## **Full Title of Your Paper**

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ABSTRACT. *Please write down the abstract of your paper here....* **Keywords:** Please write down the keywords of your paper here, such as, Intelligent information, System control

1. Introduction. Please write down the Introduction of your paper here....

2. **Problem Statement and Preliminaries.** Please write down your section. When you cite some references, please give numbers, such as, ... In the work of [1-3,5], the problem of... For more results on this topic, we refer readers to [1,4,5] and the references therein....

Examples for writing definition, lemma, theorem, corollary, example, remark.

**Definition 2.1.** System (1) is stable if and only if...

Lemma 2.1. If system (1) is stable, then...

**Theorem 2.1.** *Consider system (1) with the control law...* **Proof:** Let...

**Corollary 2.1.** If there is no uncertainty in system (1), i.e.,  $\triangle A = 0$ , then...

Remark 2.1. It should be noted that the result in Theorem 2.1...

Example 2.1. Let us consider the following example...

$$\ddot{y} x(t) = Ax(t) + Bu(t) + B_1w(t)$$
 (1)  
 $y(t) = Cx(t) + Du(t) + D_1w(t)$  (2)

.....

3. Main Results. Here are the main results in this paper... Definition 3.1. *System (3) is stable if and only if...* 

**Lemma 3.1.** *If system (3)-(4) is stable, then...* 

$$\ddot{y} x(t) = Ax(t) + Bu(t) + B_{1}w(t)$$
(3)  
 $y(t) = Cx(t) + Du(t) + D_{1}w(t)$ 
(4)

**Theorem 3.1.** *Consider system (3) with the control law...* **Proof:** Let.... **Corollary 3.1.** If there is no uncertainty in system (3), i.e.,  $\triangle A = 0$ , then... **Remark 3.1.** It should be noted that the result in Theorem 2.1... Example 3.1. Let us consider the following example...

TABLE 1. Fuzzy rule table by FSTRM		
	$x_1/x_2$	$A_{21} \qquad \dots \qquad A_{2j} \qquad \dots \qquad A_{2k}$
	$A_{11}$	$w_1/y_1 \qquad \dots \qquad w_j/y_j \qquad \dots \qquad w_k/y_k$
	$A_{12}$	$w_{k+1}/y_{k+1}$ $w_{k+j}/y_{k+j}$ $w_{2k}/y_{2k}$
	$A_{1i}$	$\dots \qquad \dots \qquad \mathcal{W}_{(i-1)k+j} / \mathcal{Y}_{(i-1)k+j} \qquad \dots$
	$A_{1r}$	$W_{(i-1)k+1}/Y_{(r-1)k+1}$ $W_{rk}/Y_{rk}$

FOTDM

4. Control Design. In this section, we present...

$$\ddot{y} x(t) = Ax(t) + Bu(t) + B_1 w(t)$$
(5)  

$$v(t) = Cx(t) + Du(t) + D_1 w(t)$$
(6)

**Definition 4.1.** System (5) is stable if and only if...

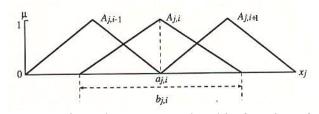


FIGURE 1. Triangular-type membership functions for  $x_i$ 

Lemma 4.1. If system (5) is stable, then...

**Theorem 4.1.** Consider system (5)-(6) with the control law... Proof: Let....

**Corollary 4.1.** If there is no uncertainty in system (5)-(6), i.e.,  $\triangle A = 0$ , then... Remark 4.1. It should be noted that the result in Theorem 2.1... **Example 4.1.** Let us consider the following example...

.....

.....

5. Conclusions. The conclusion of your paper is here...

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## REFERENCES

- [1] M. Mahmoud and P. Shi, Methodologies for Control of Jump Time-delay Systems, Kluwer Academic Publishers, Boston, 2003.
- [2] P. Shi, Limited Hamilton-Jacobi-Isaacs equations for singularly perturbed zero-sum dynamic (discrete time) games, SIAM J. Control and Optimization, vol.41, no.3, pp.826-850, 2002.

- [3] S. K. Nguang and P. Shi, Fuzzy H-infinity output feedback control of nonlinear systems under sampled measurements, *Automatica*, vol.39, no.12, pp.2169-2174, 2003.
- [4] E. K. Boukas, Z. Liu and P. Shi, Delay-dependent stability and output feedback stabilization of Markov jump systems with time-delay, *IEE-Part D, Control Theory and Applications*, vol.149, no.5, pp.379-386, 2002.
- [5] P. Shi, E. K. Boukas and R. K. Agarwal, H1 control of discrete-time linear uncertain systems with delayed-state, *Proc. of 37th IEEE Conference on Decision & Control*, Tampa, Florida, pp.4551-4552, 1998.