

## **Quantum-information Thermodynamics**

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Nonequilibrium thermodynamics of small quantum systems has recently been a very hot topic in both terms of theory and experiment. In this lecture, I will give an introduction to nonequilibrium thermodynamics and information theory in the classical and quantum regimes. In particular, I will focus on the fundamental relationship between thermodynamics and (quantum) information, which sheds modern light on the problem of "Maxwell's demon". I will also review some recent experimental results on thermodynamics of information.