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Study on Proportional Synchronization of Hyperchaotic Circuit System

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Abstract: In this paper, the proportional synchronization between drive system and response system is achieved by using the concept of generalized synchronization. The phase space of all variables in response system can be expanded and compressed flexibly. Meanwhile, the 6-D hyperchaotic chua's circuit is considered as an illustrative example to demonstrate the effectiveness of the proposed approach. Furthermore, focusing on the shortcoming of the long transient behavior during the process of synchronization, a feedback method is adopted to shorten the transitional time of synchronization, which will provide an effective way for speeding up the transmitting velocity of code in chaotic multiple access communication.

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