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F. J. S. A. Corrêa

Dep de Matemática e Estatística, Universidade Federal de Campina Grande, 58.429-970
Campina Grande-Paraíba, Brazil
fjulio@ufpa.br

A. S. S. Corrêa

Faculdade de Matemática, Universidade Federal do Pará, 66.075-110-Belém-Pará, Brazil

J. R. Santos Junior

Faculdade de Matemática, Universidade Federal do Pará, 66.075-110-Belém-Pará, Brazil

Multiple Ordered Positive Solutions of an Elliptic Problem Involving the p - q -Laplacian

We are concerned with questions of existence and multiplicity of positive solutions of the elliptic problem

$$(P_\lambda) \quad \begin{cases} -\operatorname{div} (\mathcal{K}(|\nabla u|^p)|\nabla u|^{p-2}\nabla u) = \lambda f(u) & \text{in } \Omega, \\ u = 0 & \text{on } \partial\Omega \end{cases}$$

with $1 < p < \infty$, where $\Omega \subset \mathbb{R}^N$ is a bounded smooth domain, λ is a positive real parameter, $\mathcal{K} : \mathbb{R}^+ \rightarrow \mathbb{R}^+$ is a C^1 -function and $f : \mathbb{R} \rightarrow \mathbb{R}$ is a continuous functions which changes sign. We use variational methods.

Keywords: Laplacian, variational methods, multiplicity of positive solutions.

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