Projective Lag Synchronization in Drive-Response Dynamical Networks via Hybrid Feedback Control

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Abstract : This paper investigates projective lag synchronization (PLS) behavior in drive response dynamical networks (DRDNs) model with identical nodes. A hybrid feedback control method is designed to achieve the PLS with mismatch and without mismatch terms. The stability of the error dynamics is proven theoretically using the Lyapunov stability theory. Finally, analytical results show that the states of the dynamical network with non-delayed coupling can be asymptotically synchronized onto a desired scaling factor under the designed controller. Moreover, the numerical simulations results demonstrate the validity of the proposed method.

Keywords : drive-response dynamical network, projective lag synchronization, hybrid feedback control, stability theory **Conference Title :** ICEMA 2014 : International Conference on Engineering Mathematics and Applications

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