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Experimental measurement of the temperature dependence of high purity single-walled carbon nanotube networks. ERICA HAPPE, ROBERTO ABRIL VALENZUELA, Cal Poly - San Luis Obispo, LEO A. BROWNING, DR. NATALIE O. V. PLANK, Victoria University of Wellington, Wellington 6021, New Zealand, DR. COLLEEN A. MARLOW, Cal Poly - San Luis Obispo — *abstract—\expnd0*We measure the temperature dependence of the conductance of high purity thin film semiconducting single-walled carbon nanotube (s-SWNT) networks to determine how charge transport occurs in these networks. We use a cryostat to cool devices from 300K to 21K. The conductance is measured in 1K increments using custom LabVIEW programs, both as the device is cooled, and as it equilibrates back to room temperature. A variety of effects are observed which hinder our ability to clearly interpret the functional dependence of the conductance. These include hysteresis in the conductance versus temperature curves for warming and cooling, possibly due to doping. In addition we find that the accuracy of the temperature is significantly impacted by the proximity of the temperature sensor to the device. Improvements are presented here which allow us to now measure the temperature dependence accurately.*/abstract-\pard*

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