

Abstract Submitted
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Heavy-quark energy-loss measurements at the Electron-Ion Collider YUE SHI LAI, Lawrence Berkeley National Laboratory — Electron-nucleus collisions at the Electron-Ion Collider (EIC) will provide a new mean to precisely measure the space-time evolution of energetic quarks as they traverse the nuclear medium. Such measurements will complement results from RHIC and the LHC on energetic quarks passing through a hot quark-gluon plasma. Heavy-quark energy-loss measurements will require the ability to observe the decay vertex of the hadrons containing the heavy-quarks, and to distinguish it from the collision vertex. The performance for several candidate EIC detector designs is presented, including one with an all-silicon particle tracker. The potential of using deep neural networks for these measurements is discussed.

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