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Banach空间中有限个增生算子公共零点的带误差项的迭代逼近

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摘要 令E为实一致凸Banach空间, 满足Opial条件或其范数是Frechet可微的. 令$A_i\subset E\times E, i =1,2,\cdots, k$ 为增生算子,满足值域条件且$\bigcap\limits_{i=1}^{k}A^{-1}_{i}0 \neq \emptyset.$ 令$C \subset E$为非空闭凸子集且满足 $\overline{D(A_i)}\subset C \subset \bigcap\limits_{r>0}R(I+rA_i), i =1,2,\cdots, k.$ 将引入新的带误差项的迭代算法并证明迭代序列弱收敛于$\{A_i\}_{i =1}^k $ 的公共零点.

关键词 保核收缩映射, 增生算子, 一致凸Banach空间, Opial条件.

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Iterative Approximation with Errors of Common Zero Points for a Finite Family of Accretive Operators in Banach Space

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Abstract Let E be a real uniformly convex Banach space which satisfies Opial's condition or the norm of which is Frechet differentiable. For $i = 1,2,\cdots,k,$ let $A_i: E \rightarrow 2^E$ be accretive operators satisfying the range condition and $\bigcap\limits_{i=1}^{k}A^{-1}_{i}0 \neq \emptyset$. Let $C \subset E$ be a nonempty closed convex set and satisfy that $\overline{D(A_i)}\subset C \subset \bigcap\limits_{r>0}R(I+rA_i),$ for $ i =1,2,\cdots, k.$ A new iterative algorithm with errors is introduced and proved to be weakly convergent to common zero points of accretive operators $\{A_i\}_{i=1}^k$.

Key words Retraction mapping accretive operator uniformly convex Banach space Opial's condition.

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