

STRONGLY NONLINEAR MULTIVALUED ELLIPTIC EQUATIONS ON A BOUNDED DOMAIN*

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Abstract

In this work we study the existence of nontrivial solution for the following class of multivalued quasilinear problems

$$-\operatorname{div}(\phi(|\nabla u|)\nabla u) - b(u)u \in \lambda \partial F(x, u) \text{ in } \Omega, \quad u = 0 \text{ on } \partial\Omega$$

where $\Omega \subset \mathbb{R}^N$ is a bounded domain, $N \geq 2$ and $\partial F(x, u)$ is a generalized gradient of $F(x, t)$ with respect to t . The main tools utilized are Variational Methods for Locally Lipschitz Functional and a Concentration Compactness Theorem for Orlicz space.

Key words and phrases: quasilinear equations, critical exponents, non-smooth functionals, Orlicz-Sobolev.

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*was partially supported by INCT-MAT, PROCAD, Partially CNPq-Brazil grant Casadinho/Procad 552.464/2011-2

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