

Does Confinement Decouple QCD Condensates from the Cosmological Constant?

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Abstract content

Recent developments in non-perturbative QCD for hadron physics have accumulated very strong evidence that the quark chiral condensate, an indispensable element of modern descriptions, has a very different interpretation from the traditional one of being a vacuum property. In contrast to the view long fostered by the success of the QCD sum rule phenomenology for hadrons, we present a number of arguments that it is an internal property of the hadron wavefunctions. This would eliminate the 10^{46} discrepancy between the traditional view of the QCD vacuum energy density and the cosmological constant as deduced from experiment. Speculations on extensions of this framework to gluon condensates and other condensates of the Standard model are briefly made.

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