Probing Short Range Correlations with Real Photon Beams

Exclusive and semi-inclusive electron scattering experiments continue to be one of the best tools for learning about short-range correlations (SRCs) in nuclei. At the same time, the interpretation of these experiments relies on a common understanding of the reaction mechanisms at high momentum transfer. Therefore, new techniques are being developed to fully understand SRC pairs independently of the reaction. This talk introduces the Hall D SRC/CT experiment, which is the first experiment that will use a real photon as a probe in nuclear targets to study SRC, and it will also include measurement of color transparency. It will be performed in Jefferson Lab at the end of the Fall of 2021, and it aims to measure a wide range of reaction channel. In particular, the $\gamma p \to \rho p$ channel simulation will be discussed to understand the expected results and the possible impact of the experiment.