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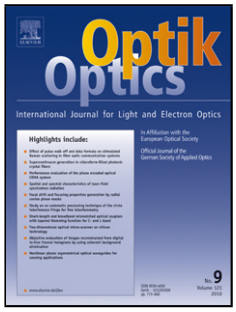

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Adaptive dual anti–synchronization of chaotic systems with fully uncertain parameters

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Abstract

In this paper, an adaptive control scheme is developed to study the dual anti-synchronization behavior between two chaotic systems with fully uncertain parameters. This adaptive anti–synchronization controller is designed based on Lyapunov stability theory and an analytic expression of the controller with its adaptive laws of parameters is shown. The adaptive dual anti–synchronization between two chaotic systems are taken to show the effectiveness of the proposed method. Theoretical analysis and numerical simulations are shown to verify the results.

Key words:
Dual anti–synchronization; Adaptive control; Uncertain parameters; Lyapunov stability theory.

1 Introduction

The applications of chaotic and hyperchaotic systems are bountiful all around us and its interest is fast gaining momentum. The science of chaos is an interdisciplinary field

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