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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 ^{12}C 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 ^{11}B nucleus. The ^{11}B detection is shown to select the transparent part of the reaction and exclude the otherwise large ISI/FSI

contribution that would break the ^{11}B apart. By detecting the residual ^{10}B and ^{11}Be 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)