

# Markovian Jumping Parameters for Takagi-Sugeno Fuzzy Delayed Neural Networks

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## ABSTRACT

We are dealt with state estimation of Takagi-Sugeno fuzzy delayed neural networks with Markovian jumping parameters along with sampled data control. Depending on the fuzzy model-based control approach and linear matrix inequality technique. Various new constraints are obtained to guarantee the stability of the suggested system. A new class of Lyapunov functional, comprising of integral terms is established to obtain delay dependent stability criteria. Few attributes of the sampling input delay are being put forward depending on the input delay approach. Numerical samples are given to emphasize the adequacy and efficacy of the proposed theoretical results.

**Keywords:** T-S Fuzzy neural network, linear matrix inequality, sample data control

