



EEG - fMRI: Physiological Basis, Technique, and Applications

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Functional magnetic resonance imaging (fMRI) and Electronecephalography (EEG) are very important and complementary modalities since fMRI offers high spatial resolution and EEG is a direct measurement of neuronal activity with high temporal resolution. Interest in the integration of both types of data is growing rapidly as it promises to provide important new insights into human brain activity as it has already done so in the field of epilepsy. The availability of good quality instrumentation capable of providing interference-free data in both modalities means that electrophysiological and haemodynamic characteristics of individual brain events can be captured for the first time. Consequently, it seems certain that the integration of fMRI and EEG will play an increasing role in neuroscience and of the clinical study of brain disorders such as epilepsy.

The proposed book will discuss in detail the physiological principles, practical aspects of measurement, artefact reduction and analysis and also applications of the integration of fMRI and EEG. All applications, which are mainly in the fields of sleep research, cognitive neuroscience and clinical use in neurology and psychiatry will be reviewed.

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Editorial Review

Review

From the reviews: “The editors have gathered an excellent group of authors to contribute highly technical and up-to-date chapters on the highly specialized technique of EEG-fMRI. ... This book will be helpful to readers interested in the technique and in cognitive neurosciences. It will be useful for anyone interested in learning more about this technique and can easily be used by all levels of learners or practitioners. ... I would recommend it to interested readers.” (Joseph F. Drazkowski, Doody’s Review Service, March, 2010)

From the Back Cover

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Users Review

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