

# Author's Accepted Manuscript

Novel synthesizing and characterization of copper matrix composites reinforced with carbon nanotubes

Hu Wang, Zhao-Hui Zhang, Hong-Mei Zhang, Zheng-Yang Hu, Sheng-Lin Li, Xing-Wang Cheng



PII: S0921-5093(17)30507-5  
DOI: <http://dx.doi.org/10.1016/j.msea.2017.04.055>  
Reference: MSA34956

To appear in: *Materials Science & Engineering A*

Received date: 9 December 2016  
Revised date: 24 February 2017  
Accepted date: 12 April 2017

Cite this article as: Hu Wang, Zhao-Hui Zhang, Hong-Mei Zhang, Zheng-Yang Hu, Sheng-Lin Li and Xing-Wang Cheng, Novel synthesizing and characterization of copper matrix composites reinforced with carbon nanotubes *Materials Science & Engineering A* <http://dx.doi.org/10.1016/j.msea.2017.04.055>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

# Novel synthesizing and characterization of copper matrix composites reinforced with carbon nanotubes

Hu Wang<sup>1</sup>, Zhao-Hui Zhang<sup>1,2</sup>, Hong-Mei Zhang<sup>1,2,\*</sup>, Zheng-Yang Hu<sup>1</sup>, Sheng-Lin Li<sup>1</sup>,

Xing-Wang Cheng<sup>1,2</sup>

<sup>1</sup> School of Materials Science and Engineering, Beijing Institute of Technology, Beijing, 100081,

P. R. China

<sup>2</sup> National Key Laboratory of Science and Technology on Materials under Shock and Impact,

Beijing, 100081, P. R. China

\* Corresponding author. Tel: +86 10 68913951. E-mail: zhanghm@bit.edu.cn (Hong-Mei Zhang)

## Abstract

In this study, we synthesized a novel copper matrix composites reinforced with carbon nanotubes (CNTs/Cu) by combination use of the electroless deposition (ED) and spark plasma sintering (SPS) methods. Firstly, a uniform copper layer was coated on the surface of carbon nanotubes (CNTs), then the CNTs/Cu composite powders containing different volume fractions of CNTs were obtained by mixing copper powder and copper coated CNTs. Finally, the CNTs/Cu composites were rapidly consolidated via SPS process. The powders and sintered composites were characterized using X-Ray diffraction (XRD), Raman spectroscopy, scanning electron microscopy

Download English Version:

<https://daneshyari.com/en/article/5455994>

Download Persian Version:

<https://daneshyari.com/article/5455994>

[Daneshyari.com](https://daneshyari.com)