MINIMAL SETS OF NONCYCLIC RELATIVELY NONEXPANSIVE MAPPINGS IN CONVEX METRIC SPACES

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Abstract. Let us consider a mapping $T : A \cup B \to A \cup B$ such that $T(A) \subseteq A$ and $T(B) \subseteq B$, where A and B are two nonempty subsets of a metric space (X, d). We provide sufficient conditions for the existence of a point $(p, q) \in A \times B$, called best proximity pair, which satisfies $p = Tp, q = Tq$ and $d(p, q) = dist(A, B) := \inf\{d(x, y) : (x, y) \in A \times B\}$, in the setting of convex metric spaces for noncyclic contractions. Then, we present a similar result of Goebel-Karlovitz lemma for noncyclic relatively nonexpansive mappings in convex metric spaces.
Key Words and Phrases: Best proximity pair, noncyclic contraction, relatively nonexpansive mapping, convex metric space, Goebel-Karlovitz lemma.
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