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自治非光滑时滞系统的有限时间稳定

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Finite Time Stability of Autonomous Nonsmooth Systems With Time-delays

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摘要 主要讨论右端非光滑的自治时滞系统在 Filippov解意义下的有限时间稳定问题. 基于Filippov微分包含和非光滑的Lyapunov-Krasovskii泛函, 提出自治非光滑时滞系统有限时间稳定的定义和比较原理,并给出有限时间稳定的Lyapunov定理.

关键词： 非光滑系统 时滞系统 Filippov解 有限时间稳定

Abstract： It is mainly discussed finite time stability of autonomous systems with nonsmooth right-hand sides (in the sense of Filippov solutions) with time-delay. The definition of finite time stability of retarded nonsmooth systems and comparison principle are presented. Based on Filippov differential inclusions and nonsmooth Lyapunov-Krasovkii functional, Lyapunov theorem for finite time stability of retarded nonsmooth systems is shown.

Key words： nonsmooth systems ratarded systems Filippov solutions finite time stability

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