

Abstract Submitted
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Thermoelectric properties of PbTe/PbSe mesomaterials FENG CHEN, YAQI WANG, YUYI XUE, C. W. CHU¹, Dept. of Physics and Texas Center for Superconductivity, University of Houston, Houston, TX 77204-5002, JUN ZHANG, JIYE FANG, Dept. of Chemistry, State University of New York at Binghamton, Binghamton, NY 13902-6000, CHUNHU TAN, ZHIGANG LIN, BOB LIU, Aegis Technology, Inc., 3300A Westminster Ave., Santa Ana, CA 92703 — Ball milled PbTe mixed with PbSe nano-wires (PTSW) or with PbSe nano-crystals (PTSC) are sintered under high pressure. Different sintering conditions are tested to preserve the mesostructures. Thermoelectric properties (resistivity, Seebeck coefficient and thermal conductivity) are measured at various temperatures. Pure ball milled PbTe are also sintered and measured for comparison. In this talk, we will present these data and compare with various PbTe data from the literature. Our results show that this mesostructure approach is promising and the sintering condition is the key factor for further improvement.

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