

Abstract Submitted
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Quark/gluon structure of light nuclei with spectator tagging at EIC CHRISTIAN WEISS, Jefferson Lab — Exploring the quark/gluon structure of nuclei is a key objective of QCD-based nuclear physics. Nuclear modifications of the parton densities arise from the effect of the nuclear medium on single-nucleon structure at large x (EMC effect) and the possibility of coherent scattering from multiple nucleons at $x \ll 0.1$ (shadowing). An Electron-Ion Collider (EIC) would enable next-generation measurement of deep-inelastic scattering from polarized light nuclei (deuteron, ^3He) over a wide kinematic range, with detection of forward-moving spectator nucleons (spectator tagging). We report about results of an R&D project simulating such measurements and quantifying their physics impact. This includes (a) controlled measurements of the EMC effect in the deuteron as a function of the recoil proton momentum; (b) final-state interactions in nuclear scattering; (c) novel detailed studies of shadowing in tagged DIS at small x

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