

Polymer Based Foam Thermoelectric Generators

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Categories:

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Keywords:

- Battery-free
- Biomedical Engineering
- Electrical Engineering
- Polymers
- Thermoelectric

Wearable power generators used in IoT electronics, health care equipment, and medical sensing equipment use power generators that utilize body heat as opposed to heavy batteries. In waste heat or body heat recovery, low thermal conductance and mechanical flexibility are required for effective thermoelectric power generators.

Researchers at Purdue University have developed a straight forward fabrication process of thermoelectric materials that improves upon current methods by using foam. The high porosity of the foam saves significant area coverage improving the productivity of fabrication. The technology described is flexible, durable, and powerful.

Advantages:

- Eliminates the need for heavy, chargeable batteries
- No need for a thermal conducting sheet

Potential Applications:

- IoT power source
- Medical devices

People:

- Yazawa, Kazuaki (Project leader)
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Intellectual Property:

Application Date: June 22, 2021

Type: CON-Patent

Country of Filing: United States

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