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Washable, Flexible, Self-Powered e-Textiles

Waterproof, stain-repellent, self-powering nanogenerators integrate into textiles to harvest human movement, offering battery-free, washable, and antibacterial wearable electronics for applications like charging devices and GPS.

Researchers at Purdue University have created a waterproof, stain-repellent nanogenerators for textiles that are powered by human movement. The devices are robust for everyday use as they are wearable, waterproof, washable, and antibacterial, which has yet to be achieved in similar devices. These innovative nanogenerators are can be of different sizes ranging from a couple of square inches to square feet so that they can be conveniently worn on the exterior of every day clothing such as a shirt collar or scaled up. In addition, the design is activated and controlled by simple touch, such as for playing music.

Advantages:

-Battery-free

-Washable

-Breathable

-Antibacterial

-Self-powering

Potential Applications:

-Music streaming

-GPS, informatics

-Charging electronics

-Green energy

TRL: 4

Intellectual Property:

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Category
Materials Science & Nanotechnology/Nanomaterials & Nanostructures

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