

What is electronic skin (e-skin)?

Electronic skin (e-skin), new generation of flexible wearable electronic devices, has characteristics including flexibility, thinness, biocompatibility with broad application prospects, and a crucial place in future wearable electronics.

What is the world's first bio-inspired electronic skin?

A team of Chinese scientists has created the world's first bio-inspired electronic skin with a 3D structure that mimics three mechanical signals found in human skin. With its intricate 3D distribution, sensory receptors in human skin adeptly perceive external forces and strain.

How e-skin mimics human skin?

With its intricate 3D distribution, sensory receptors in human skin adeptly perceive external forces and strain. By mimicking this spatial distribution, researchers from Tsinghua University developed an e-skin that replicates the structure of human skin, featuring its own "epidermis", "dermis" and "subcutaneous tissue".

Why do we need electronic skins?

Electronic devices that monitor human health, track movement and activities, and function as HMIs are already in widespread use^{1,2,4}. However, the goal of these electronic skins is to emulate the features of skin while still preserving its natural qualities^{5,6,7}.

How does an electronic skin work?

In healthy living skin, mechanical receptors sense information and convert it into electrical pulses that are transmitted through the nervous system to the brain. To replicate this, an electronic skin needs sensors and integrated circuits, which are usually made from rigid semiconductors.

Is e-skin a step towards artificial skin?

A flexible, conductive membrane that can pass sensory information to the brain and muscles is a step towards artificial skin. The 'e-skin' is a soft, flexible sensor with integrated circuits. Credit: Jiancheng Lai and Weichen Wang of Bao Research Group at Stanford University

tions of different electric micro vehicles re-cognised in both China and Germany. On the contrary, the two countries apply distinct nomenclatures for vehicle classes and their respective ...

Herein, we present an ultracompatible skin-like integrated wireless charging micro-supercapacitor, which building blocks (including electrolyte, electrode and substrate) are all evaporated by ...

nism of the MNH micro-nano structure is elucidated, and a fabrication method based on hierarchical assembly is provided for preparing flexible, large-area MNH micro-nano ...

Scientists at Tsinghua University in China have achieved a breakthrough in artificial skin technology, developing the world's first "electronic skin" with a bionic three ...

Electronic skin (e-skin), which is an electronic surrogate of human skin, aims to recreate the multifunctionality of skin by using sensing units to detect multiple stimuli, while keeping key features of skin such as low ...

Electronic skin (e-skin) is widely studied for its ability to detect physiological information and provide feedback through electrical signals. Biocompatible stimulus-responsive DNA-based hydrogels exhibit high sensitivity, which ...

Dynamic micro/nanoscale patterns responding to environmental stimuli provide an effective solution for tuning surface properties to achieve on-demand smart surfaces. Herein, we propose a simple and robust ...

The application of 3D printing technology in fabricating quasi-solid-state micro-supercapacitors (MSCs) offers inherent benefits in programmable structural design and high ...

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LaiBao Hi-Tech has announced its plan to join forces with the local government of Nanxun District, Huzhou City, Zhejiang Province, China, for an investment in micro electric ...

Science China Materials - Ionic skin (I-skin) is an emerging skin-inspired sensor that has received increasing interest for the next-generation wearable electronics. ... The ionic ...

8- Douyin, major tool for Brand awareness . For beauty brands in China during 2023-2024, Douyin, the Chinese version of TikTok, has emerged as a game-changer. The platform offers a unique blend of entertainment, social ...

SAIC is a major presence in China's electric vehicle market because of longstanding joint ventures with foreign automakers that have recently enjoyed success in the sector. ... Its first EV -- a micro-EV called the Wuling ...

1 Introduction. The skin is the largest sensory organ in humans, serving multiple functions such as protection and sensation. [1-3] It functions as the body's paramount natural ...

To increase the utilization of Low-Speed Electric Vehicles (LS-EVs), rapid recharging of the EV's battery pack turn out to be essential. This permits reduced charging times, greater vehicle ...

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