Vol.22(3)

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Wei Dong, Jian Tao CHEN

河北工程学院

摘要

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EXISTENCE AND MULTIPLICITY RESULTS FOR A DEGENERATE ELLIPTIC EQUATIONS

Wei DONG, Jian Tao CHEN

Hebei University of Engineering, Handan, Hebei 056021, China

Abstract The goal of this paper is to study the multiplicity result of positive solutions of a class of degenerate elliptic equations. On the basis of the mountain pass theorems and the sub- and supersolutions argument for p-Laplacian operators, under suitable conditions on the nonlinearity $f(x,s)$, we show the following problem: $$-\Delta _p u=\lambda u^{\alpha }-a(x)u^q\;,\;\mbox{in}\;\Omega,\;\;u|_{\partial \Omega }=0$$ possesses at least two positive solutions for large λ, where Ω is a bounded open subset of R^N, $N\geq 2$, with C^2 boundary, λ is a positive parameter, $\Delta _p$ is the p-Laplacian operator with $p>1$, α, q are given constants such that $p-1<\alpha <q$, and $a(x)$ is a continuous positive function in $\overline \Omega$.

通讯作者   Wei Dong wdongau@sina.com,wdongau@sina.com