

Columbia University Theory Seminar

Monday, April 2, 2012

2:10pm 831 Pupin

Bounds on SCFTs from Conformal Perturbation Theory

The operator product expansion (OPE) in 4d (super)conformal field theory is of broad interest, for both formal and phenomenological applications. In this talk, I will show how to use conformal perturbation theory to study the OPE of nearly-free fields coupled to SCFTs. Under fairly general assumptions, I will show that the OPE of a chiral operator of dimension $\Delta = 1 + \epsilon$ with its complex conjugate always contains an operator of dimension less than 2Δ . This bound applies to Banks-Zaks fixed points and their generalizations, as I will illustrate using several examples.



David Shih, Rutgers University