EIC opportunities for Snowmass



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3D proton tomography at the EIC: TMD gluon densities

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We present explorative analyses of the 3D gluon content of the proton via a study of (un)polarized twist-2 gluon TMDs, calculated in a spectator model for the parent nucleon. Our approach encodes a flexible parametrization for the spectator-mass density, suited to describe both moderate and small-x effects. All these prospective developments are relevant in the investigation of the gluon dynamics inside nucleons and nuclei, which constitutes one of the major goals of new-generation colliding machines, as the Electron-Ion Collider (EIC).

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