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CTEQ-Jefferson Lab (CJ) global analysis of parton distributions
WALLY MELNITCHOUK, Jefferson Lab, ALBERTO ACCARDI, Hampton University, JEFF OWENS, Florida State University, CJ COLLABORATION — We present new sets of next-to-leading order parton distribution functions (PDFs) determined by global fits to a wide variety of data for hard scattering processes. The analysis includes target mass and higher twist corrections needed for the description of deep-inelastic scattering data at large x and low Q^2, and nuclear corrections for deuterium targets. The PDF sets correspond to three different models for the nuclear effects, and provide a more realistic uncertainty range for the d quark PDF compared with previous fits. Applications to particle production cross sections at colliders are also discussed.

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