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Unintegrated parton densities at small x

samedi 23 juillet 2011 12:00 (15 minutes)

We present a definition of an unintegrated seaquark density
for the LO CCFM Monte-Carlo CASCADE and discuss determination of a NLO
BFKL unintegrated gluon density from a fit to combined HERA data. The
kT-dependent sea-quark density is defined using high energy
factorization, while the quark-gluon splitting is treated with exact
kinematics. The latter is found to agree with the kT-dependent
splitting function obtained by Catani and Hautmann. The result is
implemented into CASCADE and a comparison of exact versus factorized
matrix element is carried out for forward Z production. The
unintegrated gluon density is obtained as a convolution of NLO BFKL
Green's function and non-perturbative proton impact factor. We discuss
several aspects of the construction of the collinear improved Green's
function, which is taken with the full NLO running coupling
corrections. For the proton impact we construct a model, where free
parameters are determined by the fit.

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