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Asymptotic scaling in Yang-Mills theory at large- N_c

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TEK reduction is a well established technique that allows single-site simulations of Yang-Mills theory in the large- N_c limit by exploiting volume reduction induced by twisted boundary conditions. We performed simulations for $SU(841)$ for several gauge couplings and applied standard Wilson flow techniques combined with a tree-level improvement methodology to set the lattice scale. The wide range of gauge couplings covered by our simulations allows us to explore a region in the coupling space where our data exhibits asymptotic scaling, and perturbation theory could be used to analyze the behavior of the β -function. In this talk I will review the methodology used and go through the main results we obtained, including a determination of the Λ -parameter of Yang-Mills theory at large- N_c in $\overline{\text{MS}}$ -scheme.

Topical area

Vacuum Structure and Confinement

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