Strong Convergence of Composite Iterative Schemes for Zeros of m-Accretive Operators in Banach Spaces

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Abstract

We introduce a new composite iterative scheme to approximate a zero of an m-accretive operator A defined on uniform smooth Banach spaces and a reflexive Banach space having a weakly continuous duality map. It is shown that the iterative process in each case converges strongly to a zero of A. The results presented in this paper substantially improve and extend the results due to Ceng et al [6], Kim and Xu [8] and Xu [15]. Our work provides a new approach for the construction of a zero of m-accretive operators.

Key words: m-Accretive operator; Zero of an operator; Composite iterative scheme; Uniformly smooth; Weakly continuous duality map.

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