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Euler-Lagrange equations for the high energy effective actions in QCD and gravity

We review the BFKL approach for the high enegy scattering in QCD based on the gluon reggeization. The effective action and the corresponding Euler-Lagrange equations for the reggeized gluon interactions are formulated in a gauge-invariant way locally in the particle rapidities. The BFKL Pomeron is the simplest composite state of reggeized gluons. In N=4 SUSY it is dual to the reggeized graviton living in the 10-dimensional Anti-de-Sitter space. The effective action for the reggeized graviton interactions is presented. The corresponding Euler-Lagrange equtions are constructed and their particular solutions are discussed.

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