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Euler-Lagrange equations for effective actions in QCD and gravity at high energies

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The high energy asymptotics of scattering amplitudes in QCD is formulated in terms of reggeized gluons and their interactions. I remind the functional approach for the calculation of various reggeon vertices. The Euler-Lagrange equations for the corresponding effective action allows to find the reggeon field theory in QCD in tree approximation. The simplest composite state of Reggeized gluons is BFKL Pomeron. In N=4 SUSY it is dual to the reggeized graviton living in 10-dimensional anti-de-Sitter space. We construct generally covariant action describing the interaction of the usual and reggeized gravitons. The Euler-Lagrage equations for this action are derived and their properties are discussed.

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