A SPECIAL HEMIVARIATIONAL INEQUALITY

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Abstract. Let $X$ be a Banach space, $X^*$ its dual and let $T : X \to L^p(\Omega, \mathbb{R}^k)$ be a linear, continuous operator, where $p, k \geq 1$, $\Omega$ being a bounded open set in $\mathbb{R}^N$. Let $K$ be a subset of $X$, $A : K \rightharpoonup X^*$, $F : K \rightharpoonup K$ be set-valued mappings with nonempty values and $j : \Omega \times \mathbb{R}^k \to \mathbb{R}$ a Carathéodory function, which is locally Lipschitz in the second argument. Under some condition we guarantee solution for the following problem: find $u \in F(u)$ such that, for every $v \in F(u)$,

$$
\sigma(A(u), v - u) + \int_{\Omega} j_0(x, T u(x), T v(x) - T u(x)) \, dx \geq 0.
$$

REFERENCES


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