

Chen, Rudong; Zhu, Zhichuan

Viscosity approximation method for accretive operator in Banach space. (English)

Zbl 1196.47045

Nonlinear Anal., Theory Methods Appl., Ser. A, Theory Methods 69, No. 4, 1356-1363 (2008).

The authors study the strong convergence of a sequence $\{x_n\}_{n=1}^{\infty}$ in a closed convex subset C of a uniformly smooth Banach space X to a fixed point $F(A)$ of an m -accretive operator A with a zero. Their sequence is generated by the scheme

$$x_{n+1} = \alpha_n f(x_n) + (1 - \alpha_n) J_{r_n} x_n, \quad n \geq 0,$$

where α_n, r_n are sequences satisfying some conditions, J_r denotes the resolvent $(I + rA)^{-1}$ for $r > 0$, and $f : C \rightarrow C$ is a fixed contractive map. Their results extend and improve those of *H.-K. Xu* [J. Math. Anal. Appl. 314, No. 2, 631–643 (2006; Zbl 1086.47060)].

Reviewer: Edward Prempeh (Kumasi)

MSC:

47J25 Iterative procedures involving nonlinear operators

47H10 Fixed-point theorems

47H06 Nonlinear accretive operators, dissipative operators, etc.

Cited in **2** Reviews

Cited in **14** Documents

Keywords:

accretive operator; uniform smoothness; fixed point; Banach limit

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