

Global Symmetry and Integral Constraint on Superconformal Impurities

Friday, May 24, 2024 9:00 AM (1 hour)

We study properties of point-like impurities preserving flavor symmetry and supersymmetry in four-dimensional $N=2$ field theories. At large distances, such impurities are described by half-BPS superconformal line defects. By working in the $AdS_2 \times S^2$ conformal frame, we develop a novel, simpler, way of deriving the superconformal Ward identities relating the various two-point functions of flavor current multiplet operators in the presence of the defect. We use these relations to simplify a certain integrated two-point function of flavor current multiplet operators, which is accessible by exact methods such as supersymmetric localization and provides useful input for further bootstrap studies.

Presenter: WANG, Yifan (New York University)