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Electron channeling through an individual multiwall carbon nanotube GUANGYU CHAI, Department of Physics, University of Central Florida, Orlando, FL 32816, USA, HELGE HEINRICH, LEE CHOW, Department of Physics, Advanced Materials Processing and Analysis Center, University of Central Florida, Orlando, FL 32816, USA, THOMAS SCHENKEL, E. O. Lawrence Berkeley National Laboratory, Berkeley, Ca 94720, USA — The hollow structure of the carbon nanotube (CNT) provides a significant chance to use it for the channeling of charged particles and associated channeling radiation. However, the nano size of the CNTs make them difficult to be precisely controlled the position and the orientation. We successfully prepared a monolithic multiwall CNT with a graphitic shield by chemical vapor deposition technique. The graphitic shield provides a handle which allows the manipulation of the supported CNTs. A single CNT collimator is fabricated with focused ion beam technique. The electron channeling through the single CNT collimator is demonstrated for the first time.

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