NEW CRITERIA FOR STABILITY AND STABILIZATION OF NEURAL NETWORKS WITH MIXED INTERVAL TIME-VARYING DELAYS

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TÓM TẮT:

This paper considers the global exponential stability and stabilization for aclass of neural networks with mixed interval time-varying delays. The time delay is as-sumed to be a continuous function belonging to a given interval, but not necessary to bedifferentiable. By constructing a set of new Lyapunov-Krasovskii functionals combinedwith Newton-Leibniz formula, new delay-dependent criteria for exponential stabilityand stabilization of the system are established in terms of linear matrix inequalities(LMIs), which allows to compute simultaneously the two bounds that characterize theexponential stability of the solution. Numerical examples are included to illustrate theeffectiveness of the results.