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A Novel High-Resolution EEG Signal Acquisition System With A Unique EEG Cap Array

Tech ID: 34417 / UC Case 2021-742-0

BRIEF DESCRIPTION

A breakthrough one-wire EEG cap with embedded electrode chips provides ultra-sensitive, noise-immune, wide-band brain signal acquisition. It enables non-invasive, real-time, high-resolution recording using dry electrodes, ideal for wearable and clinical neuro-technology applications.

FULL DESCRIPTION

This non-invasive EEG system integrates miniaturized built-in-electrode chips within each electrode, forming a single-wire digital array capable of capturing wide-band brain activity with exceptional sensitivity and stability. Its twisted differential feedback topology and narrow-band amplification make dry-electrode, portable, high-resolution neural monitoring practical for real-world applications.

SUGGESTED USES

- » Wearable brain-computer interfaces (BCI) for motor rehabilitation and neuro-feedback.
- » Clinical monitoring and diagnostics for epilepsy, anesthesia, and neurodegenerative disorders.
- » Consumer neuro-technology for attention tracking, cognitive enhancement, and home-based EEG monitoring.

ADVANTAGES

- » High-resolution recording of wide-band (including high-frequency) brain signals.
- » One-wire digital architecture simplifies setup and enhances portability.
- » Dynamic referencing and artifact suppression deliver cleaner, real-time EEG data.

PATENT STATUS

Country	Type	Number	Dated	Case
Patent Cooperation Treaty	Reference for National Filings	WO 2022/125773	06/16/2022	2021-742

Patent Pending

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OTHER INFORMATION

CATEGORIZED AS

- » **Biotechnology**
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