SPURIOUS NUMERICAL SOLUTIONS OF DELAY DIFFERENTIAL EQUATIONS

收稿日期 2005-1-1 修回日期 2005-9-21 网络版发布日期 接受日期

摘要

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分类号

SPURIOUS NUMERICAL SOLUTIONS OF DELAY DIFFERENTIAL EQUATIONS

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Abstract This paper deals with the relationship between asymptotic behavior of the numerical solution and that of the true solution itself for fixed step-sizes. The numerical solution is viewed as a dynamical system in which the step-size acts as a parameter. We present a unified approach to look for bifurcations from the steady solutions into spurious solutions as step-size varies.

Key words Spurious solution Asymptotic behavior Delay differential equation.

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