**Abstract**

This paper concerns the problem of H∞ state estimation ofdiscrete-time Markov jump neural networks with general transition probabilities and output quantization. In terms of a Markov chain,the event of mode switching at various times is considered in boththe parameters and the discrete delays of the neural networks. Thestate estimation is analyzed when the information is transmitted overa digital communication channel. In this concern the design of thequantizer and the estimator is jointly investigated. The purpose of theconcerned problem is to design a mode-dependent state estimatorsuch that the network states are estimated through availableoutput measurements such that the dynamics of the estimationerror is stochastically stable. Novel Lyapunov–Krasovskii functionalis constructed and sufficient constraints are derived in terms of linearmatrix inequalities such that the existence of the desired estimatoris assured. The effectiveness of the proposed approach is illustratedthrough a simulation example.