



Iranian Journal of Physics Research, Vol. 17, No. 4, 2017

Research note

## Solution of DGLAP evolution equation for gluon fragmentation in LO and NLO

G R Boroun and S Zarrin

Department of Physics, Faculty of Science, Razi University, Kermanshah, Iran

E-mail: boroun@razi.ac.ir

(Received 19 July 2016 ; in final form 19 January 2017)

### Abstract

In this work, we calculate DGLAP evolution equation at LO and NLO by Laplace method for fragmentation function of gluon to meson or baryon. To prove the validity of this method, we evolve the fragmentation functions of  $g \rightarrow \eta_c$  and  $g \rightarrow j / \psi$  by using this method. In this method, it is not necessary to calculate these functions in Laplace space. This method is just used for simplifying the equations.

**Keywords:** fragmentation, evolution, Lap

For full article, refer to the Persian section