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Short-Range Correlations and the Free-Neutron Valance Structure EFRAIN SEGARRA, Massachusetts Institute of Technology MIT — The lack of a neutron target has resulted in a decades-long effort to understand the free neutron structure in order to test SU(6) symmetry breaking mechanisms. Approaches to address this open question span a wide range of activities, many focused on extracting the free neutron structure from proton + deuterium DIS data. Here we present a novel approach to extracting the free neutron structure by utilizing all available structure functions of nuclei (from deuterium to lead), while consistently accounting for partonic medium-modifications in atomic nuclei. Using such a wide span of nuclei provides a large lever arm that allows us to precisely constrain the neutron structure function, even at high-x. We also discuss extracting the free neutron structure from A=3 nuclei, as proposed by the MARATHON collaboration, and the theoretical uncertainties associated with such an extraction. Finally, we present a complimentary approach to extracting nucleon modification from A=2,3 nuclei within a convolution model.

Efrain Segarra
Massachusetts Institute of Technology MIT

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