

Abstract Submitted
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The EMC effect of Nuclear Matter with Coulomb Corrections¹

SHUJIE LI, PATRICIA SOLVIGNON, University of New Hampshire, JOHN AR-RINGTON, Argonne National Laboratory, DAVE GASKELL, Thomas Jefferson National Accelerator Facility — Extraction of the EMC effect for nuclear matter is of great interest since it allows comparison to theoretical calculations in a regime where "exact" nuclear wave functions can be used. Earlier extractions from (e,e) cross sections ignored the contribution of the Coulomb distortion, which can be approximated as an electron energy shift on the order of MeV. Though small, this shift can cause a noticeable change in cross sections in certain kinematic regimes. In this study, we applied Coulomb corrections on the per-nucleon ratios from the published SLAC E139 data and preliminary JLAB E03-103 data. I will show preliminary results for an extrapolation of the EMC ratios from finite nuclei to symmetric nuclear matter, including Coulomb Corrections and examining the sensitivity to different approximations for the nuclear density. The data from two experiments will also be combined to study the nuclear dependence of $R = \sigma_L/\sigma_T$.

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