QCD EVOLUTION OF NUCLEAR STRUCTURE
FUNCTIONS AT LARGE $x$:
EMC EFFECT AND CUMULATIVE PROCESSES

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QCD evolution of nuclear structure functions at large $x$ is reviewed within the approach based on QCD factorization for hard processes and multiquark flucton model. In this approach, $x > 1$ region of the nuclear structure functions is intimately related with $x < 1$ region due to manifestation of quark and gluon degrees of freedom in nuclei. Properties of QCD evolution and observed EMC-ratio for nuclear structure functions at $x < 1$ result in an admixture of hard extra sea quark distribution. This extra nuclear quark sea provides a bump above unity for EMC-ratio at small $x$ and becomes dominant in the nuclear quark sea for cumulative region $x > 1$. It leads to a striking prediction, confirmed by data, for the same spectrum slopes of all cumulative hadrons in nuclear fragmentation region.

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