Quark Confinement and the Hadron Spectrum XI



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Lessons from SUSY: "Instead-of-Confinement" Mechanism

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Abstract

I discuss physical scenarios in different vacua of N=2 supersymmetric QCD deformed by the mass term μ for the adjoint matter. This deformation breaks supersymmetry down to N=1 and at large μ the theory flows to N=1 QCD. I focus on dynamical scenarios which can serve as a prototypes of what we observe in the real world QCD. In particular, I discuss the ''instead-of-confinement" phase where quarks and gauge bosons screened at weak coupling evolve at strong coupling into monopole-antimonopole pairs confined by non-Abelian strings. I also discuss the relation of this picture to the Seiberg's duality.

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