

论文

# Browder-Petryshyn 型的严格伪压缩映射的粘滞迭代逼近方法

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收稿日期 2005-2-4 修回日期 网络版发布日期 2007-1-29 接受日期

**摘要** 主要研究Browder-Petryshyn型的严格伪压缩映射的粘滞迭代逼近过程,证明了 Browder-Petryshyn型的严格伪压缩映射的不动点集 $F(T)$ 是闭凸集.在 $q$ -一致光滑且一致凸的Banach空间中,对于严格伪压缩映射 $T$ ,利用徐洪坤在2004年引进的粘滞迭代得到的序列弱收敛于 $T$ 的某个不动点.同时证明了Hilbert空间中Browder-Petryshyn型的严格伪压缩映射的相应迭代序列强收敛到 $T$ 的某个不动点,其结果推广与改进了徐洪坤2004年的相应结果.

**关键词** [严格伪压缩映射](#) [粘滞迭代方法](#) [不动点](#) [闭凸集](#)

分类号 [47H05, 47H10](#)

## Viscosity approximation methods for strictly pseudocontractive mappings of Browder-petryshyn type

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**Abstract** In this paper, we study viscosity approximation process for strictly pseudocontractive mapping  $T$  of Browder-Petryshyn type and prove that the fixed point set  $F(T)$  is a closed convex subset. We obtain a weak convergence theorem of strictly pseudocontractive self-mapping  $T$  of a closed convex subset  $K$  of a  $q$ -uniformly smooth Banach space which is also uniformly convex using viscosity approximation process  $\{x_t\}$ , where  $x_t = tf(x_t) + (1-t)Tx_t$ ,  $f$  is an  $L$ -Lipschitz strongly pseudocontractive mapping. We also prove that  $\{x_t\}$  strongly converge to a fixed point of  $T$  which solves some variational inequality in Hilbert space. The results extend and improve the corresponding results of Xu Hongkun(2004).

**Key words** [Strictly pseudocontractive mapping](#) [viscosity approximation](#) [fixed points](#) [closed convex set](#)

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