Delay-dependent Stability Analysis for Neural Networks with Distributed Delays

Authors : Qingqing Wang and Shouming Zhong

Abstract : This paper deals with the problem of delay-dependent stability of neural networks with distributed delays. Some new sufficient condition are derived by constructing a novel Lyapunov-Krasovskii functional approach. The criteria are formulated in terms of a set of linear matrix inequalities, this is convenient for numerically checking the system stability using the powerful MATLAB LMI Toolbox. Moreover, in order to show the stability condition in this paper gives much less conservative results than those in the literature, numerical examples are considered.