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Charm jets, jet substructure, and jet tagging as a probe for strangeness at the future Electron-Ion Collider JARED BURLESON, STEPHEN SEKULA, Southern Methodist University — We explore the feasibility of the measurement of charm-jet cross sections in charged-current and neutral-current deep-inelastic scattering at the future Electron-Ion Collider. This channel provides clean sensitivity to the strangeness content of the nucleon in the high-x region. We estimate charm-jet tagging performance with parametrized detector simulations. We study the feasibility of using jet substructure and particle identification in training a multivariate algorithm for charm-jet tagging. We show the expected sensitivity to various scenarios for strange parton distribution functions. We will motivate that this measurement as a key component future QCD global analyses, with implications for EIC detector designs and accelerator parameters. Part of this work is summarized in arXiv:2006.12520 (https://arxiv.org/abs/2006.12520).

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