

Delay-Independent Closed-Loop Stabilization of Neutral System with Infinite Delays

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Abstract : In this paper, the problem of stability and stabilization for neutral delay-differential systems with infinite delay is investigated. Using Lyapunov method, new delay-independent sufficient condition for the stability of neutral systems with infinite delay is obtained in terms of linear matrix inequality (LMI). Memory-less state feedback controllers are then designed for the stabilization of the system using the feasible solution of the resulting LMI, which are easily solved using any optimization algorithms. Numerical examples are given to illustrate the results of the proposed methods.

Keywords : infinite delays, Lyapunov method, linear matrix inequality, neutral systems, stability

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