

Abstract Submitted  
for the MAR11 Meeting of  
The American Physical Society

**Temperature dependence of the zero-bias anomaly in the two-site Anderson-Hubbard model**<sup>1</sup> R. WORTIS, W.A. ATKINSON, Trent University — Experiments on disordered strongly correlated electron systems show zero-bias anomalies which are not consistent with either of the two prevailing pictures, by Altshuler and Aronov and by Efros and Shklovskii. Numerical work on the two-dimensional Anderson-Hubbard model shows a zero-bias anomaly with a number of unique features. It has recently been shown that a zero-bias anomaly with many of the same features occurs in an ensemble of two-site Anderson-Hubbard systems. The simplicity of this system allows direct understanding of the mechanism of the anomaly. Here, the temperature dependence of this anomaly is explored. A novel feature is the existence of a temperature driven zero-bias anomaly which appears even in the atomic limit and augments the kinetic energy driven one in the presence of hopping.

<sup>1</sup>Research supported by the National Science and Engineering Research Council (NSERC) of Canada.

Rachel Wortis  
Trent University

Date submitted: 19 Nov 2010

Electronic form version 1.4