

Inventing a smart fabric that can be wirelessly charged and washed as usual

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A group of engineers from Purdue University (USA) has just found a method to turn ordinary clothes into a type of 'smart garment device'. As revealed by the researchers, this set of clothes can be charged completely wirelessly, and at the same time withstand normal washing habits with the same frequency as regular clothes that we wear every day. .

A short video was also released by the research team on YouTube, giving interesting ideas about the potential uses of this special fabric. For example, a glove made from this fabric can be integrated with tiny, electricity-sensitive LED light bulbs that automatically light up when approaching the source of an electric leak. This concept could pave the way for smart clothing and protective products, with the ability to proactively warn the wearer about possible safety risks related to electricity.

In addition, thanks to recent notable improvements in micro-circuit manufacturing technology, researchers can integrate more types of health monitoring sensors right on clothes, creating smart devices. multi-purpose smart. The question is how to power these sensors.

To solve the problem, the research team came up with a plan to use wire coils made from silk that can both be integrated into the sensor and can be sewn directly into the fabric to harvest energy. from WiFi as well as other types of radio waves in our surroundings as a power source for the sensor.



Talking about this unique idea, associate professor Ramses Martinez, a member of the Purdue University research team, believes that future smart garment products will be able to connect and transmit information directly to the phone, user's smartphone and computer. Combined with other types of smart wearable devices such as smartwatches, smartbands, they can form a comprehensive health monitoring system for humans.

Besides, through the ability to track the wearer's movements and posture, these clothes can even be used as a potential gaming accessory.

However, clothes will need to be washed, and the problem lies in the fact that electronics and water are inherently incompatible. To fix this, engineers have developed a spray that uses hydrophobic molecules to make these clothes and gloves waterproof, as well as giving them a side effect. Another very useful thing is its stain resistance. In addition, the research team also confirmed that this waterproof coating will be very thin, helping the fabric fibers retain flexibility and ensure breathability.

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