Inexact Proximal Point Algorithms for Inclusion Problems on Hadamard Manifolds

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Abstract

This paper proposes inexact proximal point algorithms for computing the zeros of sum of two set-valued vector fields on Hadamard manifolds. The convergence results of the proposed algorithm are established under the assumption that the one set-valued vector field is monotone and lower semicontinuous and another one is monotone and upper Kuratowski semicontinuous. An example is given to illustrate the proposed algorithms and convergence result. As an application of the proposed algorithm and convergence result, an algorithm and its convergence result are derived for solving set-valued variational inequality problems in the setting of Hadamard manifolds.

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