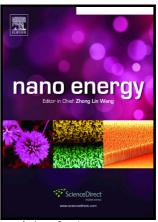
Author's Accepted Manuscript

Conversion of solar power to chemical energy based on carbon nanoparticle modified photothermoelectric generator and electrochemical water splitting system

Xiaofei Zhang, Wenqiang Gao, Xiaowen Su, Fulei Wang, Baishan Liu, Jian-Jun Wang, Hong Liu, Yuanhua Sang



www.elsevier.com/locate/nanoenergy

PII: S2211-2855(18)30194-0

DOI: https://doi.org/10.1016/j.nanoen.2018.03.055

Reference: NANOEN2603

To appear in: Nano Energy

Received date: 10 January 2018 Revised date: 9 March 2018 Accepted date: 21 March 2018

Cite this article as: Xiaofei Zhang, Wenqiang Gao, Xiaowen Su, Fulei Wang, Baishan Liu, Jian-Jun Wang, Hong Liu and Yuanhua Sang, Conversion of solar power to chemical energy based on carbon nanoparticle modified photothermoelectric generator and electrochemical water splitting system, *Nano Energy*, https://doi.org/10.1016/j.nanoen.2018.03.055

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.

ACCEPTED MANUSCRIPT

Conversion of solar power to chemical energy based on carbon nanoparticle modified photo-thermoelectric generator and electrochemical water splitting system

Xiaofei Zhang^a, Wenqiang Gao^a, Xiaowen Su^a, Fulei Wang^a, Baishan Liu^c, Jian-Jun Wang^a, Hong Liu^{a,b,c,*} and Yuanhua Sang^{a,b*}

^aState Key Laboratory of Crystal Materials, Shandong University, Jinan 250100, China.

^bInstitute for Advanced Interdisciplinary Research (IAIR), University of Jinan, Jinan 250022, China.

^cJiaxing Rejdue Environmental Technology Co., Ltd., Jiaxing 314006, China.

sangyh@sdu.edu.cn (Y. Sang);

hongliu@sdu.edu.cn (H. Liu).

*Corresponding authors.

Abstract

Nanogenerator has caused extensive attraction to convert/collect dispersive energy as electric energy. Solar thermoelectric generator (STEG), based on Seebeck effect of semiconductors, is one of the most promising approaches for solar energy conversion because of its simple structure, high stability and long lifetime. The light absorbers are of paramount importance for high-efficient STEG. In this work, high performance carbon nanoparticles for light harvesting have been synthesized via a facile and efficient method. By the in-situ coating of the nanoparticles on a commercial thermoelectric generator, a high-efficient STEG was constructed. The performance of the designed

Download English Version:

https://daneshyari.com/en/article/7952698

Download Persian Version:

https://daneshyari.com/article/7952698

<u>Daneshyari.com</u>