

Parton densities from a parton branching solution of QCD evolution equations

Tuesday, 29 August 2017 14:00 (30 minutes)

QCD evolution equations can be recast in terms of parton branching processes. We present a new numerical solution of the equations and show, that this method reproduces the semi-analytical solutions.

We discuss numerical effects of the kinematic boundary of resolvable branchings on the resulting parton distribution functions. We show, how this method can be used to determine Transverse Momentum Dependent (TMD) parton distribution functions, in addition to the usual integrated parton distributions functions.

We also show, that a very good fit to high precision HERA data can be obtained over a large range in x and Q^2 .

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Session Classification: Resummation and Monte Carlo generators