

Abstract Submitted
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False Vacuum Decay in Deformed Gauge Theory EVAN THOMAS,
University of British Columbia — I present a calculation of the decay from a metastable vacuum state to the true ground state in a “deformed” QCD model. The deformed model coincides with undeformed Yang-Mills at strong coupling, but can be brought to weak coupling smoothly while preserving linear confinement, nontrivial vacuum structure, the proper θ -dependence, and many other important aspects of true QCD. I show the presence of higher energy metastable vacuum states in this model, and discuss a euclidean bounce solution which gives a tunneling rate from one of these false vacua to the true vacuum state. The calculation has been carried out in the semiclassical approximation and I present the numerical results, making comparisons with some old predictions for $SU(N)$ gauge theories.

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