**Virtual Physics Division Lunch Seminar**

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*Ruling out Color Transparency in quasi-elastic 12C(e,e’p) up to Q2 = 14 (GeV/c)2*

**Abstract:**

Color transparency (CT) is a fundamental phenomenon of QCD postulating that at high momentum transfer, one can preferentially measure hadrons that fluctuate to a small color neutral transverse size in the nucleus, and final state interactions within the nuclear medium are suppressed. This talk will discuss the recent quasi-elastic 12C(e, e’p) scattering measurement in Hall C at momentum transfer squared Q2 = 8, 9.4,11.4, and 14.2 (GeV/c)2, the highest ever achieved to date. Nuclear transparency for this reaction was extracted by comparing the measured yield to that expected from a plane-wave impulse approximation calculation without any final state interactions. The measured transparency was observed to be independent of Q2, up to momentum scales where earlier A(p, 2p) results had indicated a rise in transparency, ruling out the quantum chromodynamics effect of color transparency at such momentum scales. These new results impose strict constraints on models of color transparency for protons.

**Friday, October 9, 2020**

**12:00pm**

<https://bluejeans.com/245615984>

**Upcoming Seminars:**

**Friday, Nov. 13:  Camillo Mariani (VT)  Argon (e,e’p) Results**