

- [Home](#)
- [Search](#)
- [Journals](#)
  - [Applied Mechanics Reviews](#)
  - [J. Applied Mechanics](#)
  - [J. Biomechanical Engineering](#)
  - [J. Computational and Nonlinear Dynamics](#)
  - [J. Computing and Information Science in Engineering](#)
  - [J. Dynamic Systems, Measurement and Control](#)
  - [J. Electronic Packaging](#)
  - [J. Energy Resources Technology](#)
  - [J. Engineering for Gas Turbines and Power](#)
  - [J. Eng. Materials and Technology](#)
  - [J. Fluids Engineering](#)
  - [J. Fuel Cell Science and Technology](#)
  - [J. Heat Transfer](#)
  - [J. Manufacturing Science and Engineering](#)
  - [J. Mechanical Design](#)
  - [J. Mechanisms Robotics](#)
  - [J. Medical Devices](#)
  - [J. Nanotechnology in Engineering and Medicine](#)
  - [J. Offshore Mechanics and Arctic Engineering](#)
  - [J. Pressure Vessel Technology](#)
  - [J. Solar Energy Engineering](#)
  - [J. Thermal Science and Engineering Applications](#)
  - [J. Tribology](#)
  - [J. Turbomachinery](#)
  - [J. Vibration and Acoustics](#)
- [Proceedings](#)
- [eBooks](#)
- [Article Pack](#)

#### Journal Info

- [Purpose and Scope](#)
- [Masthead](#)
- [Citation Format](#)
- [Abstracted & Indexed In](#)
- [Subscribe to Journal](#)
- [Announcements](#)
- [Call for Papers](#)
- [Authors Resources](#)
- [Submit Papers](#)

#### Program Info

- [Publications Committee](#)
- [AMR Advisory Board](#)
- [Board of Editors](#)
- [Title History](#)
- [Permissions](#)
- [Contact Publishing Office](#)
- [Licenses](#)

#### Services

- [E-mail Alerts](#)
- [RSS Feed](#) 

#### Scitation

- [Scitation FAQ](#)
- [Scitation Home](#)
- [Scitation Search](#)
- [Search SPIN](#)
- [MyScitation](#)
- [Library Service Center](#)

## Synthesis of Double Wall Carbon Nanotubes Using Sulfur as Catalyst

✖ You are not logged into the ASME Digital Library.  
[Log in](#)

J. Electron. Packag. -- June 2011 -- Volume 133, Issue 2, 020904 (2 pages)  
<http://dx.doi.org/10.1115/1.4003867>

**ABSTRACT**   **REFERENCES (10)**

**Author(s):**

[O. A. Al-Hartomy](#)

Department of Physics, Faculty of science, King Abdul Aziz University, Jeddah 21589, Saudi Arabia; Department of Physics, Faculty of science, University of Tabuk, Tabuk 71491, Saudi Arabia

[M. A. SHAH](#)

Department of Physics, Faculty of science, King Abdul Aziz University, Jeddah 21589, Saudi Arabia; Electron Microscopy Centre, Department of Physics, Faculty of science, National Institute of Technology, Srinagar-190006, India

The requirements of simple and reliable protocols for the synthesis of nanostructures with controlled morphology continue to be a major challenge in nanoscale. We demonstrate a novel and simplified synthesis technique for double wall carbon nanotubes using flotation chemical vapour deposition by adding a small amount of sulfur into the catalyst. Double wall nanotubes (DWNTs) provide ideal geometries for numerous fundamental structural, electronic, thermal, and vibrational studies. The diameter distribution of DWNTs is  $25 \pm 10$  nm except one which is  $\sim 148.6$  nm.

©2011 American Society of Mechanical Engineers

**History:** Received 13 April 2010; revised 31 January 2011; published 7 June 2011

**Digital Object Identifier** <http://dx.doi.org/10.1115/1.4003867>

Buy a full-text PDF (853 kB) of this Paper (US\$25)



Connotea   CiteULike   del.icio.us   BibSonomy

[DOWNLOAD CITATION](#)   [MySCITATION](#)  
 [EMAIL ABSTRACT](#)   [ERRATUM ALERT](#)  
 [TOOLKIT](#)   [PRINT VIEW](#)  
 [BLOG THIS ARTICLE](#)

### KEYWORDS and PACS

#### Keywords

[carbon nanotubes](#), [catalysts](#), [chemical vapour deposition](#), [sulphur](#)

#### PACS

- [81.07.De](#)  
**Nanotubes: fabrication and characterization**
- [81.16.Hc](#)  
**Catalytic methods in nanofabrication and processing**
- [81.15.Gh](#)  
**Chemical vapor deposition**
- YEAR: 2010

### RELATED DATABASES

### PUBLICATION DATA