International Journal of Electronics and Communication Engineering
Vol:8, No:11, 2014

Stability Criteria for Neural Networks with Two Additive Time-varying Delay Components

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Abstract : This paper is concerned with the stability problem with two additive time-varying delay components. By choosing one augmented Lyapunov-Krasovskii functional, using some new zero equalities, and combining linear matrix inequalities (LMI) techniques, two new sufficient criteria ensuring the global stability asymptotic stability of DNNs is obtained. These stability criteria are present in terms of linear matrix inequalities and can be easily checked. Finally, some examples are showed to demonstrate the effectiveness and less conservatism of the proposed method.

Keywords : Neural networks, Globally asymptotic stability, LMI approach, Additive time-varying delays.
Conference Title : ICEP 2014 : International Conference on Electronic Publications
Conference Location : journal city, WASET
Conference Dates : November 23-23, 2014