

Delay-depended H_∞ control problem for linear neutral systems

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Abstract

In this paper H_∞ control problem for a class of neutral systems with discrete and distributed time delays is considered. Delay-independent and delay-depended sufficient conditions are provided for designing memoryless state-feedback controller which stabilizes uncertain neutral system under consideration and guarantees an H_∞ -norm bound constraint on the disturbance attenuation for all admissible uncertainties and unknown state delays. These conditions are written in terms of Linear Matrix inequalities (LMIs). Some numerical examples are given to illustrate the solution.