Light-Cone 2024: Hadron Physics in the EIC era



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Probing gluon 3D structure by using linearly polarized photons at EICs

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As Fermi had realized 100 years ago (in 1924), the electromagnetic field inspired by fast moving charged particles can be treated as photon flux, i.e, equivalent photon approximation (EPA). The EPA photons are linearly polarized, which can be used to probe the nucleus 3D structure. We studied the azimuthal asymmetries induced by the linearly polarized photons in exclusive ρ^0 and J/ψ production in eA collisions at EIC energies and in UPCs at heavy-ion colliders, in the framework of color glass condensate effective theory. In addition, we will briefly discuss searching for the evidence of the Coulomb correction in the Bethe-Heitler process at EICs.

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