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High Pressure Characterization of the thermoelectric Bi2Te3[1]
MATTHEW JACOBSEN, RAVHI KUMAR, ANDREW CORNELIUS, University of Nevada, Las Vegas — One of the current goals of the US Department of Energy is to find a new energy source that is non-reliant on fossil fuels for the production of energy. In an effort to address this concern, we have developed facilities to investigate the fundamental properties of thermoelectric materials utilizing the technique of pressure tuning. Pressure tuning, or application of high pressures, causes a material to undergo distinct, but controllable changes, to the physical properties. To this end, results of reference standards will be presented along with the first comprehensive set of data on the thermoelectric materials Bi2Te3. [1]Chen, G. International Materials Reviews, **48**, 45-66 (2003). [2]Jacobsen, M.K., Masters Thesis, in preparation, (2006). [3]Khvostansev, L.G. Phys.Stat.Solids A, **71**, 49-53 (1982). [4]Venkatasubramanian, R. Nature, **413**, 597-602, 2001. [5]Vereshchagin, L.F. et.al. Soviet Physics-Solid State, **13**, 2051-2053 (1972). [6]Yamashita, O. J.Mat.Sci.,textbf40,6439-6444 (2005).

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Matthew Jacobsen
University of Nevada, Las Vegas

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