sensors

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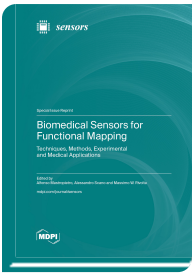
Special Issue Reprint

Biomedical Sensors for Functional Mapping: Techniques, Methods, Experimental and Medical Applications



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Biomedical sensors stand at the forefront of modern medical technologies, serving as indispensable components in diverse instruments and equipment. These sensors unravel the intricacies of biological processes and medical interventions. The recent surge in high-density sensor systems, characterized by arrangements in matrix arrays and other configurations, has ushered in a new era of functional evaluation. This spans electrophysiological activity, the metabolic responses of organs and tissues, and motor control analysis, all enriched with crucial spatial information. Functional mapping, a burgeoning approach in various biomedical techniques such as EEG, EMG, ECG, NIRS, and MEG, is proving to be transformative. Its integration enhances our comprehension of complex biological behaviors, where the precise spatial localization of sensing methodologies becomes paramount. The applications of functional mapping using biomedical sensors extend across multiple fields, including neuroscience, neuromuscular physiology, rehabilitation, and cardiology. Its utility ranges from diagnostic purposes to assessing the effectiveness of therapeutic interventions. The primary objective of this reprint was to collect papers that delineate the forefront of techniques, methods, and applications in the realm of biomedical sensors. Additionally, the focus extends to specific algorithms for data processing, ensuring a robust understanding of functional information intricately n spatial localization.

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