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Machine Learning for Quasi-PDF Matrix Elements¹

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The largemomentum effective theory (LaMET) framework has been widely used to calculate the Bjorken x dependence of PDFs in latticeQCD hadron-structure calculations. However, achieving sufficient precision for large-momentum hadrons can be computationally expensive on super-fine lattice ensembles and their lattice artifacts are seldom addressed. In this talk, we will report on-going progress on the study of systematics in quasi-PDFs using multiple lattice spacings and volumes. Then, we apply machine learning algorithms to a few selected quasi-PDF matrix elements and determine how much it can help the PDF determination.

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