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The evolution of the virtual photon-proton cross section with coherence length

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Assuming the form $\sigma^{\gamma P} \propto l^{\lambda_{\rm eff}}$ at fixed Q^2 for the behavior of the virtual-photon proton scattering cross section, where l is the coherence length of the photon fluctuations, it is seen that the extrapolated values of $\sigma^{\gamma P}$ for different Q^2 cross for $l \approx 10^8$~fm. It is argued that this behavior is not physical, and that the behavior of the cross sections must change before this coherence length l is reached. The behavior is compared to expectations to expectations from various models.

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