FIXED POINT THEOREMS FOR SET-VALUED MAPPINGS IN \( b \)-METRIC SPACES

ALIREZA KAMEL MIRMOSTAFAEE

Center of Excellence in Analysis on Algebraic Structures
Department of Pure Mathematics, Ferdowsi University of Mashhad
P. O. Box 1159, Mashhad 91775, Mashhad, Iran
E-mail:mirmostafaei@um.ac.ir

Abstract. We will establish set-valued version of Suzuki’s fixed point theorem when the underling space is a complete \( b \)-metric. Our method enable us to prove set-valued versions of Hardy-Rogers and Cirić fixed point theorems for \( b \)-metric spaces.

Key Words and Phrases: contraction-type mappings, fixed point theorems, set-valued functions.

2010 Mathematics Subject Classification: 37C25, 47H09, 47H10, 26E25.

Acknowledgements. I would like to express my sincere gratitude to the anonymous referee and editor for useful comments. This research was supported by a grant from Ferdowsi University of Mashhad (No. MP93323MIM).

REFERENCES


Received: May 26, 2014; Accepted: March 23, 2015.