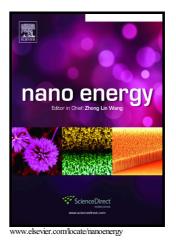
## Author's Accepted Manuscript

All-solid-state flexible self-charging power cell basing on piezo-electrolyte for harvesting/storing body-motion energy and powering wearable electronics

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# PII: S2211-2855(17)30447-0 DOI: http://dx.doi.org/10.1016/j.nanoen.2017.07.033 Reference: NANOEN2091

To appear in: Nano Energy

Received date:19 June 2017Revised date:20 July 2017Accepted date:20 July 2017

Cite this article as: Haoxuan He, Yongming Fu, Tianming Zhao, Xuchao Gao Lili Xing, Yan Zhang and Xinyu Xue, All-solid-state flexible self-charging powe cell basing on piezo-electrolyte for harvesting/storing body-motion energy an powering wearable electronics, *Nano Energy* http://dx.doi.org/10.1016/j.nanoen.2017.07.033

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#### **ACCEPTED MANUSCRIPT**

# All-solid-state flexible self-charging power cell basing on

#### harvesting/storing piezo-electrolyte **body-motion** for

### energy and powering wearable electronics

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#### Abstract

A new all-solid-state self-charging power cell (SCPC) has been fabricated using mesoporous PVDF-LiPF<sub>6</sub> film as piezo-electrolyte. The solid piezo-electrolyte can act as both the electrolyte and piezo-separator, which is prepared through immobilizing the liquid electrolyte in mesoporous PVDF film. The all-solid-state flexible SCPC can be efficiently charged up by mechanical deformation, and thus can directly harvest/store the body-motion energy. The SCPC sealed in stainless-steel cell can be charged by compressive deformation (30 N, 1 Hz) and the storage capacity is 0.118 µA h within 240 s, which is about 5 times larger than that of the traditional non-integrated system. The SCPC sealed in flexible shell can Download English Version:

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