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BM@N data analysis of a single nucleon and two-nucleon Short Range Correlations in nuclei

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I will review the current status of the project. I plan to emphasize the recent analysis of the quasi-free scattering of 48 GeV/c 12C ions from hydrogen, where the final and initial state interactions (FSI/ISI) are largely suppressed. The ground-state distribution of single nucleons is studied by detecting two protons at large angles in coincidence with an intact 11B nucleus. The 11B detection is shown to select the transparent part of the reaction and exclude the otherwise large ISI/FSI
contribution that would break the 11B apart. By detecting the residual 10B and 11Be nuclei, we further identified SRC nucleon-nucleon pairs, and establish the separation of the pair wave-function from that of the residual system. All measured reactions are well described by theoretical calculations that do not contain ISI/FSI. Following the completion of the first analysis phase, a paper was prepared for publication. We plan now to continue analyzing the triple coincidence events with a recoil neutron and to study multi-track events. This is plan in parallel to preparation for the next run.

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Session Classification: Collectivity and correlations (collective flow and vorticity; HBT and correlations)