

论文

二阶含阻尼项椭圆型方程的区域振动准则

徐志庭, 邢鸿雁

华南师范大学数学系, 广东工业大学应用数学系

摘要:

籍用平均函数和积分算子, 对二阶含阻尼项椭圆型微分方程 $\sum_{i,j=1}^N \{D_i[a_{ij}(x)D_j\{y\}] + \sum_{i=1}^N b_i(x)D_i\{y\} + q(x)f(y) = 0$ 建立了一些区域振动准则, 这些准则不同于已知的依赖于整个区域 $\Omega(1)$ 的性质的结果, 而是仅依赖于区域 $\Omega(1)$ 的一列子区域的性质.

关键词: 区域振动, 二阶含阻尼项椭圆型微分方程, 平均函数; 积分算子

分类号:

35J60, 34C35

Domain Criteria for Oscillation of Second Order Damped Elliptic Equations

XU Zhi-Ting, GENG Hong-Yan-

Abstract:

By using average functions and integral operators, some domain oscillation criteria for second order damped elliptic equations are established, which are different from most known ones in the sense that they are based on the information only on a sequence of subdomains of $\Omega(1)$, rather than on the whole of $\Omega(1)$.

Keywords: Domain oscillation; Second order damped elliptic equations Averaging function Integral operator.

收稿日期 修回日期 网络版发布日期

DOI:

基金项目:

通讯作者:

作者简介:

参考文献:

[1] Gilbarg D, Trudinger N S. Elliptic Partial Differential Equations of Second Order. New York: Springer-Verlag, 1983

[2] Noussair E S, Swanson C A. Oscillation of semilinear elliptic inequalities by Riccati transformation. Canad J Math, 1980, 32(4): 908-923

[3] Wintner A. A criterion of oscillatory stability. Quart J Appl Math, 1948, 11(7): 115-117

[4] Swanson C A. Semilinear second order elliptic oscillation. Canad Math Bull, 1979, 22(2): 139-157

[5] Xu Z T, Ma D K, Jia B J. Oscillation for a class of elliptic differential equations of second order. Math Appl, 2003, 16(1): 42-48 (in Chinese)

[6] Philos Ch G. Oscillation theorems for linear differential equations of second order. Arch Math, 1989,

扩展功能

本文信息

- ▶ Supporting info
- ▶ PDF (349KB)
- ▶ [HTML全文]
- ▶ 参考文献

服务与反馈

- ▶ 把本文推荐给朋友
- ▶ 加入我的书架
- ▶ 加入引用管理器
- ▶ 引用本文
- ▶ Email Alert
- ▶ 文章反馈
- ▶ 浏览反馈信息

本文关键词相关文章

- ▶ 区域振动, 二阶含阻尼项椭圆型微分方程, 平均函数; 积分算子

本文作者相关文章

- ▶ 徐志庭
- ▶ 邢鸿雁

PubMed

- ▶ Article by Xu, Z. T.
- ▶ Article by Geng, H. Y. ?? articleId=0

[7]Kong Q. Interval criteria for oscillation of second order linear ordinary differential equations. J Math Anal Appl, 1999, 229(1) :258-270

[8]Kamenev I V. An integral criterion for oscillation of linear differential equations. Math Zamtki, 1978, 23(2): 249-251(in Russian)

本刊中的类似文章

文章评论 (请注意:本站实行文责自负, 请不要发表与学术无关的内容!评论内容不代表本站观点.)

| | | | |
|------|----------------------|------|---------------------------|
| 反馈人 | <input type="text"/> | 邮箱地址 | <input type="text"/> |
| 反馈标题 | <input type="text"/> | 验证码 | <input type="text"/> 8627 |