

Abstract Submitted
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Onset of Color Transparency in Protons at Jefferson Lab¹

DEEPAK BHETUWAL, Mississippi State Univ — Color transparency (CT) is a unique prediction of Quantum Chromodynamics (QCD) where the final (and/or initial) state interactions of hadrons with the nuclear medium are suppressed for exclusive processes at high momentum transfers.

During the spring of 2018, the experiment E1206107 to measure the Proton Transparency was the first to run in Hall C at Jefferson Lab using the upgraded 12 GeV electron beam. Our experiment used the High Momentum Spectrometer (HMS) and new Super High Momentum Spectrometer (SHMS) in coincidence to measure $^{12}\text{C}(e, e'p)$ proton knockout to extract the proton nuclear transparency with additional ^1H measurements to determine the elementary process, over the range $Q^2 = 8 - 14.2 \text{ (GeV}/c)^2$. A rise in the proton transparency as a function of Q^2 is predicted to be a signature of the onset of CT.

This talk will summarize the results of the experiment and the status of ancillary analyses such as $1s/1p$ shell dependence on transparency.

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Deepak Bhetuwal
Mississippi State Univ

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