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## Harmonics of Parton Saturation in Lepton-Jet Correlations at the EIC

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Parton saturation is one of the most intriguing phenomena in the high energy nuclear physics research frontier, especially in the upcoming era of the Electron-Ion Collider (EIC). The lepton-jet correlation in deep inelastic scattering provides us with a new gateway to the parton saturation at the EIC. In particular, we demonstrate that azimuthal angle anisotropies of the lepton-jet correlation are sensitive to the strength of the saturation momentum in the EIC kinematic region. In contrast to the predictions based on the collinear framework calculation, significant nuclear modification of the anisotropies is observed when we compare the saturation physics results in  $e + p$  and  $e + Au$  scatterings. By measuring these harmonic coefficients at the EIC, one can conduct quantitative analysis in different collisional systems and unveil compelling evidence for saturation effects.

### Category

Theory

### Collaboration (if applicable)

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