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Title:

“Strongly coupled $N=2^*$ Theory at Large N ”

Abstract:

$N=2^*$ Super Yang-Mills theory arises as a deformation of $N=4$ SYM wherein the adjoint hypermultiplet acquires a mass, breaking conformal symmetry and half the supersymmetries. The localization method reduces the partition function of the $N=2^*$ theory on a sphere S^4 to an effective matrix model, where computations at any coupling can be done. In our work, we focus directly on the strong coupling regime. Interestingly, we encountered a phase transition when the flat space limit is taken. As the gravity dual theory is known, the holographic principle in this non-conformal setting can be tested. We also propose observables to test for signs of the phase transition on the gravity side.

The work will be published soon.

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