Jabbari, A.; Keshavarzi, R.
Fixed points of generalized hybrid mappings on $L_2$-embedded sets in Banach spaces. (English) [Zbl 07143035]
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Summary: In this paper, first we generalize the notion of $L$-embedded sets in Banach spaces, defined by A.T.-M. Lau and Y. Zhang in “Fixed point properties for semigroups of nonlinear mappings and amenability”, Journal of Functional Analysis, 263 (2012), pp. 2949-2977, to the notion of $L_p$-embedded sets ($p > 0$). Then, for a given generalized hybrid mapping $T$, we introduce the concepts of $T$-Chebyshev radius and $T$-Chebyshev center, generalizing the concepts of Chebyshev radius and Chebyshev center for nonexpansive mappings. Finally, we study the existence of fixed points of generalized hybrid mappings on $L_2$-embedded subsets of a Banach space by using the notions of $T$-Chebyshev radius and $T$-Chebyshev center.

MSC:
47H10 Fixed-point theorems
37C25 Fixed points and periodic points of dynamical systems; fixed-point index theory; local dynamics

Keywords:
fixed point; generalized hybrid mapping; $L_2$-embedded set; Chebyshev center

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