Quantum Physics

Dynamics of entanglement in Two-Qubit Open System Interacting with a Squeezed Thermal Bath via Dissipative interaction

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We study the dynamics of entanglement in a two-qubit system interacting with a squeezed thermal bath via a dissipative system-reservoir interaction with the system and reservoir assumed to be in a separable initial state. The resulting entanglement is studied by making use of a recently introduced measure of mixed state entanglement via a probability density function which gives a statistical and geometrical characterization of entanglement by exploring the entanglement content in the various subspaces spanning the two-qubit Hilbert space. We also make an application of the two-qubit dissipative dynamics to a simplified model of quantum repeaters.

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