Graduate Seminar

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Mean field evolution of an open quantum system

Abstract:

In this talk I will explain what an open quantum system is and what the mathematical background for this concept is. An important question is the study entanglement for systems consisting of N particles interacting with local and collective reservoirs. We consider an energy conserving, mean field coupling. Then we show that the main contribution of the n-body reduced density matrix is disentangled (at all times), however, correction terms are entangled. Note that our model is exactly solvable and it is not based on numerical approximation.