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Hindmarsh-Rose神经模型的混沌控制

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应用稳定性准则的混沌控制方法控制单个Hindmarsh-Rose神经元模型的混沌发放峰序列和混沌爆发运动。通过对膜电压的非线性连续-时间反馈干扰的输入，将混沌运动控制到5峰/爆发（5spikes/burst）轨道上，该轨道嵌入在混沌吸引子内。数值模拟结果显示该方法在控制HR神经元模型方面是有效的。

Chaotic control of the Hindmarsh-Rose neuron model

A method of chaos control based on stability criterion was applied to control chaotic spike trains and chaotic bursting of individual Hindmarsh-Rose neuron model. The chaotic orbit was stabilized on 5spikes/burst orbit embedded in the chaotic attractor by an input of the nonlinear time-continuous feedback perturbation to membrane potential. The numerical simulation showed that this method was effective on controlling Hindmarsh-Rose neuron model.

关键词