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## Probing Gluon Saturation through Dihadron Correlations at an Electron-Ion Collider

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It is the ultimate goal of nuclear physics to understand the emergence of nuclear structure and dynamics in terms of quarks and gluons. Although past experiments were successful in determining the quark behavior in the nucleon and light nuclei, the gluons that determine the essential features of the strong interactions, remain largely unexplored. Of great interest is especially the high parton density (small  $x$ ) regime where gluon self-interaction is expected to dominate and lead to parton saturation. Two-particle azimuthal angle correlations have been reckoned to be one of the most direct and sensitive probes to access the underlying gluon dynamics. In this talk, we will report on detailed studies of dihadron correlation measurements in ep and eA collisions taking into account saturation effects as well as parton shower processes. The potential of using these measurements to study the saturation regime will be discussed.

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