

عنوان مقاله:

Existence and multiplicity results for the $p(x)$ -Laplacian system

محل انتشار:

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خلاصه مقاله:

This paper deals with the existence and multiplicity of nontrivial weak solutions for the following system involving variable exponents $\begin{cases} (-\Delta_{p(x)} u = \lambda f(v), & \text{in } \Omega, \\ (-\Delta_{p(x)} v = \lambda g(u), & \text{in } \Omega, \\ u = v = 0 & \text{on } \partial\Omega, \end{cases}$ where $\Omega = B(0, R)$ is a bounded domain of $\mathbb{R}^N$, λ is a positive real parameter and p is real continuous function on Ω . Using a variational method and Krasnoselskii's genus theory, we would show the existence and multiplicity of the solutions. For this purpose, we focus on a generalized variable exponent Lebesgue-Sobolev space.

کلمات کلیدی:

$p(x)$ -Laplacian; variational method; genus theory; Sobolev space

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