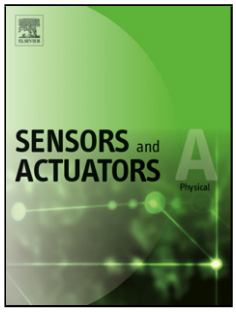

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PII: S0924-4247(18)30667-8
DOI: https://doi.org/10.1016/j.sna.2018.07.057
Reference: SNA 10922

To appear in: *Sensors and Actuators A*

Received date: 18-4-2018
Revised date: 28-7-2018
Accepted date: 29-7-2018

Please cite this article as: Wang G, Liu T, Sun X-Chao, Li P, Xu Y-Shi, Hua J-Guan, Yu Y-Hao, Li S-Xin, Dai Y-Zhi, Song X-Yu, Lv C, Xia H, Flexible pressure sensor based on PVDF nanofiber, *Sensors and amp; Actuators: A. Physical* (2018), https://doi.org/10.1016/j.sna.2018.07.057

Flexible pressure sensor based on PVDF nanofiber

Gong Wang[1], Tao Liu[2,*], Xiang-Chao Sun[1], Pu Li[1], Yi-Shi Xu[1], Jian-Guan Hua[1], Yan-Hao Yu[1], Shun-Xin Li[1], Yun-Zhi Dai[1], Xin-Yu Song[1], Chao Lv[1], and Hong Xia[1,*]

[1] *State Key Laboratory of Integrated Optoelectronics, College of Electronic Science and Engineering, Jilin University, 2699 Qianjin Street, Changchun 130012, China*

[2] *Department of Rheumatology, First Hospital, Jilin University, Changchun 130012, China*

Highlights

- PVDF nanofiber thin films with piezoelectric properties are prepared by high voltage electrospinning.
- Two kinds of flexible electrodes are selected for different use conditions of the sensor.
- The sensor can achieve the detection of quantitative pressure signal, and the real-time monitoring of human motion signals as well.
- The sensor can realize non-contact sense.

Abstract: The development of wearable electronic devices has created a better blueprint for future human-computer interaction and intelligent living. Flexible pressure sensor is an important link to the development of wearable electronic devices. Despite significant progress made to date, there are still issues to be solved, including complex material synthesis, cumbersome preparation process and poor sensitivity response to human body signal. In this paper, we report flexible sensors that could be applied in different conditions. The sensors are fabricated by combination electrospinning-prepared PVDF nanofiber film with PDMS/Ag NWs and PET/ITO electrodes, respectively. The sensors based on PVDF nanofiber film feature good piezoelectric property with quantitative pressure measurement. Furthermore, they can act as a real-time monitor of human movement due to their conformal form factors. In addition, the sensors realize non-direct contact sensing, providing a broad