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Q2 dependence at large x and impact on EMC studies

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Using electron scattering data from SLAC E139 and muon scattering data from NMC in the DIS region, we determine the F2A/F2p and F2A/F2n per nucleon structure function ratios, spanning 0.3 < x < 0.8 and 5 < Q2 < 200 GeV/c This region is of particular relevance to studies of the EMC Effect. The structure of the free proton is well known from numerous experiments, but the free neutron structure function has remained difficult to access. Recently, the free neutron structure function has been extracted in a systematic study of the global data within a parton distribution function extraction framework and is available from the CTEQ-Jefferson Lab (CJ) Collaboration. In this talk, we leverage the recent global free neutron extraction to study the Q2 dependence at large x and its impact on the EMC Effect in nuclei.

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