

New inertial proximal algorithms for solving multivalued variational inequalities

Haong Thi Cam Thach^{*}

Abstract. This presentation presents two new algorithms for solving multivalued variational inequality problems in a real Hilbert space. By combining the nonexpansiveness of proximal operators associated with the proper lower semicontinuous convex function of the problems and inertial techniques, we demonstrate the weak convergence of the iteration sequences generated by our first algorithm under monotone and Lipschitz continuous assumptions of the cost mappings. Next, we use Mann iteration technique to obtain the second algorithm and show its strong convergence. Finally, we give some numerical results for the proposed algorithms and compare with some other known algorithms.

Keyword: Multivalued variational inequality, proximal operator, Lipschitz continuous, inertial technique.

^{*}Department of Mathematics, University of Transport Technology, Vietnam E-mail: thachhtc@utt.edu.vn