

50(2)

Bernfeld-Haddock猜想的推广形式及其证明

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摘要 本文研究一类时滞微分方程解的收敛性,这类方程是Bernfeld

和Haddock所提出的关于一个非线性时滞微分方程的每个解收敛于常数的一个猜想中的方程的推广形式,并具有重要的实际应用背景.

我们首先给出例子说明几篇现有文献关于此类方程及其它的几种推广形式的解的收敛性证明中存在的错误.然后,我们对这类方程解的收敛性在更弱的条件下给出了一个新的论证,修正并改进了已有的相应结论,也肯定了Bernfeld和Haddock猜想中结论的正确性.最后,由丁同仁教授撰写了一个附录,修正了在原有文献中对Bernfeld和Haddock猜想的证明中所出现的错误.

关键词 [Bernfeld--Haddock猜想](#) [时滞微分方程](#) [收敛性](#)

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A Generalization of the Bernfeld--Haddock Conjecture and Its Proof

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Abstract In this paper, we study the convergence of solutions of a class of delay differential equations. These equations have important practical applications and generalize those on which Bernfeld and Haddock conjectured that each solution of the equations tends to a constant. We first give an example to point out the errors in several existing works on the convergence of solutions of the equations as well as their generalizations. Then we confirm the Bernfeld-Haddock conjecture under weaker conditions. Our result corrects and improves the existing ones. An appendix by Professor Tongren Ding is also given to correct the mistakes in one of his works.

Key words [Bernfeld--Haddock conjecture](#) [delay differential equation](#) [convergence](#)

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