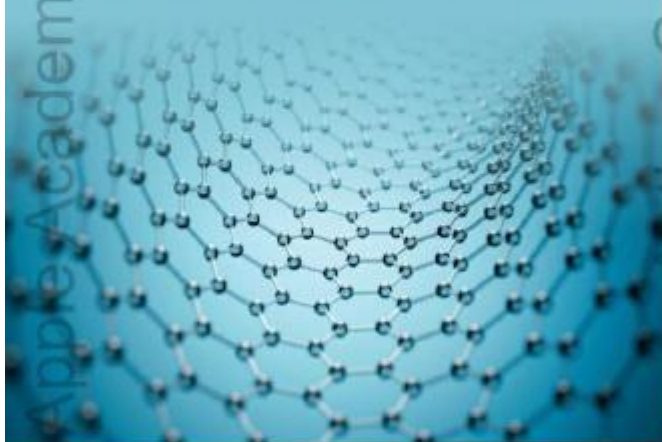


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Carbon Nanotubes

Functionalization and
Potential Applications



Ann Rose Abraham
Soney C. George
A. K. Haghi
Editors

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CNT STRUCTURE AND ITS APPLICATION IN DISPLAY TECHNOLOGY

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ABSTRACT

This chapter gives a detailed overview of the structure and some functional characterization of carbon nanotubes (CNTs) in a nutshell. CNTs are a type of carbon-based nanoparticles with an elongated tubular structure of diameter ranging 1–2 nm with the carbon atoms arranged in coaxial cylinders of graphitic sheets. Based on the number of graphite layers, CNTs are classified into single-walled CNTs, double-walled CNTs, and multiwalled CNTs. The structure of CNTs is unique and it provides unbreakable hexagonal structure which offers unique mechanical, electrical, and thermal properties to the CNTs. Advanced research in the field of CNTs synthesis paved the way for the betterment of synthesis strategies with the high-temperature techniques, such as arc discharge, laser ablation, and chemical vapor deposition have been replaced by low-temperature methods. It is known that the chemical, electrical, and physical properties of CNTs can be altered by inducing change in the structural parameters. This chapter