

Nucleon Structure from Dynamical Lattice QCD

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We Present calculations of hadronic structure functions and form factor from full-QCD lattices, with a chirally symmetric fermion action, domain-wall fermions, for the sea and valence quarks. The lattice spacing is about 0.12 fm with physical volume approximately $(2 \text{ fm})^3$ and $(2 \text{ fm})^3$ for RBC 2-flavor and RBC/UKQCD 2+1-flavor dynamical ensembles. The lightest sea quark mass is about $\frac{1}{2}$ the strange quark mass for the former ensembles and $\frac{1}{4}$ for the latter ones. Our calculations include: isovector vector and axial charge form factors and the first few moments of the polarized and unpolarized structure functions of the nucleon. Nonperturbative renormalization in RI/MOM scheme is applied.