OBSERVER-BASED OUTPUT FEEDBACK CONTROL FOR UNCERTAIN T-S FUZZY SYSTEMS WITH TIME-DELAY

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Abstract

In this paper, we consider the stability analysis for uncertain systems with time-delay when the states are unmeasurable. Takagi-Sugeno (T-S) fuzzy model is used to describe this kind of systems. Based on Lyapunov approach, new delay-independent stability conditions are derived, then a design method of the observer-based output feedback controller is proposed. All the results are presented in terms of linear matrix inequalities (LMIs). A numerical example is given to demonstrate the effectiveness of our method.