عنوان مقاله:

Nonlinear simultaneous stabilization based on TS fuzzy modeling

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خلاصه مقاله:

In this paper, the problem of simultaneous stabilization of nonlinear systems is proposed by using the Takagi-Sugeno (TS) fuzzy modeling and synthesis approach. This problem refers to stabilization of some nonlinear plants by utilizing a single nonlinear controller. Both state and output feedback controllers are designed based on the PDC concept and by solving some linear matrix inequalities (LMIs). Furthermore, to inherent sufficiency of TS fuzzy model with quadratic Lyapunov function, some conservatism sources including using common Lyapunov function and restrictive equality conditions are considered.

کلمات کلیدی:

Lyapunov function, fuzzy system, Simultaneous stabilization, Nonlinear control

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