

# Author's Accepted Manuscript

An approach for fabricating Ni@graphene reinforced nickel matrix composites with enhanced mechanical properties

Kai Fu, Xiang Zhang, Chunsheng Shi, Enzuo Liu, Fang He, Jiajun Li, Naiqin Zhao, Chunnian He



PII: S0921-5093(17)31707-0  
DOI: <https://doi.org/10.1016/j.msea.2017.12.101>  
Reference: MSA35943

To appear in: *Materials Science & Engineering A*

Received date: 10 July 2017  
Revised date: 17 November 2017  
Accepted date: 27 December 2017

Cite this article as: Kai Fu, Xiang Zhang, Chunsheng Shi, Enzuo Liu, Fang He, Jiajun Li, Naiqin Zhao and Chunnian He, An approach for fabricating Ni@graphene reinforced nickel matrix composites with enhanced mechanical properties, *Materials Science & Engineering A*, <https://doi.org/10.1016/j.msea.2017.12.101>

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.

# An approach for fabricating Ni@graphene reinforced nickel matrix composites with enhanced mechanical properties

Kai Fu <sup>a, #</sup>, Xiang Zhang <sup>a, #</sup>, Chunsheng Shi <sup>a</sup>, Enzuo Liu <sup>a, b</sup>, Fang He <sup>a</sup>, Jiajun Li <sup>a</sup>,  
Naiqin Zhao <sup>a, b</sup> and Chunnian He <sup>a, b, \*</sup>

<sup>a</sup> *School of Materials Science and Engineering and Tianjin Key Laboratory of Composites and Functional Materials, Tianjin University, Tianjin, 300072, P. R. China*

<sup>b</sup> *Collaborative Innovation Center of Chemical Science and Engineering, Tianjin 300072, China*

\* Corresponding author. E-mail address: cnhe08@tju.edu.cn (C.N. He)

# These authors contributed equally to this paper.

## Abstract

A novel approach is developed for the fabrication of nickel (Ni) matrix composites reinforced by graphene, which involves the synthesis of three-dimensional graphene networks (3D GNs) tightly anchored with Ni nanoparticles (3D Ni@GNs) by an in-situ high-temperature chemical vapor deposition process, subsequent uniform coating of Ni powders around the 3D Ni@GNs by an impregnation-reduction process, and final consolidation of the Ni@GNs/Ni composite powders by spark plasma

Download English Version:

<https://daneshyari.com/en/article/7973581>

Download Persian Version:

<https://daneshyari.com/article/7973581>

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