the results of calculations within the weak binding approximation (WBA) at finite Q^2 with several commonly used ansätze for simplifying the nuclear corrections, and assess their impact on extractions of the free neutron structure. In addition, we make predictions for the Q^2 dependence of quasielastic (QE) scattering from polarized ^3He , data on which can be used to constrain the nucleon smearing functions in ^3He . As a check of the formalism, we compare the WBA calculations in the QE region with the world's data on QE electron-deuteron cross sections.

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