Light-Cone 2024: Hadron Physics in the EIC era



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Light-Front Physics from Continuum Schwinger Function Methods

Nature poses three basic questions to be answered by any theory of strong interactions: What is the origin of the nuclear-physics mass scale, m_p , that characterises all visible matter; whatever it is, why is the pion seemingly oblivious; and how is the underlying mechanism or phenomenon expressed in measurable quantities? Given the number and diverse character of hadrons, one can be certain that the expressions are manifold; indeed, often system specific. This is fortunate because it means that model predictions and putative explanations drawn more directly from QCD can be tested against a huge array of experimentally accessible observables. This presentation will place these remarks in context and sketch predictions delivered by continuum Schwinger functions methods, which include parton distribution and fragmentation functions, and hadron gravitational form factors.

Primary author: ROBERTS, Craig (Nanjing University)

Presenter: ROBERTS, Craig (Nanjing University)