

随机延迟微分方程平衡方法的均方收敛性与稳定性

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MEAN-SQUARE CONVERGENCE AND STABILITY OF BALANCED METHOD FOR STOCHASTIC DELAY DIFFERENTIAL EQUATIONS

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摘要

本文讨论求解刚性随机延迟微分方程的平衡方法. 证明了随机延迟微分方程平衡方法的均方收敛阶为 $1/2$. 给出了线性随机延迟微分方程平衡方法均方稳定的条件.

关键词: 随机延迟微分方程 平衡方法 均方收敛性 稳定性

Abstract:

This paper investigates the balanced method for solving stiff stochastic delay differential equations. It is proved that the balanced method is mean-square convergent with strong order $1/2$. Moreover, we give mean-square stability condition of the balanced method for linear stochastic delay differential equations.

Key words: stochastic delay differential equations balanced method mean-square convergence stability

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