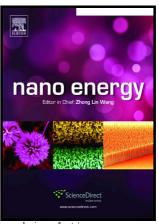
Author's Accepted Manuscript

An ultra-sensitive and rapid response speed graphene pressure sensors for electronic skin and health monitoring

Zheng Lou, Shuai Chen, Lili Wang, Kai Jiang, Guozhen Shen



www.elsevier.com/locate/nanoenergy

PII: S2211-2855(16)30005-2

DOI: http://dx.doi.org/10.1016/j.nanoen.2016.02.053

Reference: NANOEN1171

To appear in: Nano Energy

Received date: 11 January 2016 Revised date: 17 February 2016 Accepted date: 28 February 2016

Cite this article as: Zheng Lou, Shuai Chen, Lili Wang, Kai Jiang and Guozhei Shen, An ultra-sensitive and rapid response speed graphene pressure sensors fo electronic skin and health monitoring, *Nano Energy* http://dx.doi.org/10.1016/j.nanoen.2016.02.053

This is a PDF file of an unedited manuscript that has been accepted fo publication. As a service to our customers we are providing this early version o 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

ACCEPTED MANUSCRIPT

An ultra-sensitive and rapid response speed graphene

pressure sensors for electronic skin and health monitoring

Zheng Lou^a, Shuai Chen^{a,b}, Lili Wang^c, Kai Jiang^{d*}, Guozhen Shen^{a*}

^aState Key Laboratory for Superlattices and Microstructures, Institute of

Semiconductors, Chinese Academy of Sciences, Beijing 100083

^bSchool of Mathematics and Physics, University of Science and Technology Beijing,

Beijing 100083, China

^cState Key Laboratory on Integrated Optoelectronics, College of Electronic Science

and Engineering, Jilin University, Changchun 130012, China

^dInstitute & Hospital of Hepatobiliary Surgery, Key Laboratory of Digital

Hepatobiliary Surgery of Chinese PLA, Chinese PLA Medical School, Chinese PLA

General Hospital, Beijing 100853, China

*Corresponding authors.

E-mail address: gzshen@semi.ac.cn (G. Shen); jiangk301@126.com (K. Jiang)

Abstract

Design of pressure sensors with ultra-sensitivity, rapid response speed and long-term

stability is a key procedure to fulfill high performance electronic skins. Herein, we

report the fabrication of a self-assembled 3D films platform that combines a natural

viscoelastic property material P(VDF-TrFe) with an electrically conductive material

rGO for the first time. Notably, modular assembly of the rGO-encapsulated

P(VDF-TrFe) nanofibers led to the fabrication of a highly sensitive pizeoresistive

Download English Version:

https://daneshyari.com/en/article/7953569

Download Persian Version:

https://daneshyari.com/article/7953569

<u>Daneshyari.com</u>