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Nanotube Yarn for Multifunctionality; 5.1 INTRODUCTION; 5.2 ELECTRICAL CONDUCTIVITY OF CNT YARNS; 5.3 METAL DEPOSITION ON CNT MACROSTRUCTURES; 5.4 GAS SENSING APPLICATIONS; 5.5 SUMMARY; References; Chapter 6 - Wet Spinning of CNT-based Fibers; 6.1 INTRODUCTION TO WET SPINNING; 6.2 FIBERS OBTAINED FROM THE COAGULATION OF CARBON NANOTUBES; 6.3 FIBERS OBTAINED FROM THE COAGULATION OF CNT-POLYMER MIXTURES; 6.4 CONCLUSIONS; References; Chapter 7 - Dry Spinning Carbon Nanotubes into Continuous Yarn: Progress, Processing and Applications 7.1 INTRODUCTION7.2 BASIS OF CNT ASSEMBLY IN MACROSCOPIC STRUCTURES; 7.3 FROM TEXTILE SPINNING TECHNOLOGY TO DRY CNT SPINNING; 7.4 MULTISTEP SPINNING PROCESS USING A DRAFTING SYSTEM; 7.5 SEVERAL TREATMENTS FOR CNT YARN IMPROVEMENT; 7.6 CNT-BASED COMPOSITE YARNS; 7.7 APPLICATIONS OF CNT YARNS; 7.8 CONCLUSION; Acknowledgments; References; Chapter 8 - Synthesis and Properties of Boron Nitride Nanotubes; 8.1 INTRODUCTION; 8.2 NANOTUBES: BASIC STRUCTURE; 8.3 SYNTHESIS OF BNNTS; 8.4 PROPERTIES OF BORON NITRIDE NANOTUBES; 8.5 COMPARISON OF BNNTS AND CNTS; 8.6 SUMMARY; Acknowledgments; References Chapter 9 - Boron Nitride Nanotubes, Silicon Carbide Nanotubes, and Carbon Nanotubes-A Comparison of Properties and Applica ...9.1 INTRODUCTION; 9.2 BNNT AND SICNT STRUCTURE AND SYNTHESIS; 9.3 COMPOSITES REINFORCED WITH HIGH-TEMPERATURE NANOTUBES; 9.4 APPLICATIONS OF HIGH-TEMPERATURE NANOTUBES; 9.5 CONCLUDING REMARKS; References; Chapter 10 - Carbon Nanotube Fiber Doping; 10.1 INTRODUCTION; 10.2 DOPING; 10.3 SINGLE-WALLED CARBON NANOTUBE DOPING; 10.4 MULTIWALLED CARBON NANOTUBE DOPING; 10.5 CHARACTERIZATION OF DOPED CNTS; 10.6 EXPERIMENTAL CHALLENGES IN CHARACTERIZATION; 10.7 SUMMARY Acknowledgments

Sommario/riassunto

Nanotube Superfiber Materials refers to different forms of macroscale materials with unique properties constructed from carbon nanotubes. These materials include nanotube arrays, ribbons, scrolls, yarn, braid, and sheets. Nanotube materials are in the early stage of development and this is the first dedicated book on the subject. Transitioning from molecules to materials is a breakthrough that will positively impact almost all industries and areas of society. Key properties of superfiber materials are high flexibility and fatigue resistance, high energy absorption, high strength, go

2. Record Nr. UNINA9910917180003321

Titolo	How and Why Does Spatial-Hearing Ability Differ among Listeners? What Is the Role of Learning and Multisensory Interactions?
Pubbl/distr/stampa	Frontiers Media SA, 2016
Descrizione fisica	1 online resource (253 p.)
Collana	Frontiers Research Topics
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Livello bibliografico	Monografia
Sommario/riassunto	Spatial-hearing ability has been found to vary widely across listeners. A survey of the existing auditory-space perception literature suggests that three main types of factors may account for this variability: - physical factors, e.g., acoustical characteristics related to sound-localization cues, - perceptual factors, e.g., sensory/cognitive processing, perceptual learning, multisensory interactions, - and methodological factors, e.g., differences in stimulus presentation methods across studies. However, the extent to which these-and perhaps other, still unidentified-factors actually contribute to the observed variability in spatial hearing across individuals with normal hearing or within special populations (e.g., hearing-impaired listeners) remains largely unknown. Likewise, the role of perceptual learning and multisensory interactions in the emergence of a multimodal but unified representation of "auditory space," is still an active topic of research. A better characterization and understanding of the determinants of inter-individual variability in spatial hearing, and of its relationship with perceptual learning and multisensory interactions, would have numerous benefits. In particular, it would enhance the design of rehabilitative devices and of human-machine interfaces involving auditory, or multimodal space perception, such as virtual auditory/multimodal displays in aeronautics, or navigational aids for the visually impaired. For this Research Topic, we have considered manuscripts that: - present new methods, or review existing methods,

for the study of inter-individual differences; - present new data (or review existing) data, concerning acoustical features relevant for explaining inter-individual differences in sound-localization performance; - present new (or review existing) psychophysical or neurophysiological findings concerning spatial hearing and/or auditory perceptual learning, and/or multisensory interactions in humans (normal or impaired, young or older listeners) or other species; - discuss the influence of inter-individual differences on the design and use of assistive listening devices (rehabilitation) or human-machine interfaces involving spatial hearing or multimodal perception of space (ergonomy).