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Making Functional Materials with Nanotubes

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Making Functional Materials with Nanotubes

PREFACE

The possible use of carbon nanotubes in macroscale structures and microdevices has been demonstrated based on their exceptional mechanical, electronic, and chemical properties. The field is rapidly growing with a strong interdisciplinary focus spanning domains of solid-state physics and chemistry, materials engineering, composites, and biosystems. There are many likely applications for nanotubes ranging from nano-electronics to high-strength composites, field emission displays, and hydrogen storage materials.

The focus of the current volume, containing papers presented at Symposium Z, "Making Functional Materials with Nanotubes," held November 26–29 at the 2001 MRS Fall Meeting in Boston, Massachusetts, is on the designing, making, and understanding of nanotube-based materials, structures, and devices for any possible applications. Readers will find contributions concerning:

- Controlled synthesis routes producing either bulk quantities of nanotubes or organized nanotube arrays designed for specific applications; and
- Post-synthesis processing of nanotubes, during which the as-produced nanotubes are manipulated into elaborate nano- to macroscale systems.

This concerns chemical functionalization, self assembly, crystallization, coagulation to produce fibers and thin films, and orientation processes by magnetic or electric fields, etc.

Patrick Bernier
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