

Disconnected gauge groups in the infrared

Thursday 18 January 2024 11:30 (30 minutes)

Gauging a discrete 0-form symmetry of a QFT is a procedure that changes the global form of the gauge group but not its perturbative dynamics. In this talk, we will discuss the Seiberg-Witten solution of theories resulting from the gauging of charge conjugation in 4d $N = 2$ SQCD with $SU(N)$ gauge group. The basic idea is to identify the Z_2 action at the level of the SW curve and perform the quotient, and it should also be applicable to non-lagrangian theories. We study dynamical aspects of these theories such as their moduli space singularities and the corresponding physics; in particular, we explore the complex structure singularity arising from the quotient procedure. Time permitting, I'll also discuss some implications of our work in regards to three problems: the geometric classification of 4d SCFTs, the study of non-invertible symmetries from the SW geometry, and the String Theory engineering of theories with disconnected gauge groups.

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