

Measurements of NN correlations in nuclei

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The structure of nuclei can be well described by independent particle models assuming movement of nucleons in nuclear mean field. However, some basic properties of nuclei such as nuclear binding energies cannot be reproduced without introduction of mechanisms beyond this assumption, such as nucleon-nucleon correlations. The same phenomena are responsible for the existence of the nuclear states above Fermi level and appearance of large nucleon momenta in nuclei. Investigations of pp and pn correlations can also contribute to the understanding of cold dense nuclear systems such as neutron stars. These correlations have been subjects of intensive experimental and theoretical research using different reactions, and electromagnetically induced two-nucleon knockout reactions are considered as a very powerful investigative tool. In this talk an overview of recent investigations of nucleon-nucleon correlations in electron scattering experiments will be given and results obtained at Mainz Microtron (MAMI) will be presented.

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