

Exponential State Estimation for Neural Networks with Leakage, Discrete and Distributed Delays

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Abstract : In this paper, the design problem of state estimator for neural networks with the mixed time-varying delays are investigated by constructing appropriate Lyapunov-Krasovskii functionals and using some effective mathematical techniques. In order to derive several conditions to guarantee the estimation error systems to be globally exponential stable, we transform the considered systems into the neural-type time-delay systems. Then with a set of linear inequalities(LMIs), we can obtain the stable criteria. Finally, three numerical examples are given to show the effectiveness and less conservatism of the proposed criterion.

Keywords : State estimator, Neural networks, Globally exponential stability

Conference Title : ICEP 2014 : International Conference on Electronic Publications

Conference Location : journal city, WASET

Conference Dates : November 23-23, 2014