Abstract Submitted
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**Ratios of hadronic continuum cross sections to deuterium** R.J. PETERSON, University of Colorado — A recent paper used per-nucleon ratios of continuum electron scattering cross sections from complex nuclei to those for deuterium to examine the role of correlations within those complex nuclei [N. Fomin et al., Phys. Rev. Lett. 108, 092502 (2012)]. These ratios were plotted in terms of the Bjorken x variable at momentum transfers suited to sense short range correlations, $Q^2$=2.7 (Gev/c)$^2$. Similar ratios for hadron scattering and charge exchange have been created, at much lower $Q^2$=0.24 (GeV/c)$^2$, using the same idea to examine longer range correlations with a wide range of reactions. The strong interaction limits access to all nucleons, so cross sections for complex nuclei are divided by effective numbers of nucleons struck once and only once. At fixed momentum transfer smooth patterns in x for these ratios are found, much the same for all nuclei. Near x=1 the hadronic and electron ratios agree. The ratios for scattering approach the trends noted by electron scattering as the momentum transfer increases, while those for isovector charge exchange do not. Two cases of the same beam used for both scattering and charge exchange allow a direct comparison for an isospin view of correlations using this ratio method.

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