

Author's Accepted Manuscript

Direct-Current Triboelectric Nanogenerator via Water Electrification and Phase Control

Taehun Kim, Dae Yun Kim, Junseo Yun, Banseok Kim, Seong Hyuk Lee, Dongseob Kim, Sangmin Lee



PII: S2211-2855(18)30536-6
DOI: <https://doi.org/10.1016/j.nanoen.2018.07.048>
Reference: NANOEN2915

To appear in: *Nano Energy*

Received date: 25 May 2018
Revised date: 16 July 2018
Accepted date: 23 July 2018

Cite this article as: Taehun Kim, Dae Yun Kim, Junseo Yun, Banseok Kim, Seong Hyuk Lee, Dongseob Kim and Sangmin Lee, Direct-Current Triboelectric Nanogenerator via Water Electrification and Phase Control, *Nano Energy*, <https://doi.org/10.1016/j.nanoen.2018.07.048>

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.

Direct-Current Triboelectric Nanogenerator via Water Electrification and Phase Control

Taehun Kim, Dae Yun Kim, Junseo Yun, Banseok Kim, Seong Hyuk Lee, Dongseob Kim*,
and Sangmin Lee*

T. Kim, D. Y. Kim, J. Yun, B. Kim, Prof. S. H. Lee, Prof. S. Lee

School of Mechanical Engineering

Chung-Ang University

84, Heukseuk-ro, Dongjack-gu, Seoul 156-756, KOREA

E-mail: slee98@cau.ac.kr

Dr. D. Kim

Aircraft System Technology Group

Korea Institute of Industrial Technology

57, Yangho-gil, Yeongcheon-si, Gyeongbuk-do, 38822, KOREA

E-mail: yusae@kitech.re.kr

*Corresponding author

Abstract

The recent reputational excellence of triboelectric nanogenerators is based on the idea that they have overcome many limitations for traditional energy harvesting methods. However, in many important respects, these nanogenerators show little promise in addressing the limitations of device efficiency, and in some cases, they threaten the material lifetime. To overcome both efficiency and durability issues, we propose a novel mechanism that generates a DC output via water electrification based on phase control to enhance the sustainability of nanogenerators. Our demonstrations here can enable breakthrough impacts by enhancing

Download English Version:

<https://daneshyari.com/en/article/7952231>

Download Persian Version:

<https://daneshyari.com/article/7952231>

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