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Ram U Verma* (verma99@email.msn.com), Department of Mathematics, University of Toledo, Toledo, OH 43606. *Approximation-solvability of general variational inequalities and associated algorithms.*

The approximation-solvability of the following class of general nonlinear variational inequalities involving multivalued mappings based on a new class of iterative algorithms is discussed: Determine elements $x^*, y^* \in K$ such that

$$(rv^* + x^* - y^*, x - x^*) \geq 0 \text{ for } v^* \in T(y^*) \text{ and for all } x \in K$$

and

$$(gu^* + y^* - x^*, x - y^*) \geq 0 \text{ for } u^* \in T(x^*) \text{ and for all } x \in K$$

where T , a mapping from K to $P(H)$, is a multivalued mapping from a nonempty closed convex subset K of a real Hilbert space H into the power set of H and, r and g are positive constants. (Received October 04, 2000)