

Abstract Submitted  
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**Searching for the Onset of Color Transparency in Quasielastic  $^{12}\text{C}(\text{e},\text{e}'\text{p})$**  JOHN MATTER, University of Virginia — Color Transparency (CT) is a prediction of QCD that at high momentum transfer  $Q^2$ , a system of quarks which would normally interact strongly with nuclear matter could form a small color-neutral object whose compact transverse size would be maintained for some distance, passing through the nucleus undisturbed. A clear signature of CT would be a dramatic rise in nuclear transparency  $T$  with increasing  $Q^2$ . The existence of CT would contradict traditional Glauber multiple scattering theory, which predicts constant  $T$ . CT is a prerequisite to the validity of QCD factorization theorems, which provide access to the generalized parton distributions that contain information about the transverse and angular momenta carried by quarks in nucleons. The E12-06-107 experiment at JLab measured  $T$  in quasielastic electron-proton scattering with carbon-12 and liquid hydrogen targets, for  $Q^2$  between 8 and 14.3  $\text{GeV}^2$ , a range over which  $T$  should differ appreciably from Glauber calculations. Supported in part by US DOE grant DE-FG02-03ER41240.

John Matter  
University of Virginia

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