



## Approximation of Fixed Points of Asymptotically Demicontractive Mappings in Arbitrary Banach Spaces

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**Abstract:**

Let  $E$  be a real Banach Space and  $K$  a nonempty closed convex (not necessarily bounded) subset of  $E$ . Iterative methods for the approximation of fixed points of asymptotically demicontractive mappings  $T : K \rightarrow K$  are constructed using the more general modified Mann and Ishikawa iteration methods with errors.

Our results show that a recent result of Osilike [1] (which is itself a generalization of a theorem of Qihou [2]) can be extended from real  $q$ -uniformly smooth Banach spaces,  $1 < q < \infty$ , to arbitrary real Banach spaces, and to the more general Modified Mann and Ishikawa iteration methods with errors. Furthermore, the boundedness assumption imposed on the subset  $K$  in ([1], [2]) are removed in our present more general result. Moreover, our iteration parameters are independent of any geometric properties of the underlying Banach space.



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