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Probing high momentum neutrons in light nuclei HOLLY SZUMILA-VANCE, Jefferson Lab, CLAS COLLABORATION — Short-ranged correlated (SRC) nucleon-nucleon (NN) pairs account for approximately 20% of all nucleons in nuclei and about 75% of the nuclear kinetic energy. SRC NN pairs have high relative momentum and smaller center of mass momentum (relative to the Fermi momentum). High-momentum electron-scattering studies have taught us that almost all high-momentum nucleons belong to SRC pairs and that these pairs are predominantly pn pairs. Here, we extract SRC momentum-dependent characteristics in light nuclei, specifically ³He, ⁴He, and ¹²C, from 4.4 GeV Jefferson Lab CLAS data. We use the large acceptance of the CLAS detector and the identification of neutrons in the Electromagnetic Calorimeter to measure the distribution and fraction of np pairs at high missing momentum. This is the first measurement of SRC nucleons in ³He, a particularly interesting nucleus as it is the lightest asymmetric bound system, and the majority nucleons are protons. This talk will discuss the new results and will provide a brief overview of an approved CLAS12 experiment that will measure short range correlations over a large kinematic range for many different nuclei.

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