Coherent transport and heat, entropy fluctuations in a thermal Brownian motor[1] RONALD BENJAMIN, University of Alabama at Birmingham — We investigate the heat, entropy and work fluctuations in a thermal Brownian motor driven by spatially inhomogeneous temperature. We show that the total heat, entropy production and the work fluctuations satisfy the fluctuation therorem in the steady state over finite time trajectories. The transport coherence of the motor, as determined by the Peclet number is also investigated as a function of various parameters of the system.

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