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**Fixed points and continuity of almost contractions.** (English) Zbl 1152.54031

Fixed Point Theory 9, No. 1, 23-34 (2008).

Let  $(X, d)$  be a metric space,  $CB(X)$  the family of nonempty, closed, bounded subsets of  $X$ ,  $H$  the Hausdorff metric on  $CB(X)$  induced by  $d$ ,  $a \in (0, 1)$ ,  $b \geq 0$ . If  $T : X \rightarrow X$  is a map such that for all  $x, y \in X$ ,

$$d(Tx, Ty) \leq ad(x, y) + bd(y, Tx),$$

then  $T$  is continuous at its fixed points. The same result holds for multivalued mappings  $T : X \rightarrow CB(X)$  such that

$$H(Tx, Ty) \leq ad(x, y) + bd(y, Tx).$$

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**MSC:**

[54H25](#) Fixed-point and coincidence theorems (topological aspects)

[47H10](#) Fixed-point theorems

Cited in **28** Documents

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[almost contractions](#); [multivalued almost contractions](#); [continuity at fixed points](#)

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