

Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

ZT enhancement using nanocomposite materials PAUL HANEY,
National Institute of Standards and Technology — The effect of interface scattering
on the performance of disordered, nanocomposite thermoelectric materials is studied
theoretically (within a linear response formalism), using effective medium theory,
and direct numerics. The general relation between interfacial and bulk transport
properties which results in an enhanced ZT is determined. Given these requirements
of interfacial transport properties, a series of microscopic calculations of interface
scattering are presented to assess the feasibility of using nanocomposites for ZT
enhancement.

Paul Haney
National Institute of Standards and Technology

Date submitted: 27 Nov 2011

Electronic form version 1.4