

Orientifold Planar Equivalence on the Lattice

Presenter: Agostino Patella (Scuola Normale Superiore, Pisa)

Agostino Patella

Abstract: In a recent paper, Armoni, Shifman and Veneziano (ASV) gave a formal non-perturbative proof of planar equivalence between the bosonic sectors of $SU(N)$ super Yang-Mills theory and of a gauge theory with a massless quark in the antisymmetric two-indexes representation. In the case of three colors, the latter theory is nothing but one-flavor QCD. Numerical simulations are necessary to test the validity of that proof and to estimate the size of $1/N$ corrections. As a first step towards numerical simulations, I will give a lattice version of the ASV proof of orientifold planar equivalence in the strong-coupling and large-mass phase, and I will discuss the limits of this approach.