

控制与决策 > 2012, Vol. 27 > Issue (6): 875-880 DOI:

论文

最新目录 | 下期目录 | 过刊浏览 | 高级检索

[an error occurred while processing this directive]][an error occurred while processing this directive]

具有局部已知转移概率的连续时间Markov 跳跃线性系统
稳定性分析和镇定的新方法

沈谋全

东北大学信息科学与工程学院

A new approach of stability analysis and stabilization for continuous-time
Markov jump linear system with partly known transition probabilities

摘要

图/表

参考文献(0)

相关文章(0)

全文: PDF (181 KB) HTML (1 KB)

输出: BibTeX | EndNote (RIS) 背景资料

摘要

考虑转移概率为部分已知情形下的连续时间Markov 跳跃系统的稳定性和镇定问题。通过充分利用转移概率的边界信息,将现有文献中局部已知转移概率的定义进行了推广。通过充分使用连续时间Markov 跳跃线性系统转移概率矩阵行和为零的性质,得到了新的基于线性矩阵不等式的稳定性分析和状态反馈镇定条件。当转移概率为完全已知时,所给出的条件便退化为现有文献的结果。最后,仿真算例表明了所给出方法的有效性。

关键词 : Markov 跳跃线性系统 ; 部分已知转移概率 ; 参数依赖Lyapunov 函数 ; 线性矩阵不等式

Abstract :

This paper considers the stability analysis and stabilization of continuous-time Markov jump linear systems(MJLSs) with partly known transition probabilities. According to the bounds of transition probabilities, the partly known transition probabilities considered cover the cases of known, unknown with known bounds and completely unknown.

New sufficient conditions which can be applied to stability analysis and stabilization for the considered system are obtained

in terms of LMIs. In the case that the transition probabilities are known, the results proposed are reduced to the existing ones.

Finally, a numerical example verifies the effectiveness of the proposed method.

Key words : Markov jump linear systems ; partly known transition probabilities ; parameter dependent Lyapunov function ; linear matrix inequalities

收稿日期: 2011-01-05 出版日期: 2012-06-04

通讯作者: 沈谋全 E-mail: mouquanshen@gmail.com

引用本文:

沈谋全. 具有局部已知转移概率的连续时间Markov 跳跃线性系统稳定性分析和镇定的新方法[J]. 控制与决策, 2012, 27(6): 875-880.

链接本文:

<http://www.kzyjc.net:8080/CN/> 或 <http://www.kzyjc.net:8080/CN/Y2012/V27/I6/875>

服务

- ▶ 把本文推荐给朋友
- ▶ 加入我的书架
- ▶ 加入引用管理器
- ▶ E-mail Alert
- ▶ RSS

作者相关文章

- ▶ 沈谋全

版权所有 © 《控制与决策》编辑部

本系统由北京玛格泰克科技发展有限公司设计开发 技术支持 : support@magtech.com.cn 51La