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Can we hear better with skin than ears?

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Research team in Korea develops a sound-sensing skin-attachable acoustic sensor



Researchers from the Department of Chemical Engineering and Mechanical Engineering at the Pohang University of Science and Technology (POSTECH), South Korea have developed a microphone that detects sound by applying polymer materials to microelectro-mechanical systems (MEMS).

The newly developed microphone demonstrates a wider auditory field than human ears, while it can be easily attachable to the skin with surprisingly small and thin size.

According to the study, the auditory sensitivity of the microphone is higher than human ears, while recognizing the surrounding sounds and voice of the user without distortion. Furthermore, it can detect both loud sounds over 85 decibels, a range that causes auditory damage, and low-frequency sounds that humans cannot hear.

The new acoustic sensor has potential applications in wearable voice recognition devices for the Internet of Things (IoT) and human-machine interfaces. The research team plans to create auditory electronic skin by integrating it with skin-attachable pressure and temperature sensors, flexible displays, and others.