

Abstract Submitted
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Confirming the Potential of Systems Containing Strangeness for 3D Structure Studies of the Proton¹ SALINA ALI, TANJA HORN, MARCO CARMIGNOTTO, Catholic University of America — The additional flavor degree of freedom in kaon electroproduction provides a unique opportunity to study the mechanism underlying strangeness production and the transition from hadronic to partonic degrees of freedom in exclusive processes. At sufficiently high energies, where soft non-perturbative and hard physics have been shown to factorize, the Generalized Parton Distributions provide a spatial tomography of the nucleon. The applicability of this formalism can be experimentally verified. The E12-09-011 experiment at the 12 GeV Jefferson Lab aims to test the expected approach of the hard scattering regime through precision measurements of the fully separated exclusive kaon production cross section, and in particular the relative contributions and kinematic dependencies of the longitudinal and transverse cross sections. The longitudinal cross section also allows one to test the kaon pole dominance and could allow for kaon form factor extractions. In this talk, I will present the current status and discuss the outlook on future studies of strange quarks with kaon production as well as the particle identification requirements, and possible kaon form factor extractions at a 12-GeV Jefferson Lab.

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