

Abstract Submitted
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**Probing Three-Nucleon Short-Range Correlations in High Q^2
Electroproduction Reactions¹** MISAK SARGSIAN, Florida International Univ

— We study the kinematical and dynamical conditions necessary for probing highly elusive three-nucleon short range correlations (SRCs) in nuclei using high momentum and energy transfer electro-nuclear processes. For inclusive processes kinematic constraints are derived that should be satisfied in order to isolate 3N SRCs. The first analysis of the available data in relation to these constraints is presented which reveals the tantalizing signatures of 3N SRCs. We also study the mechanism of generation of 3N SRCs as a sequence of two short-range NN interactions and based on it estimate the ratio of the inclusive cross sections of ^4He and ^3He nuclei in the 3N SRC domain. This ratio agrees also with the one obtained from the analysis of the experimental data. For semi-inclusive processes we investigate the effects of proton-neutron SRC dominance on the dynamics of 3N correlations. We demonstrate that experimental study of proton-proton short range correlations in specific kinematic conditions will allow to isolate and probe 3N SRCs.

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