On the Zeros of Monotone operators and the Proximal Point Algorithm

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Abstract

Let H be a real Hilbert space and A be a maximal monotone operator in H. With suitable conditions on the parameters and the operator A, and without assuming the zero set of A to be nonempty, we give a necessary and sufficient condition for the weak and strong convergence of the sequence generated by the proximal point algorithm to a zero of A, extending previous results by several authors.