

Abstract Submitted  
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**Neutron Scattering Study of the Temperature-Dependent Phonon Spectra of AgSbTe<sub>2</sub>**<sup>1</sup> JIE MA, OLIVIER DELAIRE, ANDREW MAY, MICHAEL MCGUIRE, BRIAN SALES, OLIVIER GOURDON, ASHFIA HUQ, DOUGLAS ABERNATHY, MATTHEW STONE , Oak Ridge National Laboratory, PO Box 2008, Oak Ridge, TN 37831, USA, OAK RIDGE NATIONAL LABORATORY, PO BOX 2008, OAK RIDGE, TN 37831, USA COLLABORATION — The thermoelectric material AgSbTe<sub>2</sub> has attracted much attention due to its simple rocksalt structure, high thermoelectric figure-of-merit, and its extremely low thermal conductivity in bulk samples. Previous theoretical studies have suggested that phonons can be scattered by anharmonicity (phonon-phonon coupling) and nano-defects in AgSbTe<sub>2</sub>. However, systematic measurements of phonons in this compound have not been available. We report our results of detailed time-of-flight neutron scattering measurements, as a function of temperature, and departure from stoichiometry. The temperature dependence of the phonon density-of-states is discussed, and compared with the reported thermal conductivity in this system.

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