

Renormalization of infrared contributions to the QCD pressure

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Abstract: Thanks to dimensional reduction, the infrared contributions to the QCD pressure can be obtained from two different three-dimensional effective field theories, called the Electrostatic QCD (Yang-Mills plus adjoint Higgs) and the Magnetostatic QCD (pure Yang-Mills theory). Lattice measurements have been carried out within these theories, but a proper interpretation of the results requires renormalization, and in some cases also improvement, i.e. the removal of terms of $O(a)$ or $O(a^2)$. We discuss how these computations can be implemented and carried out up to 4-loop level with the help of Numerical Stochastic Perturbation Theory