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Large acceptance detector for short-range correlation studies at 12 GeV JLab STEPHEN WOOD, Jefferson Laboratory, Newport News, VA 23606, ELIEZER PIASETZKY, School of Physics and Astronomy, Tel Aviv University, Tel Aviv 69978, Israel — Studies of short-range nucleon-nucleon correlations (SRCs) in nuclei are important for understanding the short-range and high-momentum properties of nuclear ground- and excited- state wave functions. SRCs also have far-reaching implications for modeling and understanding cold dense nuclear matter such as neutron stars. Recent experiments, utilizing the high resolving power of high-energy and large-momentum transfer reactions, have demonstrated the ability to identify and study SRC pairs in nuclei. We will present our proposal for the next generation of exclusive SRC studies: 1. Search for clusters of more than two correlated nucleons. 2. Search for non-nucleonic degrees of freedom in the SRC. These experimental studies are proposed for the upgraded 12 GeV JLab facility. For these measurements, we propose to design and construct a new unique large-acceptance detector facility (LAD).

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