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Diffractive dijet photoproduction at the EIC

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We present results of our studies of diffractive dijet photoproduction at the recently approved electron-ion collider (EIC) at BNL. Apart from establishing the kinematic reaches for various beam types, energies and kinematic cuts, we make precise predictions at next-to-leading order (NLO) of QCD in the most important kinematic variables. We show that the EIC will provide new and more precise information on the diffractive parton density functions (PDFs) in the pomeron than previously obtained at HERA, illuminate the still disputed mechanism of global vs. only resolved-photon factorization breaking, and provide access to a completely new quantity, i.e. nuclear diffractive PDFs.

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