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Exclusive Kaon Electroproduction in Hall C at JLab 12 GeV and EIC[1] NATHANIEL HLAVIN, TANJA HORN, Catholic University of America — The additional flavor degree of freedom in the $H(e, e'K^+)\Lambda/\Sigma^0$ reactions provides a unique opportunity to study the mechanism underlying strangeness production and the transition from hadronic to partonic degrees of freedom in exclusive processes. However, due to the lack of experimental facilities, the potential of these reactions has not been fully exploited to date. The Jefferson Lab 12 GeV upgrade provides the energies needed for precision kaon cross section measurements in the valence quark region in Hall C. A new threshold aerogel Cerenkov detection system provides a simple and economical option for the kaon identification. Beyond the valence quark region, the first studies of strange sea quarks could be carried out at a future facility like an Electron Ion Collider (EIC). A Detector of Internally Reflected Cherenkov light (DIRC) offers a geometrically compact option for particle ID over the full range of kaon momenta. In this talk I will present the current status and discuss the outlook on future studies of strange quarks with kaon electroproduction as well as the particle identification requirements for each of these stages.

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