

Guo, Cherng-Long

Fixed point theorems for singlevalued mappings and multivalued mappings on complete metric spaces. (English) [Zbl 0768.54032](#)
Chin. J. Math. 19, No. 1, 31-53 (1991).

The first theorem of this paper is a simultaneous extension of Theorem 5 of [*N. Mizoguchi* and *W. Takahashi*, *J. Math. Anal. Appl.* 141, 177–188 (1989; [Zbl 0688.54028](#))] and of Theorem 1 of [*N. A. Assad* and *W. A. Kirk*, *Pac. J. Math.* 43, 553–562 (1972; [Zbl 0239.54032](#))]. It is concerned with set-valued contractive mappings and is related to a problem raised by the reviewer [*Atti Accad. naz. Lincei*, VIII. Ser., *Rend., Cl. Sci. Fis. Mat. Natur.* 57(1974), 194–198 (1975; [Zbl 0329.47019](#))].

The second theorem extends a theorem of *D. W. Boyd* and *J. S. W. Wong* [*Proc. Am. Math. Soc.* 20, 458–464 (1969; [Zbl 0175.44903](#))]. Variants of Caristi's fixed point theorem [*J. Caristi*, *Trans. Am. Math. Soc.* 215, 241–251 (1976; [Zbl 0305.47029](#))] and of Ekeland's variational principle [*I. Ekeland*, *J. Math. Anal. Appl.* 47, 324–353 (1974; [Zbl 0286.49015](#))] are also included.

Reviewer: [Simeon Reich \(Los Angeles\)](#)

MSC:

[54H25](#) Fixed-point and coincidence theorems (topological aspects)
[47H10](#) Fixed-point theorems
[54C60](#) Set-valued maps in general topology

Cited in **1** Review
Cited in **2** Documents

Keywords:

set-valued contractive mappings; Caristi's fixed point theorem; Ekeland's variational principle