

Abstract Submitted
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Characterization of Carbon Nanotubes Synthesized Using Chemical Vapor Deposition¹ ANDREW ZEIDELL, SHAWN HUSTON, Appalachian State University, NATHANAEL COX, BRIAN LANDI, Rochester Institute of Technology, TONYA COFFEY, PHILLIP RUSSELL, BRAD CONRAD, Appalachian State University — Carbon Nanotubes were synthesized using a Chemical Vapor Deposition system with precursor Cyclopentadienyliron Dicarbonyl Dimer and were systematically characterized over a variety of growth conditions using several methods. Scanning Electron Microscopy (SEM) was used to investigate catalyst contamination, tube diameters, growth morphologies, and material alignment. Transmission Electron Microscopy (TEM) was employed to quantify nanotube wall crystallinity and sidewall defects. Raman Spectroscopy was used in conjunction with Thermo-Gravimetric analysis to ascertain the purity levels of each sample. Results are discussed in terms of related precursors and are used to evaluate the efficacy of the precursor and material quality.

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