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A new projection and contraction method for variational inequalities. (English)

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Summary: Based on the projection method for solving variational inequalities proposed by *M. V. Solodov* and *B. F. Svaiter* [SIAM J. Control. Optim. 37, 765–776 (1999; Zbl 0959.49007)], we give a new projection and contraction method for solving these variational inequalities by contracting the projection region. It is demonstrated that our algorithm is globally convergent under mild conditions and is sublinearly convergent if in addition a projection type error bound holds locally. Preliminary computational experience is also reported.

MSC:

90C30 Nonlinear programming

90C33 Complementarity and equilibrium problems and variational inequalities (finite dimensions)
(aspects of mathematical programming)

Keywords:

variational inequalities