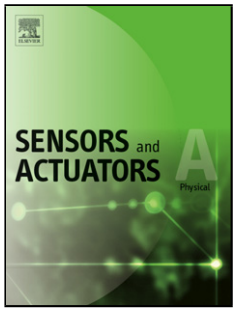

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Folding Triboelectric Nanogenerator on Paper Based on Conductive Ink and Teflon Tape

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Highlights

- A triboelectric nanogenerator (TENG) by repeated folding completely using commercially available commodity materials, such as paper, brush pen, transparent tape and electronic paint.
- The open-circuit voltage and short-circuit current are approximately 320V and 100 μA, respectively.
- The peak power density is approximately 295.02 μW/cm^2 and twenty-six commercial LEDs can be easily driven.

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Abstract

Recently, triboelectric nanogenerator (TENG) has aroused considerable interest due to various advantages. Particularly, one benefit which sand out is that the triboelectric pair of TENG is very tolerant to the material composition. Thus, it is possible and significant to develop cost-effective TENG using commercial and inexpensive material. In this work, we present a paper TENG by repeated folding completely using commercially available commodity materials, such as paper, brush pen, Teflon tape, and conductive ink. Paper is used as functionally triboelectric pair and spring-like supporting structure. The stacked paper TENG is fabricated and large enhancement of output performance is observed. The generated electric outputs have