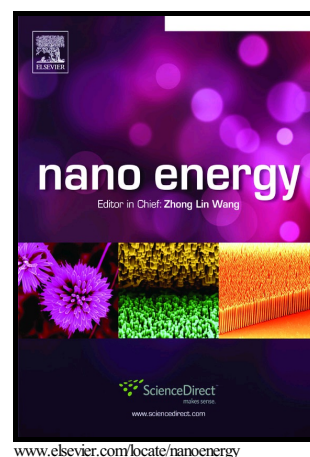


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# Triboelectric Charge Density of Porous and Deformable Fabrics Made from Polymer Fibers

Shirui Liu <sup>a</sup>, Wei Zheng <sup>a,b</sup>, Bao Yang <sup>a</sup>, Xiaoming Tao <sup>a\*</sup>

<sup>a</sup> *Nanotechnology Centre for Functional and Intelligent Textiles and Apparel, Institute of Textiles and Clothing, Hong Kong Polytechnic University, Hong Kong, China*

<sup>b</sup> *Sunsong (Shenzhen) Polymer Eco-Friendly New Material Co.,Ltd., Shenzhen, China*

*\*Corresponding author: Email: xiao-ming.tao@polyu.edu.hk*

**Abstract:** Triboelectricity has attracted much attention for its potential applications in harvesting mechanical energy by triboelectric nanogenerators, whose output performance is dominated by triboelectric charge density. The number of electric charges generated on interactive surfaces is an intrinsic property of the materials directly related to their chemical structure and high-order structures. This paper deals with a sliding-mode triboelectrification system and measurement methods of the charge density on highly porous and deformable materials like textile fabrics with a structural hierarchy. Effects of operational parameters of the system, structures and properties of fabrics made from twenty one types of polymer fibers were investigated. It is found that the effective charge density of fabrics can be reliably measured when the tribo-electrification process reaches its saturation under the fabric densification pressure. An extended table of measured tribo-electric charge density is compiled with

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