

Strong memory in time series of human magnetoencephalograms can identify photosensitive epilepsy

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Abstract

To discuss the salient role of statistical memory effects in human brain functioning, we have analyzed a set of stochastic memory quantifiers that reflects the dynamical characteristics of neuromagnetic responses of magnetoencephalographic signals to a flickering stimulus of different color combinations from a group of control subjects, and compared them with those for a patient with photosensitive epilepsy. We have discovered that the emergence of strong memory and the accompanying transition to a regular and robust regime of chaotic behavior of signals in separate areas for a patient most likely identifies the regions where the protective mechanism against the occurrence of photosensitive epilepsy is located. © Nauka/Interperiodica 2007.

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