

Название публикации:

Nonlinear Dynamics, Quasi-Periodic Summation, Self-Oscillating Processes, and Information Coding in Selective Spiking Neural Networks

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Аннотация:

Abstract: Nonlinear dynamics, physical processes, and information processing in selective spiking neurons are investigated. Summation of pulse inputs are considered on the basis of the theory of quasi-periodic functions and nonlinear transformation via relaxation of the self-oscillating system of a neuron. A way of encoding input information is also considered in which the information unit is a pulse sequence, and the intensity of the input signal is encoded by a synchronous change in the frequency of the pulse sequences. © 2018, Allerton Press, Inc.

Ключевые слова:

Information coding, Non-linear transformations, Physical process, Pulse sequence, Self-oscillating process, Self-oscillating systems, Spiking neural networks, Spiking neuron