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Progress of light hadron lightcone structures for heavy hadron decays on LQCD

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The lattice QCD computation of parton distributions within the framework of large momentum effective theory (LaMET) constitutes a first-principles approach to studying hadron structures. Building upon preceding studies on meson systems, we have developed and partly implemented lattice methodologies for calculating the leading twist LCDAs of light baryons under the LaMET formalism over the past few years. In this talk, we will introduce our series of works on the ab initio determination of leading-twist LCDAs of light baryons and present preliminary numerical results. We will discuss the complexities involved in lattice calculations of baryonic systems compared to mesonic systems and report some techniques developed and employed recently to achieve physical results for the more intricate baryonic systems, including special operator selections, the hybrid renormalization scheme, and Fourier inversion strategies.

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