

On a fourth-order $p(x)$ –Kirchhoff-type systems in \mathbb{R}^N .

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Abstract

Let the following nonlocal elliptic system

$$\begin{cases} -M_1 \left(\int_{\Omega} \frac{1}{p(x)} |\Delta u|^{p(x)} dx \right) \Delta (|\Delta u|^{p(x)-2} \Delta u) = F_u(x, u, v) & \text{in } \mathbb{R}^N, \\ -M_2 \left(\int_{\Omega} \frac{1}{q(x)} |\Delta v|^{q(x)} dx \right) \Delta (|\Delta v|^{q(x)-2} \Delta v) = F_v(x, u, v) & \text{in } \mathbb{R}^N \end{cases} \quad (1)$$

This paper is concerned with the existence and multiplicity of solutions for a class of nonlocal fourth-order $(p(x), q(x))$ -Kirchhoff systems. By means of a variational analysis, we obtain conditions for the existence of infinitely many solutions

Keywords

Unbounded domain; Nonlinear elliptic systems; $(p(x), q(x))$ -Kirchhoff system; Nonlocal term.