

Local conformal field theory from long range perturbation theory

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Conformal field theory (CFT) can be studied using perturbative methods, such as the 4-epsilon expansion and the large N expansion. In this talk, I will introduce an alternative approach: a fixed-dimensional perturbation theory that incorporates long-range, non-local interactions. I will demonstrate that by imposing the conformal Ward Identity, it is possible to recover the data of local CFTs. By re-summing the perturbative series using long-range solitons, we obtain nice results for the critical exponents.

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