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BEST PROXIMITY POINT THEOREMS FOR NON-SELF PROXIMAL REICH TYPE CONTRACTIONS IN COMPLETE METRIC SPACES

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Abstract. Recall from [2], that a mapping $T : X \mapsto X$ is called a Reich mapping if it satisfies for all $x, y \in X$, $d(Tx, Ty) \leq ad(x, Tx) + bd(y, Ty) + cd(x, y)$, where a,b,c are nonnegative and satisfy $a + b + c < 1$. Alternatively, one could define a Reich mapping as follows: $T : X \mapsto X$ is called a Reich mapping if there exists a nonnegative constant k with $k < \frac{1}{3}$ such that $d(Tx, Ty) \leq k[d(x, Tx)+d(y, Ty)+d(x, y)]$. In the present paper, we address the following: How do we characterize Theorem 3 [2], when T is a non-self map? We show such a characterization is given by Theorem 3.1 or Corollary 3.2 in this paper.
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References

[1] G.E. Hardy, T.D. Rogers, *A generalization of a Fixed Point Theorem of Reich*, Canadian Math. Bull., **16**(1973), no. 2, 201-206.
[2] S. Reich, *Some Remarks Concerning Contraction Mappings*, Canadian Math. Bull., **14**(1971), no. 1, 121-124.

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