BEST PROXIMITY PAIR THEOREMS FOR NONCYCLIC MAPPINGS IN BANACH AND METRIC SPACES

A. FERNÁNDEZ-LEÓN∗ AND M. GABELEH**

∗ Departamento de Análisis Matemático, Universidad de Sevilla
St. Tarfia s/n, Sevilla Spain
E-mail: aurorafl@us.es

** Department of Mathematics, Ayatollah Boroujerdi University, Boroujerdi, Iran and
School of Mathematics, Institute for Research in Fundamental Sciences (IPM), Tehran, Iran
E-mail: gab.moo@gmail.com

Abstract. Let $A$ and $B$ be two nonempty subsets of a metric space $X$. A mapping $T : A \cup B \to A \cup B$ is said to be noncyclic if $T(A) \subseteq A$ and $T(B) \subseteq B$. For such a mapping, a pair $(x, y) \in A \times B$ such that $Tx = x$, $Ty = y$ and $d(x, y) = \operatorname{dist}(A, B)$ is called a best proximity pair. In this paper we give some best proximity pair results for noncyclic mappings under certain contractive conditions.

Key Words and Phrases: Best proximity pair; noncyclic contraction, noncyclic contraction in the sense of Kannan; noncyclic contraction in the sense of Chatterjea, reflexive metric space.

2010 Mathematics Subject Classification: 47H10, 47H09.

Acknowledgements. Aurora Fernández-León was partially supported by DGES, Grant MTM2012-34847-C02-01, and Junta de Andalucía, Grant P08-FQM-03453. Moosa Gabeleh was in part supported by a grant from the Institute for Research in Fundamental Sciences (IPM) (No. 93470047).

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Received: June 25, 2013; Accepted: August 2, 2013.