

Abstract Submitted  
for the MAR09 Meeting of  
The American Physical Society

**Efficiency, coherent transport and entropy fluctuations in a Brownian motor driven by time-dependent temperature**<sup>1</sup> RONALD BENJAMIN, University of Alabama at Birmingham — We investigate the transport and energetics of a Brownian motor driven by position dependent temperature. We found that coupling enhances the current as well as the efficiency. Novel features such as current reversal with respect to the coupling strength and inertia of the Brownian particle is also observed. We also find that the total entropy production satisfies the fluctuation theorem in the steady state.

<sup>1</sup>I thank the University of Alabama, Birmingham Graduate school for GAFF Fellowship

Ronald Benjamin  
University of Alabama at Birmingham

Date submitted: 15 Dec 2008

Electronic form version 1.4