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Synchronization of Different Hyperchaotic Maps for Encryption

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Abstract: In this paper, the synchronization problem of different hyperchaotic maps is presented. In particular, we appeal to model-matching approach from nonlinear control theory to synchronize the otputs of the coupled Rössler and Hénon hyperchaotic maps. An application to secure communication of confidential information is also given. By using a hyperchaotic encryption scheme, we show that output synchronization of different hyperchaotic maps is indeed suitable for encryption, transmission, and decryption of confidential information which can be implemented for use in computer communication.

Keywords: *Synchronization; hyperchaotic maps; model-matching problem; secure communication.*

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