

GENERALIZED VARIATIONAL INEQUALITIES AND ASSOCIATED NONLINEAR EQUATIONS

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Let H be a real Hilbert space and let K be a nonempty closed convex subset of H . Let $\langle \cdot, \cdot \rangle$ and $\| \cdot \|$ denote the inner product and norm of H , respectively. For given operators $f, T: H \rightarrow H$ on H , we consider a class of generalized variational inequality (GVI) problems of determining an element x in H such that $f(x)$ is in K and

$$\langle f(x) - T(x), v - f(x) \rangle \geq 0 \text{ for all } v \text{ in } K,$$

where g is Lipschitzian strongly monotone and T is Lipschitzian relaxed Lipschitz. The solvability of the GVI problem is based on an application of a modified iterative algorithm.



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