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Gluons at high x in Nuclei at EIC SERGEY FURLETOV, EUGENE CHUDAKOV, DOUGLAS HIGINBOTHAM, CHRISTIAN WEISS, Jefferson Lab, CHARLES HYDE, Old Dominion University — The Electron-Ion Collider (EIC) would enable the first direct measurements of the gluon density in nuclei at $x \gtrsim 0.1$ using heavy quark production (charm, beauty). Such measurements could answer several outstanding questions regarding the nuclear modifications of the nucleon's quark/gluon structure and provide insight into non-nucleonic degrees of freedom in nuclei and the QCD origin of the nucleon-nucleon interaction. A program to evaluate the feasibility of such measurements will be outlined. The sensitivity of the charm production to the nuclear modification of the gluon density is to be evaluated using Monte-Carlo simulation. The experimental technique for charm reconstruction, which has to be optimized, could influence the design of the EIC detector.

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