UNIVERSIDADE FEDERAL DO RIO GRANDE DO NORTE - UFRN

PROGRAMA DE PÓS-GRADUAÇÃO EM MATEMÁTICA APLICADA E ESTATÍSTICA - PPGMAE

# Título: Multiple solutions for an inclusion quasilinear problem with non-homogeneous boundary condition through Orlicz Sobolev spaces

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**Abstract**

In this work we study multiplicity of nontrivial solution for the following class of differential inclusion problems with non-homogeneous Neumann condition through Orlicz-Sobolev spaces,

$$\begin{cases} -div\big(\phi(|\nabla u|)\nabla u\big) + \phi(|u|)u \in \lambda \partial F(u) \text{ in } \Omega, \\ \frac{\partial u}{\partial \nu} \in \mu \partial G(u) \text{ on } \partial\Omega, \end{cases}$$

where $\Omega \subset \mathbb{R}^N$ is a domain, $N \geq 2$ and $\partial F(u)$ is the generalized gradient of $F(u)$. The main tools used are Variational Methods for Locally Lipschitz Functional and Critical Point Theory.

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