



General System of Strongly Pseudomonotone Nonlinear Variational Inequalities Based on Projection Systems

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Abstract: Let K_1 and K_2 , respectively, be non empty closed convex subsets of real Hilbert spaces H_1 and H_2 . The *Approximation – solvability* of a generalized system of nonlinear variational inequality (SNVI) problems based on the convergence of projection methods is discussed. The SNVI problem is stated as follows: find an element $(x^*, y^*) \in K_1 \times K_2$ such that

$$\langle \rho S(x^*, y^*), x - x^* \rangle \geq 0, \forall x \in K_1 \text{ and for } \rho > 0,$$

$$\langle \eta T(x^*, y^*), y - y^* \rangle \geq 0, \forall y \in K_2 \text{ and for } \eta > 0,$$

where $S : K_1 \times K_2 \rightarrow H_1$ and $T : K_1 \times K_2 \rightarrow H_2$ are nonlinear mappings.



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