

Existence results via duality for quasi-equilibrium problems with trifunctions

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Abstract

We consider a quasiequilibrium problem described by a trifunction:

(*P*) Find $\bar{u} \in S_1(\bar{u})$ such that $F(\bar{u}, v, \bar{u}) \geq 0$, for every $v \in S_2(\bar{u})$.

In order to obtain an existence result for its solutions, we associate a dual problem

(*DP*) Find $\bar{u} \in S_1(\bar{u})$ such that $F(\bar{u}, v, v) \geq 0$, for every $v \in S_2(\bar{u})$

The general form of the problem covers various cases present in the literature. Our results can be applied to variational inequalities governed by semi-monotone operators.