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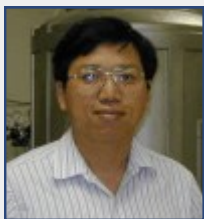
INNOVATION ADVANCEMENT & COMMERCIALIZATION

Carbon Nanotube Composites with Superior Physical Properties

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Reference: 3D Nanotubes

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Overview

Auburn University is seeking licensees for a technology in the field of carbon nanotubes. This technology relates more specifically to the structures of carbon nanotubes and their preparation containing 3-dimensional distributions, where the number density per volume and effective surface area of carbon nanotubes per unit volume far exceeds that previously possible. This greatly enhances the material's electrical and transfer properties.

Advantages

- Produces composites with high densities of carbon nanotubes, providing greater surface area per unit volume
- Exhibits enhanced electrical properties, including conductivity, capacitance, low turn-on electric field and high electric field enhancement factors
- High surface area also provides improved heat and mass transfer properties for potential applications in filtration and insulation

Description

The purpose of this invention is to prepare three-dimensional dispersions of carbon nanotubes directly on macroscopically porous substrates. Previous methods of depositing carbon nanotubes on substrates leads to a 2-dimensional distribution (i.e., only surface deposition) which limits carbon nanotube density and the low fraction of carbon nanotubes. This technology provides a class of composites which contain a 3-dimensional distribution of carbon nanotubes thus affording a more desirable 3-dimensional distribution of carbon nanotubes. This results in a higher number density and higher surface area of nanotubes than previously possible. The resulting materials have enhanced physical properties, including electrical properties and heat/mass transfer properties.

Status

- This technology is currently commercially available for applications in energy storage and composites for electrical applications.

Licensing Opportunities

- Issued U.S. Patent [6,495,258](#)
- This technology is available for [immediate non-exclusive licensing](#) in the fields of use of insulation and fluid filtration/separation through Auburn's ["Ready to Sign" licensing program](#).



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