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## Generalized High Twist Approach to Parton Energy Loss

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The Generalized High Twist approach has been established to investigate the radiative parton energy loss in deeply inelastic scattering off a large nucleus. The parton undergoes multiple medium parton scatterings and medium-induced radiation after scattering with the virtual photon. In the calculation of radiative energy loss, we relax the approximation in High Twist approach that the radiated gluon transverse momentum is much larger than transverse momentum transfer of parton-medium scattering, and do not perform the collinear expansion in the Generalized High Twist approach. In this new approach, the gluon radiation spectrum is expressed in terms of the convolution of hard partonic part and transverse momentum dependent (TMD) quark-gluon correlation function. The TMD quark-gluon correlation can be factorized approximately as a product of initial quark distribution and TMD gluon distribution. The TMD gluon distribution can be used to define the TMD jet transport coefficient. Under static medium and soft radiative gluon approximation, we recover the Gyulassy-Levai-Vitev (GLV) approach result in the first order of the opacity expansion. We also compare numerically the difference between our result and that of GLV and High-Twist result.

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