Dariusz Pączka
Szczecin Technical University
Institute of Mathematics

Existence theorems for the Dirichlet elliptic inclusion involving exponential-growth-type multivalued right-hand side

We present new existence results for the Dirichlet elliptic inclusion in exponential-type Orlicz spaces involving a vector Laplacian, subject to Dirichlet boundary conditions on a domain $\Omega \subset \mathbb{R}^2$. The first results is obtained via using the multivalued version of the Leray–Schauder principle together with the Nakano–Dieudonné weak compactness criterion. The second result is obtained via using the non-smooth variational technique together with the calculation formula for Clarke's subgradient established by us (H.T. Nguyêñ, D. Pączka) for Lipschitz integral functional on "non-regular" Orlicz spaces.