

XXVIII International Workshop on Deep Inelastic Scattering and Related Subjects



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Higher order contributions induced by kinematical constraints in BFKL

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We perform analysis of the pole structure of the BFKL eigenvalues in Mellin space with different forms of the kinematical constraint imposed on the low x evolution. We find that all of them generate the same leading anti-collinear poles which agree with BFKL up to NLL order and up to NNLL in $N=4$ sYM. The coefficients of subleading poles vanish up to NNLL order for all constraints and we prove that this property should be satisfied to all orders. We demonstrate that further subleading poles generated by kinematical constraints differ from the NLL and NNLL results. We quantify the differences between the different forms of the constraints by performing numerical analysis both in Mellin space and in momentum space.

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