

Fuzzy Sphere Meets Entanglement Bootstrap

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I will introduce the entanglement bootstrap, a program to understand and extract the universal data of quantum many body states from local entanglement information. Since this universal data is usually encoded in a quantum field theory, the program can teach us about QFT. The program proceeds by identifying conditions satisfied by the reduced density matrix of a ball for a given class of fixed-point states. So far it has been successful for states with liquid topological order, and for CFT in $1+1$ dimensions. The current frontier is $2+1$ d conformal field theory, where the fuzzy sphere is very useful.

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