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On the one-loop calculations of multiscale quantities in Lipatov's EFT

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Parton Reggeization Approach (PRA) is a generalized scheme of kT-factorization which uses the formalism of Reggeized gluons and quarks to define gauge-invariant hard-scattering matrix elements with off-shell partons in the initial state (See Ref. [1] for more detailed discussion). The calculations in PRA are performed in the framework of Lipatov's gauge invariant effective theory for Multi-Regge processes in QCD. LO calculations in PRA combine this matrix elements with unintegrated PDFs, defined by the Kimber-Martin-Ryskin (KMR) formula, which resums leading doubly-logarithmic corrections ˜logˆ2(t/muˆ2), where t is the virtuality of the parton and muˆ2 is the hard scale.

The aim of PRA is to improve order-by-order stability of the predictions for multi-scale observables which are

   The calculation of real and virtual NLO corrections in PRA significantly differs form the similar calculation

  New results to be presented in this talk include: the self-consistent implementation of regularization of rap

References:

[1] A. V. Karpishkov, M. A. Nefedov and V. A. Saleev,``\protect $B{\bar B}$ angular correlations at the LHC in p

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[3] M.A.Nefedov, V.A.Saleev and A.V.Shipilova, ``Dijet azimuthal decorrelations at the LHC in the parton Regge

[4] M.A.Nefedov, N.N.Nikolaev and V.A.Saleev, ``Drell-Yan lepton pair production at high energies in the Parto

[5] M. Nefedov and V. Saleev, ``DIS structure functions in the NLO approximation of the Parton Reggeization App

[6] M. Nefedov and V. Saleev, ``On the one-loop calculations with Reggeized quarks,'' Mod. Phys. Lett. A 32, no

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