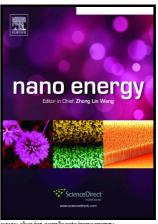
Author's Accepted Manuscript

A fully-packaged and robust hybridized generator for harvesting vertical rotation energy in broad frequency band and building up self-powered wireless systems

Jie Chen, Hengyu Guo, Guanlin Liu, Xue Wang, Yi Xi, Muhammad Sufyan Javed, Chenguo Hu



www.elsevier.com/locate/nanoenergy

PII: S2211-2855(17)30059-9

http://dx.doi.org/10.1016/j.nanoen.2017.01.052 DOI:

NANOEN1766 Reference:

To appear in: Nano Energy

Received date: 20 December 2016 Revised date: 9 January 2017 Accepted date: 24 January 2017

Cite this article as: Jie Chen, Hengyu Guo, Guanlin Liu, Xue Wang, Yi Xi Muhammad Sufyan Javed and Chenguo Hu, A fully-packaged and robus hybridized generator for harvesting vertical rotation energy in broad frequency band and building up self-powered wireless systems, Nano Energy http://dx.doi.org/10.1016/j.nanoen.2017.01.052

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

A fully-packaged and robust hybridized generator for harvesting vertical rotation energy in broad frequency band and building up self-powered wireless

systems

Jie Chen^{a,1}, Hengyu Guo^{a,1}, Guanlin Liu^a, Xue Wang^a, Yi Xi^a, Muhammad Sufyan

anuscrito

Javed^a, Chenguo Hu^{a,*}

^aDepartment of Applied Physics, The State Key Laboratory of Mechanical

Transmission, Chongqing University, Chongqing 400044, P. R. China

*Correspondence to: hucg@cqu.edu.cn

Abstract

Harvesting energies from surroundings to build up self-powered sensing systems is

very useful in our daily life. In this work, we design a cylinder-like fully-packaged

hybrid nanogenerator for harvesting vertical rotation energy in broad frequency band

by utilizing a magnet rod as the trigger to drive contact-separation mode triboelectric

nanogenerator (TENG), and by coupling magnet rod with copper coils to operate

electromagnetic generator (EMG). The stator-free structure makes the device more

facile to be installed on the rotation objects. The output performances of TENG and

EMG under various rotation speeds are systematically studied and clearly

demonstrated by installing the device on a balance car, which proves that TENG can

¹ J. Chen and H. Guo have equal contribution to this work

دريافت فورى ب متن كامل مقاله

ISIArticles مرجع مقالات تخصصی ایران

- ✔ امكان دانلود نسخه تمام متن مقالات انگليسي
 - ✓ امكان دانلود نسخه ترجمه شده مقالات
 - ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
 - ✓ امكان دانلود رايگان ۲ صفحه اول هر مقاله
 - ✔ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
 - ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات