

Prospects for exotic mesons at the EIC

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The identification of exotic states in the charmed quark sector has generated great interest in the hadron physics community. Despite some very clear signals, many questions now arise, particularly with regard to the exact nature of as well as the existence of specific states. A hindrance to this is the fact that almost all of the states are only seen in single production mechanisms, limiting the available information. With the proposed high luminosity Electron Ion Collider, EIC, as well as a possible energy upgrade at Jlab, a new mechanism to study these states will become available, meson photoproduction. For the EIC high photon fluxes are achievable at low Q^2 , providing significant production of meson in the charm and even bottom sectors. Validation of states in photoproduction would provide clear evidence of their genuine existence, while photo and helicity couplings may provide another window into the nature of the states.

We will demonstrate the feasibility of such measurements with the proposed ePIC detector system at the EIC.

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