Physics Opportunities at a New Electron-Ion Collider

DAVID MORRISON, Brookhaven National Laboratory, BNL EIC WORKING GROUP TEAM — An electron-ion collider (EIC) offers novel opportunities for the study of partons in nuclei over a broad range in the kinematic variables $x$ and $Q^2$. The EIC will have acceptance ranging from very low $x$ and $Q^2$ where gluon saturation effects are expected to be strong, to high $x$ and $Q^2$ where phenomena such as the EMC effect can be investigated. An overview of the physics accessible at the EIC, as well as some of constraints shaping the design of experiments for the EIC, will be presented.