

Title: The parity odd structure of conformal field theories in $d=3$

Abstract:

Conformal field theories in $d=3$ admit parity odd structures in three point functions involving conserved currents. We first use the average null energy condition to obtain bounds on the structure constants of these three point functions. We then study the implications of the parity odd structure for bootstrap in these theories and show the existence of a new class of composite operators at large spin. Finally we derive the bounds on the structure constants using crossing symmetry, analyticity and reflection positivity. This serves as a consistency check of the contributions of the parity odd structure to the bootstrap equations.