

Solving common variational inequalities by hybrid inertial parallel subgradient extragradient-line algorithm for application to image deblurring

Pronpat Peeyada¹, Watcharaporn Cholamjiak¹, and Damrongsak Yambangwai¹

¹University of Phayao

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Abstract

In this paper, we propose hybrid inertial parallel subgradient extragradient-line algorithm for approximating a common solution of variational inequality problems with monotone and L -Lipschitz continuous mappings but L is unknown and prove strong convergence under some mild conditions in Hilbert space. We then give numerical examples to demonstrate the performance of our algorithms better than some of the algorithms mentioned in the literature. The novelty of our algorithm is that we have shown the algorithm is resilient and has good quality when the number of subproblems is large, the algorithm can be applied to solve image deblurring when an image has common types of blur effects.

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