

Abstract Submitted  
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**Development of an Efficient Seebeck Measurement Method for Broad Temperature Ranges** DUSTIN KIRKENDALL, Grand Valley State Univ  
— The Seebeck effect is a phenomenon by which a potential difference is produced across a material due to a temperature gradient within that material. This effect is quantified in the Seebeck coefficient. The Seebeck coefficient can be determined by measuring the potential difference across the material as a function of the temperature difference between the voltage leads, but this quantity is also influenced by the average temperature of the material. A technique has been developed to uniformly and continuously increase the average temperature of the material while periodically establishing small temperature gradients to take many measurements of the coefficient over a broad range of temperatures. This method allows for much more efficient collection of data for large temperature ranges since thermal equilibrium is not required for the measurement at each temperature. This method is utilized to characterize the compound  $\text{Ag}_{1.9}\text{Te}$ . Possible doping schemes are also explored to enhance the desirable electronic properties of this material.

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