

Complex Behavior in an Integrate-and-Fire Neuron Model Based on Small World Networks

LIN Min and CHEN Tian-Lun

Department of Physics, Nankai University, Tianjin 300071, China
(Received: 2004-12-15; Revised:)

Abstract: Based on our previously pulse-coupled integrate-and-fire neuron model in small world networks, we investigate the complex behavior of electroencephalographic (EEG)-like activities produced by such a model. We find EEG-like activities have obvious chaotic characteristics. We also analyze the complex behaviors of EEG-like signals, such as spectral analysis, reconstruction of the phase space, the correlation dimension, and so on.

PACS: 05.45.Tp, 87.10.+e

Key words: self-organized criticality, EEG-like waveform, edge of chaos

[\[Full text: PDF\]](#)

Close