

Abstract Submitted  
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**I-V transport measurements of a single unsupported MWCNT under various bending deformations.**<sup>1</sup> SUENNE KIM, Texas Materials Institute, University of Texas at Austin, JEEHOON KIM, MORGANN BERG, ALEX DE LOZANNE, Department of Physics, University of Texas at Austin — Using a home-made low-temperature high-vacuum probe setup we have obtained more details about the transport characteristics of multiwall carbon nanotubes (MWCNTs). We report our experimental studies on the improvement of the nanowelding between the CNTs and a metallic (W) probe tip in our SEM, which gives a clean and firm contact that satisfies for both electrical and mechanical requirements. We observe hysteresis of the I-V curves between bending and un-bending cycles, effective and efficient fabrication of junctions in the MWCNTs and their respective I-V characteristics, and the deformation-dependent saturation behaviors in the I-V curves of the MWCNTs. All these observations may be qualitatively understood using a simple phenomenological model for localization effects in the deformed hexagonal lattice of graphene.

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