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Using of the interictal EEGs for epilepsy diagnosing

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Abstract

© Published under licence by IOP Publishing Ltd. In this work we apply a new method to determine the differences in characteristics of the cortical electroencephalographic (EEG) activity, measured during interictal stage (i.e., period between seizures), between healthy subjects and patients with epilepsy. To analyze the dynamical and spectral properties of bioelectric activity we use power spectra and phase portraits which are introduced on the basis of the Memory Function Formalism (MFF). We discover the significant differences in the types of power spectra of the EEG for healthy subjects and patients. We reveal the cerebral cortex areas for which the EEG activity of considered groups of subjects has a different structure of the phase portraits. The proposed approach can be used as an additional method for diagnosis of epilepsy during interictal stage.

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