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nNNPDF3.0: A global analysis of nuclear parton distributions at NNLO

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We present a new determination of nuclear parton distributions based on fixed-target and collider data. On top of Deep-Inelastic Scattering and Drell-Yan considered in nNNPDF2.0, we include a number of new processes that constrain the nuclear gluons: single jet and dijet cross-sections from ATLAS and CMS, direct photon production from ATLAS, and charm production by LHC. We use NNLO perturbative QCD calculations for all processes included in the fit. The proton baseline, which nNNPDF3.0 reduces to in the limit A=1, is a variant of the upcoming global NNPDF4.0 determination of proton PDFs, which includes several processes constraining the gluon PDF. We plan to further explore some of the phenomenological implications of nNNPDF3.0.

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