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PERMEABLE MICRO-LACE ELECTRODES FOR ELECTRODERMAL ACTIVITY

Tech ID: 33554 / UC Case 2024-131-0

PATENT STATUS

Patent Pending

BRIEF DESCRIPTION

Electrodermal activity (EDA) has traditionally been used for monitoring mental activity by measuring skin conductance (SkinG) at locations with

high sweat gland density. However, EDA has not been considered useful for physical activity due to baseline shifts caused by sweat

accumulation at the skin/electrode interface.

SUGGESTED USES

Measure SkinG at specific locations with high sweat gland density, such as the fingers, to monitor mental activity. Use water-permeable lace electrodes and multimodal sweat sensors to measure SkinG at the wrist, forearm, and upper arm, which reflect physical activity Measure SkinG at two different sites simultaneously to decouple mental and physical activities.

ADVANTAGES

Mental Activity Monitoring: Provides accurate monitoring of mental activity by focusing on specific high-density sweat gland locations. Physical Activity Monitoring: Introduces a novel method for using EDA as a proxy for sweat rate, enhancing the accuracy of physical activity monitoring.

Simultaneous Monitoring: Offers a robust and reusable physiological activity monitoring platform that can selectively decouple mental and physical activities, improving the accuracy of clinical studies.

RELATED MATERIALS

CONTACT

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Permalink

INVENTORS

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OTHER INFORMATION

KEYWORDS

permeable electrode, electrodermal

activity, physical activity, mental

activity, EDA

CATEGORIZED AS

» Engineering

>> Engineering

» Materials & Chemicals

» Nanomaterials

» Medical

» Devices

» Diagnostics

» Other

» Research Tools

» Screening

» Nanotechnology

» Materials

» NanoBio

RELATED CASES

2024-131-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Spectral Kernel Machines With Electrically Tunable Photodetectors
- Enhancing Photoluminescence Quantum Yield for High Performance Optoelectrics
- Chemical-Sensitive Field-Effect Transistor



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