

Abstract Submitted
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Quantum entropy production in phase space¹ SEBASTIAN DEFFNER, Univ of Maryland-College Park — A fluctuation theorem for the nonequilibrium entropy production in quantum phase space is derived, which enables the consistent thermodynamic description of arbitrary quantum systems, open and closed. The new treatment naturally generalizes classical results to the quantum domain. As an illustration the harmonic oscillator dragged through a thermal bath is solved numerically. Finally, the significance of the new approach is discussed in detail, and the phase space treatment is opposed to the two time energy measurement approach.

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Sebastian Deffner
Univ of Maryland-College Park

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