

Multivalued Elliptic Equation with Exponential Critical Growth in \mathbb{R}^2

Jefferson Abrantes; UFCG-Campina Grande

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

$$-\Delta u + V(x)u - \epsilon h(x) \in \partial_t F(x, u) \quad \text{in } \mathbb{R}^2, \quad (P)$$

where $\epsilon > 0$, V is a continuous function verifying some conditions, $h \in (H^1(\mathbb{R}^2))^*$ and $\partial_t F(x, u)$ is a generalized gradient of $F(x, t)$ with respect to t and $F(x, t) = \int_0^t f(x, s) ds$. Assuming that f has an exponential critical growth and a discontinuity point, we have applied Variational Methods for locally Lipschitz functional to get two solutions for (P) when ϵ is small enough.