Abstract Submitted
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Variational entropy and kinetics of hot electrons[1] L. MEZA-MONTES, S. BALEON, J. L. CARRILLO, Instituto de Fisica B. Universidad Autonoma de Puebla, Apdo. Postal J-48, Puebla, C. P. 72570, Mexico — The carrier distribution function and the effective temperature of an electronic population, optically generated in a semiconductor, are obtained by means of a variational method. An expression for the rate of entropy increment during the cooling process of the plasma is derived. We apply this expression to study the transduction processes in quantum ratchets based on resonant tunneling systems. Additionally, the relation of this rate of entropy increment to a restricted formulation of a quantum H theorem is explored.

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