Title: Spectrum of quantum KdV charges in Conformal Field Theory

Abstract:

Two dimensional conformal field theories have an infinite-dimensional symmetry algebra, the Virasoro algebra of local conformal transformations. A consequence of this symmetry is that in addition to energy, there are an infinite number of local mutually-commuting conserved charges associated with quantum KdV algebra. Even though the existence of these charges is well known, their explicit constructions are difficult. We employ semiclassical quantization to calculate the spectrum of quantum KdV charges up to the first three orders in a holographically inspired 1/c expansion, where c is the central charge. These results are expected to allow us to understand the thermalization of such an integrable system toward an equilibrium state described by the Generalized Gibbs Ensemble which includes all these conserved charges.