

Abstract Submitted  
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**Energetics and transport coherence of a Brownian motor driven by position dependent temperature**<sup>1</sup> RONALD BENJAMIN, University of Alabama at Birmingham — We investigate the energetics and transport coherence of a Brownian motor driven by spatially inhomogeneous temperature. The heat dissipation by kinetic energy severely limits the generalized efficiency of the motor. It is found that coupling many Brownian particles reduces the efficiency of the motor. The transport coherence of the Brownian motor is reduced by the thermal gradient. It is also found that the heat transfer between the reservoirs and the entropy production obey the fluctuation theorem.

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