

USAGE OF CARBON NANOTUBES IN ENERGY STORAGE

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ABSTRACT

The impact on nanoscience and nanotechnology has been made by the carbon nanotubes. Carbon nanotubes (CNTs) are nanostructures derived from rolled graphene planes and possess various interesting chemical and physical properties. CNTs can be conjugated with various biological molecules including drugs, proteins and nucleic acid to meet the expense of bio-functionalities. CNTs exist as single (SWNTs), and multi-walled (MWNTs) arrangements. They present many interesting properties, such as high aspect-ratio, ultra-light weight, strength, high thermal conductivity and electronic properties ranging from metallic to semiconducting. The superior mechanical properties of CNTs are its Young's modulus and strength. CNTs are the most grounded and stiffest materials. Carbon nanotubes have been utilized in supercapacitors creating a force thickness of 30kw/kg. This type of supercapacitors could considerably reduce the time it takes to recharge devices such as laptops and cell phones. The CNTs are valuable in the field of Energy Storage Systems. Another solar powered systems which use nanotechnology, it is important to clarify the fundamental procedure that a typical sunlight based cell employments. Traditional solar cells are called photovoltaic cells. These cells are made out of semiconducting material, normally silicon. These cells are made up of semiconducting material, usually silicon. Electrochemical storage system are also used for rechargeable batteries for energy storage. The advantages of lead acid batteries include low cost, high voltage per cell, good capacity life and good performance at room temperatures for energy storage.

Keywords: Carbon Nanotube (CNT), Energy storage, Batteries, Solar Cells.

