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A new type fixed point theorem for a contraction on partially ordered generalized complete metric spaces with applications. (English) Zbl 1347.54078


Summary: In this paper, we prove a fixed point theorem for a contraction in generalized complete metric spaces endowed with partial order. As an application, we use the fixed point theorem to prove the Hyers-Ulam stability of the Cauchy functional equation in Banach spaces endowed with a partial order.

MSC:
54H25 Fixed-point and coincidence theorems (topological aspects)
39B52 Functional equations for functions with more general domains and/or ranges
54E50 Complete metric spaces

Keywords:
fixed point; generalized complete metric space; partial order; Hyers-Ulam stability

Full Text: DOI

References:

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