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Experimental Determination of the Lorenz Number[1] KEVIN LUKAS, WEISHU LIU, ZHIFENG REN, Boston College, GANG CHEN, MIT, CYRIL P. OPEIL, Boston College — In an effort to improve the dimensionless thermoelectric figure of merit (ZT), thermal conductivity reduction is imperative. Most efforts are made to reduce the lattice portion of the thermal conductivity through nanostructuring. However there is no direct way to measure the lattice contribution and typically the lattice thermal conductivity is approximated by various methods. By experimentally determining the Lorenz number, the lattice thermal conductivity can be directly calculated. A method for determining the Lorenz number of thermoelectric materials $Bi_2Te_{2.7}Se_{0.3}$ and $Bi_{0.88}Sb_{0.12}$ will be presented.

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