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The Short range correlations in neutron-rich nuclei[1]

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Short-range correlations (SRCs) are responsible for the high-momentum tail in the nucleon momentum distribution and account for 20–25% of the nucleons in the nucleus. Experimental results showed that the contribution of np-pairs to SRCs is around 18 times larger than that from pp or nn-pairs. This dominance is due to the tensor force in nucleon-nucleon interaction. Neutron-rich nuclei are ideal playgrounds for studying other important aspects of SRCs, such as asymmetry dependence and separated pairing probability of proton and neutron. In this talk, I will present recent results of SRCs studies using neutron-rich nuclei. I will also talk about some upcoming experiments which aim at a more comprehensive understanding of SRCs.

[1]MIT, JSA