

论文

ROBUST STABILITY WITH GUARANTEEING COST FOR DISCRETE TIME-DELAY SYSTEMS WITH NONLINEAR PERTURBATION

JIA Xinchun(1), ZHENG Nanning(2), LIU Yuehu(2)

(1)Department of Mathematics, Shanxi University, Taiyuan 030006, China; Institute of Artificial Intelligence and Robotics, Xi'an Jiaotong University, Xi'an 710049, China;(2)Institute of Artificial Intelligence and Robotics, Xi'an Jiaotong University, Xi'an 710049, China

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摘要 The problems of robust stability and robust stability with a

guaranteeing cost for discrete time-delay systems with nonlinear

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stability is established in an LMI framework and a linear convex

optimization problem with LMI constraints for computing maximal

perturbation bound is proposed. Meanwhile, a sufficient criterion

for robust stability with a guaranteeing cost for such systems is

obtained, and an optimal procedure for decreasing the value of

guaranteeing cost is put forward. Two examples are used to

illustrate the efficiency of the results.

关键词 [Robust stability, discrete time-delay sy](#)

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Abstract The problems of robust stability and robust stability with a guaranteeing cost for discrete time-delay systems with nonlinear perturbation are discussed. A sufficient criterion for robust stability is established in an LMI framework and a linear convex optimization problem with LMI constraints for computing maximal perturbation bound is proposed. Meanwhile, a sufficient criterion for robust stability with a guaranteeing cost for such systems is obtained, and an optimal procedure for decreasing the value of guaranteeing cost is put forward. Two examples are used to illustrate the efficiency of the results.

Key words [Robust stability](#) [discrete time-delay system](#) [non-linear perturbation](#) [guaranteeing cost](#) [LMI apprao](#)

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