

The Fractal behavior of the sea quark distributions at low x

Here, we present the extraction of the Parton Distribution Functions (PDFs) at low x and at the next-to-leading order (NLO) approximation.

We show that the “sea quark distribution functions” have self-similar behavior or the “Fractal” behavior with fixed exponent at $x < 0.01$. To this end, a simple parametrization for the sea quarks PDFs based on the “Fractal” approach is considered. The small x experimental datasets on electron-proton (e^-p) and positron-proton (e^+p) in DIS processes at HERA for the range of $1.5 < Q^2 < 650$ (GeV^2) and $x < 0.01$ are included in this analysis. The results indicate

nice agreements between the experimental data and the theory predictions at low x .

Submitted on behalf of a Collaboration?

No

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