POSITIVE PSEUDO–SYMMETRIC SOLUTIONS FOR A NONLOCAL $p$–LAPLACIAN BOUNDARY VALUE PROBLEM

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Abstract. This paper is devoted to the study of the following nonlocal $p$-Laplacian functional differential equation

$$\left( - \phi_p(x'(t)) \right)' = \frac{\lambda f(t,x(t),x'(t))}{\left( \int_0^1 f(s,x(s),x'(s))ds \right)'^n}, \quad 0 < t < 1,$$

subject to multi point boundary conditions. We obtain some results on the existence of at least one (when $n \in \mathbb{Z}^+$) or triple (when $n = 0$) pseudo-symmetric positive solutions by using fixed-point theory in cone.


Keywords and phrases: boundary value problem, pseudo-symmetric solutions, $p$-Laplacian, Leggett-Williams fixed point theorem, Guo-Krasnoselskii fixed point theorem.

REFERENCES


