

Output Feedback Control for MIMO Nonlinear Systems with Exogenous Signals

Ying Zhou(1), Yuqiang Wu(2)

(1)Research Institute of Automation, Southeast University, Nanjing, 210096, China;(2) Institute of Automation, Qufu Normal University, Qufu, 273165, China

收稿日期 修回日期 网络版发布日期 接受日期

摘要 The paper addresses the global output tracking of a class of multi-input multi-output (MIMO) nonlinear systems affected by disturbances, which are generated by a known exosystem. An adaptive controller is designed based on the proposed observer and the backstepping approach to asymptotically track arbitrary reference signal and to guarantee the boundedness of all the signals in the closed loop system. Finally, the numerical simulation results illustrate the effectiveness of the proposed scheme.

关键词 [Backstepping method, exogenous signals, multi-input multi-output nonlinear, output feedback control](#)

分类号

Output Feedback Control for MIMO Nonlinear Systems with Exogenous Signals

Ying Zhou(1), Yuqiang Wu(2)

(1)Research Institute of Automation, Southeast University, Nanjing, 210096, China;(2) Institute of Automation, Qufu Normal University, Qufu, 273165, China

Abstract The paper addresses the global output tracking of a class of multi-input multi-output (MIMO) nonlinear systems affected by disturbances, which are generated by a known exosystem. An adaptive controller is designed based on the proposed observer and the backstepping approach to asymptotically track arbitrary reference signal and to guarantee the boundedness of all the signals in the closed loop system. Finally, the numerical simulation results illustrate the effectiveness of the proposed scheme.

Key words [Backstepping method](#) [exogenous signals](#) [multi-input multi-output nonlinear](#) [output feedback control](#)

DOI: 10.1007/s11424-006-0274-2

通讯作者

扩展功能

本文信息

- ▶ [Supporting info](#)
- ▶ [PDF\(0KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [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 “[Backstepping method, exogenous signals, multi-input multi-output nonlinear, output feedback control](#)”的 [相关文章](#)
- ▶ 本文作者相关文章

- [Ying Zhou](#)
- [Yuqiang Wu](#)