短文

基于切换逻辑的非线性系统自适应鲁棒控制器设计

马博军, 方勇纯, 肖潇

南开大学机器人与信息自动化研究所 天津 300071

摘要

In this paper, a switching logic-based adaptive robust control is proposed for a class of nonlinearly parameterized systems (NPS). Specifically, the controller mainly consists of a robust type term to address the system uncertainty, and a switching logic tuning mechanism to update the involved control gain. The constructed controller achieves a global uniformly ultimate boundedness (GUUB) result for the system errors, and simulation results are included to demonstrate the effectiveness of the control law.

关键词　　Nonlinear system　switching logic　adaptive robust control　uncertain system

分类号

扩展功能
本文信息
▸ Supporting info
▸ PDF(310KB)
▸ [HTML全文](0KB)
▸ 参考文献[PDF]
▸ 参考文献
服务与反馈
▸ 把本文推荐给朋友
▸ 加入我的书架
▸ 加入引用管理器
▸ 复制索引
▸ Email Alert
▸ 文章反馈
▸ 浏览反馈信息
相关信息
▸ 本刊中 包含 "Nonlinear system"的 相关文章
▸本文作者相关文章
· 马博军
· 方勇纯
· 肖潇

Switching Logic-based Adaptive Robust Control of Nonlinearly Parameterized Uncertain Systems

MA Bo-Jun, FANG Yong-Chun, XIAO Xiao

Institute of Robotics and Automatic Information System, Nankai University, Tianjin 300071, P. R. China

Abstract

In this paper, a switching logic-based adaptive robust control is proposed for a class of nonlinearly parameterized systems (NPS). Specifically, the controller mainly consists of a robust type term to address the system uncertainty, and a switching logic tuning mechanism to update the involved control gain. The constructed controller achieves a global uniformly ultimate boundedness (GUUB) result for the system errors, and simulation results are included to demonstrate the effectiveness of the control law.

Key words　　Nonlinear system　switching logic　adaptive robust control　uncertain system

通讯作者　方勇纯 yfang@robot.nankai.edu.cn

作者个人主页　马博军; 方勇纯; 肖潇