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The Neutron Scattering Length Density of Carbon Nanotubes HOWARD WANG, GREGORY CHRISTOPHERSON, TOM XU, Department of Materials Science and Engineering, Michigan Technological University, Houghton, MI 49931, DEREK L. HO, ERIK K. HOBBIE, National Institute of Standards and Technology, Gaithersburg, MD 20899 — Contrast matching experiments have been carried out to obtain the neutron scattering length density (SLD) of carbon nanotubes (CNT). The quantitative variation of SLDs of CNTs from various sources and with various processing histories is related to their structure characteristics and elemental impurity. The neutron SLD is particularly sensitive to the inclusion of hydrogen in CNT samples.

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