

**Liu, Qihou**

**Iterative sequences for asymptotically quasi-nonexpansive mappings with error member.**

(English) [Zbl 1001.47034](#)

*J. Math. Anal. Appl.* 259, No. 1, 18-24 (2001).

The paper concerns convergence of Ishikawa iterative sequences  $(x_n)_n$  with error members for asymptotically quasi-nonexpansive mappings  $T : E \rightarrow E$ . Here  $E$  is a nonempty closed convex set of a Banach space and the set  $F(T)$  of fixed points of  $T$  is nonempty. The main results state  $(x_n)_n$  converges to a fixed point of  $T$  if and only if  $\liminf_{n \rightarrow \infty} d(x_n, F(T)) = 0$ .

Reviewer: [Corneliu Ursescu \(Iași\)](#)

**MSC:**

[47H09](#) Contraction-type mappings, nonexpansive mappings,  $A$ -proper mappings, etc.

[47J25](#) Iterative procedures involving nonlinear operators

Cited in **5** Reviews  
Cited in **50** Documents

**Keywords:**

[Ishikawa iterations](#); [asymptotically quasi-nonexpansive mappings](#); [fixed points](#)

**Full Text:** [DOI](#)

**References:**

- [1] Petryshyn, W.V.; Williamson, T.E., Strong and weak convergence of the sequence of successive approximations for quasi-nonexpansive mappings, *J. math. anal. appl.*, 43, 459-497, (1973) · [Zbl 0262.47038](#)
- [2] Ghosh, M.K.; Debnath, L., Convergence of Ishikawa iterates of quasi-nonexpansive mappings, *J. math. anal. appl.*, 207, 96-103, (1997) · [Zbl 0881.47036](#)
- [3] Liu, Qihou, Iterative sequences for asymptotic quasi-nonexpansive mapping, *J. Math. Anal. Appl.*, in press. · [Zbl 1033.47047](#)

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