

# Quantum stochastic thermodynamics of relativistic systems

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Physical scenarios that require a relativistic treatment are ubiquitous in nature, ranging from cosmological objects to charge carriers in Dirac materials. Interestingly, most of these situations have in common that the corresponding systems evolve very far from thermal equilibrium. Therefore, if and how the framework of stochastic thermodynamics applies at relativistic energies is a salient question. In this talk, I will survey our recent results on extending central notions of stochastic thermodynamics, such as fluctuation theorems and endoreversible heat engines, to classical as well as quantum dynamics at relativistic energies.

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