



CLOSED-LOOP SIMULTANEOUS FUNCTIONAL MAGNETIC RESONANCE IMAGING (fMRI)-ELECTROENCEPHALOGRAPH (EEG)-TRANSCRANIAL MAGNETIC STIMULATION (TMS) SYSTEM

[View U.S. Patent Application Publication No. US-2023-0143233 in PDF format.](#)

WARF: P220208US02

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The Invention

This case is joint and was filed by Columbia University. A UW researcher, in collaboration with researchers from Columbia University and Medical University of South Carolina, have created a system and methods for simultaneous functional magnetic resonance imaging (fMRI)-electroencephalogram (EEG)-transcranial magnetic stimulation (TMS). The innovation includes techniques for identifying or determining alpha phase in brain of patients who suffer from depressive disorder, through acquiring and analyzing data, stimulation, and subsequent application of a guided and modified stimulation to patients. The methods include closed-loop simultaneous functional magnetic resonance 1magmg (fMRI)- electroencephalogram (EEG)-transcranial magnetic stimulation (TMS).

Tech Fields

- [Medical Devices : Neurological devices](#)
- [Medical Imaging : MRI](#)

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