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Global Analyses of Collinear Fragmentation Functions from the NPC Collaboration

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Fragmentation functions (FFs) are crucial non-perturbative inputs in quantum chromodynamics (QCD) for predicting hadron production cross sections in high-energy scattering processes. In this talk, we present recent progress on global fits of FFs by the Non-perturbative Physics Collaboration (NPC). Our analyses incorporate a comprehensive set of precision measurements, including data from the LHC, electron-positron collisions, and semi-inclusive deep inelastic scattering. We report results for both light charged and neutral hadrons, highlighting the improved constraints on FFs achieved through these global fits. We also discuss the impact of data from future lepton colliders on light hadrons fragmentation functions.

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