

Abstract

The DGLAP evolution equations for singlet and non-singlet sectors and gluon distribution are solved in x -space based on Laguerre polynomial expansion. High numerical accuracy is achieved by expanding over a set of approximately 30 polynomials. The result of evolved parton densities to high energy scales are in good agreement with phenomenological CTEQ model and etc. To improve the results we can employ a constituent quark model in which the parton densities which are obtained from Laguerre polynomial expansion are considered as the parton distributions inside the constituent quarks.