

Structure Function and Violation of Scale Invariance in NCSM: Theory and Numerical Analysis

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Abstract : In this study, we focus on the structure functions and violation of scale invariance in the context of non-commutative standard model (NCSM). We find that this violation appears in the first order of perturbation theory and a non-commutative version of the DGLAP evolution equation is deduced. Numerical analysis and comparison with experimental data imposes a new bound on the non-commutative parameter.

Keywords : NCSM, structure function, DGLAP equation, standard model

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