

Synchronization of time-delayed diffusively coupled systems: an experimental case study with Hindmarsh-Rose oscillators

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We discuss synchronization in networks of systems that are interconnected via diffusive coupling. We present theoretical results for a general class of nonlinear systems that are interacting with or without time-delay. These theoretical results are supported by experiments with a setup consisting of sixteen electronic Hindmarsh-Rose neurons. The experiments are performed for the non-delayed case as well as the situation where interaction delay is explicitly taken into account. We will focus in particular on the influence of the network topology on the synchronization in case of delayed interactions.

References

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