

Abstract Submitted  
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**Hot Wire Probe to Study Charge Carriers Type in Individual Sb-doped ZnO Micro-Wires** NADA MASMALI, Miami University, LEI KERR, Chemical, Paper and Biomedical Engineering, Miami University, KHALID EID, Department of Physics, Miami University — We investigated the electric transport properties of Sb-doped ZnO Nano/microwires. ZnO:Sb wires were fabricated by thermal evaporation at 900 °C in an alumina crucible. Scanning electron microscopy (SEM) was used to study the surface morphology. The elemental components were determined using X-ray energy dispersive spectroscopy (EDX). The electrical properties of Sb doped ZnO were studied using thermoelectric effect measurements. The hot probe technique is extremely simple and gives a reliable measurement of the charge carrier type in a wire, where the standard Hall probe technique is difficult to implement. The hot-wire probe studies, that were used to investigate the type of conductivity in ZnO wires, show an n-type conduction.

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