

Short-Range Correlations

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Due to the highly localized feature of the short-range correlations (SRCs), the high momentum tails from light to heavy nuclei reveals very similar distributions when their momenta are above the Fermi momentum. The exclusive measurements of proton and electron scattering off the NN pairs in 2N-SRC showed the dominance of np pairs. It indicates the isospin nature of the NN interaction at short distance. With the measurements of inclusive electron scattering on different nuclei in the quasi-elastic region, we are able to study the two- and three- nucleon correlations (2N-SRC and 3N-SRC), by taking the cross-section ratios of heavy nuclei to light nuclei, such as Deuteron or He_3 . While the 2N-SRC has been observed with good agreement at SLAC in 1980s, and recently in Hall-B and Hall-C at Jefferson Lab, however, there is still no clear evidence of the 3N-SRC because both results show no agreement. The most recent experiment in Hall-A, E08014, performed a more precious measurement on the 3N-SRC as well as the isospin dependence of SRCs. The new results revealed no clear signal of 3N-SRC plateau at the $x > 2$ region. The next generation experiments using H_3/He_3 targets, which have been taking data in 2018, will further investigate the SRC effects both in exclusive and inclusive scattering. In this talk, I will briefly introduce the SRCs, results from previous measurements and most recent experiments, and introduce the ongoing experiments, followed by some discussions.

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