

Abstract Submitted  
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**Growth and Characterization of  $\text{Bi}_2\text{Te}_3$  Nanowires** SRIVIDYA NATARAJAN, MATT CRAPS, RAHUL RAO, TERRY TRITT, APPARAO RAO, Department of Physics and Astronomy, Clemson University, Clemson, SC, 29634 — Bulk  $\text{Bi}_2\text{Te}_3$  is one of the best known thermoelectric materials with a  $ZT \sim 1$  at room temperature. Theoretical studies have suggested that low-dimensional materials may exhibit  $ZT$  values that exceed 1. In this study, we use the pulsed laser deposition method to prepare  $\text{Bi}_2\text{Te}_3$  nanowires by ablating a rotating  $\text{Bi}_2\text{Te}_3$  target in an inert atmosphere. Si substrates are pretreated with poly-l-lysine to form an adhesion layer for 10 nm colloidal Au particles which serve as catalyst seed particles for the growth of the nanowires. Results from electron microscopy, electrical transport measurements and vibrational spectroscopic studies will be presented.

Rahul Rao

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