

Abstract Submitted
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Quantum information processing by a continuous Maxwell demon JOSEY STEVENS, SEBASTIAN DEFFNER, Univ of Maryland-Balt County — Quantum computing is believed to be fundamentally superior to classical computing; however quantifying the specific thermodynamic advantage has been elusive. Experimentally motivated, we generalize previous minimal models of discrete demons to continuous state space. Analyzing our model allows one to quantify the thermodynamic resources necessary to process quantum information. By further invoking the semi-classical limit we compare the quantum demon with its classical analogue. Finally, this model also serves as a starting point to study open quantum systems.

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