

Speaker:

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Title:

"Trace Deformed Yang-Mills Theory: review of lattice results"

Abstract:

In this talk I will show recent lattice results obtained in the trace deformed Yang-Mills (YM) theory. It is known that YM theory defined on a space with one or more compactified dimensions undergoes a phase transition which separates the confined, non perturbative, phase from the deconfined, perturbative one. The trace deformation consists of an additional piece added to the standard YM action, which preserves the realization of center symmetry also in the limit of vanishing compactification length. With the deformation it is therefore possible to have a "reconfined" phase also at values of the compactification length much smaller than the critical one, at which the transition occurs. In the first part of the talk I will present lattice results regarding the topological properties and the spectrum of the reconfined theory, in order to see how this quantities are related to the realization of center symmetry. In the second part I will show results concerning the transition from the deconfined to the reconfined phase, concerning in particular the localization properties of the Dirac operator and the behavior of thermal monopoles across the transition.