

Abstract Submitted to the  
IICAM Workshop on Correlated Thermoelectricity  
25 - 30 September, 2005  
Hvar, Croatia

## **A Sum Rule for Thermal Conductivity and Dynamical Thermal Transport Coefficients in Condensed Matter \***

Sriram Shastry

*Physics Department, University of California, Santa Cruz, Ca95064, USA*

We display sum rules for the thermal conductivity at finite frequencies for many standard models of condensed matter. We present the thermal operators for several model systems of current interest, which enable an evaluation of the sumrule and the Lorentz number, the thermoelectric figure of merit as well as the thermopower at high frequencies. Simple estimates are provided for the thermopower of an infinitely correlated band model on the triangular lattice, modeling the physics of the sodium cobalt oxide system.

---

\*

*Keywords :*