



Robust Stability for Nonlinear Uncertain Neural Networks with Delay

X.Y. Lou* and B.T. Cui

*Research Center of Control Science and Engineering, Jiangnan University
1800 Lihu Rd., Wuxi, Jiangsu 214122, P.R.China*

Received: August 17, 2006; Revised: August 27, 2007

Abstract: The robust stability of nonlinear uncertain neural networks with constant or time-varying delays is studied. An approach combining the Lyapunov-Krasovskii functional with the linear matrix inequality is taken to study the problems. Some criteria for robust stability of neural networks with time delays are derived.

Keywords: *Nonlinear uncertain neural network; delay; robust stability; linear matrix inequality; Lyapunov-Krasovskii functional*

Mathematics Subject Classification (2000): 93C10, 92B20