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Delay-Dependent Robust H/sub ∞/ Filtering for Time-Delay Systems with Markov Jumps

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Abstract

This paper deals with the problem of robust H/sub ∞/ filtering for a class of jump linear continuous-time systems with delay dependence. The problem aims at designing a stable linear filtering assuring asymptotic stability and a prescribed H/sub ∞/ performance level for the filtering error system, respective of the time delays. A sufficient condition for the existence of such a filter is developed in terms of linear matrix inequalities. A numerical example demonstrates the validity of the theoretical results.

Key words: Time-dependent;Time-delay;Linear matrix inequality (LMI); Robust;Continuous time;Filter