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Jet fragmentation functions at the EIC FANYI ZHAO, ZHONG-BO KANG, University of California, Los Angeles, KYLE LEE, Lawrence Berkeley National Laboratory, DING YU SHAO, University of California, Los Angeles — The internal structure of jets has been an active research topic in QCD in recent years. In this talk, we propose to use one particular jet substructure - the so-called jet fragmentation function to study spin-dependent distribution and dynamics at a future Electron-Ion Collider (EIC). In particular, we provide the general theoretical framework for studying the distribution of hadrons inside a jet by taking full advantage of the transverse-momentum-dependent distributions and polarization effects. The key development referred to as "polarized jet fragmentation functions", opens up new opportunities to study transverse momentum dependent (TMD) fragmentation functions via jets. We provide theoretical formalism and detailed phenomenology for studying these TMD functions at the future EIC.

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