控制科学与工程

一类中立型不确定变时滞系统的稳定性新判据

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摘要：

研究了一类变时滞中立型系统的稳定性问题.采用自由权矩阵和Moon不等式方法,通过构造一个新的Lyapunov-Krasovskii泛函推导出系统稳定的充分条件.与已有文献结果相比,系统中立项系数矩阵可以是不确定的,最后给出数值算例验证该方法的有效性.

关键词： 时变时滞;中立型系统;Lyapunov-Krasovskii泛函

New stability criterion for a class of uncertain   neutral systems with time-varying delay

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Abstract:

The stability of uncertain neural systems with time-varying delay was discussed. Making use of the theory of the Lyapunov-Krasovskii functional method, relaxation metrics and Moon inequality, the sufficient condition for stability was obtained, of which the system neural matrix was allowed to be uncertain and less conservative than the existing results. An example was proposed to illustrate the effectiveness of the obtained results.

Keywords: time-varying delay; neutral system; Lyapunov-Krasovskii functional

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