

Abstract Submitted  
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**Determination of Diameter, Helicity, and Handedness of Carbon Nanotubes by Electron Diffraction** ZEJIAN LIU, LU-CHANG QIN, University of North Carolina at Chapel Hill — We report a systematic procedure to determine the diameter, helicity and handedness of multiwalled carbon nanotubes by using nanobeam electron diffraction technique. Diameter and helicity of a nanotube can be measured directly from the scattering intensity distribution on the non-equatorial layer lines in its electron diffraction pattern, while the handedness information need be derived from several diffraction patterns of different orientations when if there exist concentric shells of the same helicities in the nanotube. Two selected examples of metallic triple-walled carbon nanotubes are presented to illustrate the detailed structure determination.

Zejian Liu  
University of North Carolina at Chapel Hill

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