

Modified subgradient extragradient algorithm for pseudomonotone equilibrium problems and fixed point problems

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Abstract

In this paper, a new algorithm is considered to find a common element of the solution set of a pseudomonotone equilibrium problem and the fixed point set for a quasi-nonexpansive mapping in a real Hilbert space. The algorithm is based on the subgradient extragradient method, the inertial method and the viscosity method. The adaptive step size ensures that the algorithm does not need to know apriori the Lipschitz constants of the associated bifunction. Under standard assumptions, the strong convergence of the proposed algorithm was studied. Moreover, numerical experiments on several specific problems and comparison with other algorithms show the superiority of the algorithm.

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