

Synchronization and Asynchronization in Two Coupled Excitable Systems

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(Received: 2004-7-26; Revised:)

Abstract: The synchronization and asynchronization of two coupled excitable systems are investigated. The two systems with different initial configurations, which are separately a single spiral wave (or a travel wave) and the rest state, can be developed to the synchronizing state with the same spiral wave (or travel wave) in each system, when the coupling is very strong. Decreasing the coupling intensity, two rest states or two different configurations appear in the two systems. The qualitative analysis and interpretation are given.

PACS: 05.45.Xt, 05.45.Pq, 05.45.Jn

Key words: excitable system, spiral wave, synchronization

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