

H-infinity Control: Classical Results and Recent Advances

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Abstract

Dynamical systems are often subject to uncertainties in the data or disturbances that influence the behavior of their solution trajectories. To guarantee robustness and to minimize the influence of disturbances, the concept of H-infinity control has been introduced. It consists of constructing controllers that minimize the H-infinity norm of the closed-loop transfer function. In this talk, I will review some classical results such as controller synthesis using Riccati equations and fixed-order controller design by non-smooth optimization. Later, I will present some new results on computing the H-infinity norm and its application in controller design for delay systems.