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Studying photon structure at EIC

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A future Electron-Ion Collider (EIC) facility will deliver luminosities of 10^33 – 10^34 cm^−2 s^−1 for collisions of polarized electrons and protons and heavy ions over a wide range of center-of-mass energies (40 GeV to 145 GeV) [1, 2]. One of its promising physics programs is to study the partonic structure of quasi-real photons. Measuring di-jets in photoproduction events, one can effectively access the underlying parton dynamics of the photons through the selection of the resolved photon processes [3, 4]. In this talk, we discuss the feasibility to measure the di-jets cross section as a function of jet transverse momentum and to tag resolved photon processes at an EIC. First studies show that parton distributions in the photon can be well studied at an EIC. The possibility to distinguish jets originating from photons and those from protons is discussed.

Presenter: CHU, Xiaoxuan

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