Evolution of Quantum State for Mesoscopic Circuits with Dissipation

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Abstract: Based on the maximum entropy principle, we present a density matrix of mesoscopic RLC circuit to make it possible to analyze the connection of the initial condition with temperature. Our results show that the quantum state evolution is closely related to the initial condition, and that the system evolves to generalized coherent state if it is in ground state initially, and evolves to squeezed state if it is in excited state initially.

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