

Integrated Thermoelectric Film Based Woven Power Generator

A thin, woven, thermoelectric flexible fabric offers a reliable, comfortable, and scalable power generation solution for wearable and IoT devices by recovering ambient heat.

Wearable electronics and other Internet of Things (IoT) devices are rapidly growing in popularity but their need for consistent power can place a high burden on users. One recently proposed solution is to generate electricity using heat from the human body or other ambient sources, but typical products are up to an inch thick. Researchers at Purdue University have developed a woven, thermoelectric flexible fabric for wearable power generation that is only around 1mm thick. This wearable power generator is very reliable for body or other heat recovery while also offering great mechanical flexibility and comfort. Furthermore, this film-based product is easier to manufacture compared to current solutions.

Advantages:

- Mechanically flexible
- Simpler for manufacturing
- Thinner

Potential Applications:

- Wearable power generator

TRL: 2

Intellectual Property:

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