



## 具有非对称项 $p$ -Laplace 方程的无穷多解

(华南师范大学数学科学学院, 广东 广州 510631)

### Infinitely Many Solutions of $p$ -Laplacian Equations with a Nonsymmetric Term

(School of Mathematical Sciences, South China Normal University, Guangzhou 510631, China)

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**摘要** 讨论了有界区域上一类具有非对称扰动项的  $p$ -Laplace 方程. 利用对应的 Laplace 方程大 Morse 指标, 给出了该问题变分泛函极小极大值序列的一个下界估计, 这个估计在一定范围内优于已有的结论. 进而得到了无穷多个弱解的存在性.

**关键词:**  $p$ -Laplace 算子 大 Morse 指标 非奇性扰动 无穷多解

**Abstract:** A class of  $p$ -Laplace equation with a nonsymmetric term on a bounded domain is studied. By using the large Morse index of the corresponding Laplace equation, we give a growth estimate about the series of min-max values of associated functional for the problem. The estimate is better than the given result in some range. It is shown that the problem possesses infinitely many weak solutions.

**Key words:**  $p$ -Laplace equation large Morse index non-symmetric perturbation; infinitely many solutions

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**作者简介:** 耿堤(1956-), 男, 天津人, 华南师范大学数学科学学院教授, 博士, 主要从事偏微分方程和非线性泛函分析研究.

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电话传真：0743-8563684 E-mail: xb8563684@163.com 办公QQ: 1944107525

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