

UCLA NUCLEAR PHYSICS SEMINAR

Jets at the EIC

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The Electron-Ion Collider (EIC) will not only extend studies made in fixed-target experiments to uncharted kinematic domains, but also will enable measurements of an unprecedented type. For example, the EIC will yield the first jets in either electron-nucleus collisions or polarized electron-proton collisions. Given that jets are excellent proxies to partons, they will be instrumental to expand our knowledge of the structure and behavior of the nucleon and nuclei in terms of quarks and gluons—a key goal of modern nuclear physics. In this talk, I will focus on the prospects of using jets as precision probes of nuclei as well as for the 3D-imaging of the proton. I will discuss the experimental prospects of measurements such as electron-jet correlations, jet fragmentation, and jet substructure. These measurements will exploit the unprecedented combination of hermetic tracking, particle identification, and calorimetry of the future EIC detectors.

Friday • Feb 14, 2020 • 12 PM

Knudsen 4-134