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New Insights into the EMC Effect

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Deep-inelastic scattering cross section ratios plotted as a function of the Bjorken scaling variable, xB, show an unexpected structure indicating that partonic structure in nuclei is different than in free nucleons. This phenomenon is commonly referred to as the EMC effect. Recent Jefferson Lab experimental data showed that the slope of the EMC effect in the $0.3 < \text{xB} < 0.7$ scales as the local nuclear density rather than the average nuclear density. This result lead to the comparison of $\text{xB} > 1$ short-range correlation plateaus versus the magnitude of the EMC effect slope, which shows a clear linear relation. In this talk, I will discuss the EMC effect and the short-range correlation plateaus and what this phenomenological relationship between the two implies.