GCF Analysis of High-x Scaling in Inclusive Electron Scattering ANDREW DENNISTON, Massachusetts Institute of Technology MIT — The relative abundances of short-range correlated (SRC) pairs in nuclei are typically extracted from measurements of inclusive electron scattering cross-section ratios of nucleus A to d (a2) at large-Q2 and high-x. While vast amounts of data exist, there are few rigorous theoretical calculations of a2 which incorporate the isospin dependence of the nucleon-nucleon (NN) potential and the impact of low-energy nuclear structure of the measured nuclei. In this talk I will present a theoretical study of a2 by using the generalized contact formalism (GCF) which was recently shown to reproduce SRC studies via nucleon-knockout reactions and accounts for the isospin dependence of the NN potential at high momenta. The calculation shows that the measured value of a2 is sensitive not only to the number of SRC pairs in the measured nuclei, but also to the pair motion and to nuclear structure effects. Therefore, independently of the accuracy of the data, the relative pair abundances of SRC pairs in the nucleus can only be extracted with accuracy of about 20%. Focusing on recent measurements of Ca isotopes, we find that the constraint placed on the isospin dependence of SRCs has large uncertainty driven by low-energy nuclear structure.

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