

Dedicated to Professor Yeol Je Cho on the occasion of his retirement

Common fixed point theorems for Geraghty's type contraction mapping with two generalized metrics endowed with a directed graph in JS-metric spaces

PHAKDI CHAROENSAWAN

ABSTRACT.

The purpose of this work is to present some existence results for common fixed point theorems for Geraghty contraction mappings with two generalized metrics endowed with a directed graph in JS-metric spaces. Some examples supported our main results are also presented.

Acknowledgements. This research was supported by Chiang Mai University.

REFERENCES

- [1] Abbas, M., Alfuraidan, M. R. and Nazir, T., *Common fixed points of multivalued F -contractions on metric spaces with a directed graph*, Carpathian J. Math., **32** (2016), No. 1, 1–12
- [2] Berinde, V. and Păcurar, M., *Coupled and triple fixed point theorems for mixed monotone almost contractive mappings in partially ordered metric spaces*, J. Nonlinear Convex Anal., **18** (2017), No. 4, 651–659
- [3] Choban, M. M. and Berinde, V., *A general concept of multiple fixed point for mappings defined on spaces with a distance*, Carpathian J. Math., **33** (2017), No. 3, 275–286
- [4] Choban, M. M. and Berinde, V., *Two open problems in the fixed point theory of contractive type mappings on quasimetric spaces*, Carpathian J. Math., **33** (2017), No. 2, 169–180
- [5] Choban, M. M. and Berinde, V., *Multiple fixed point theorems for contractive and Meir-Keeler type mappings defined on partially ordered spaces with a distance*, Appl. Gen. Topol., **18** (2017), No. 2, 317–330
- [6] Fukhar-ud-din, H. and Berinde, V., *Fixed point iterations for Prešić-Kannan nonexpansive mappings in product convex metric spaces*, Acta Univ. Sapientiae Math., **10** (2018), No. 1, 56–69
- [7] Geraghty, M., *On contractive mappings*, Proc. Amer. Math. Soc., **40** (1973), 604–608
- [8] Jachymski, J., *The contraction principle for mappings on a metric space with a graph*, Proc. Amer. Math. Soc., **136** (2008), No. 4, 1359–1373
- [9] Jleli, M., Samet, B., *A generalized metric space and related fixed point theorems*, Fixed Point Theory Appl., Vol. **61** (2015)
- [10] Kumam, P. and Mongkolkeha, C., *Common best proximity points for proximity commuting mapping with Geraghty's functions*, Carpathian J. Math., **31** (2015), No. 3, 359–364
- [11] Martínez-Moreno, J., Sintunavarat, W. and Cho, Y. J., *Common fixed point theorems for Geraghty's type contraction mappings using the monotone property with two metrics*, Fixed Point Theory Appl., 2015, 2015:174 doi:10.1186/s13663-015-0426-y
- [12] Shukri, S. A., Berinde, V. and Khan, A. R., *Fixed points of discontinuous mappings in uniformly convex metric spaces*, Fixed Point Theory, **19** (2018), No. 1, 397–406

Received: 28.08.2017; In revised form: 21.02.2018; Accepted: 15.07.2018
2010 Mathematics Subject Classification. 47H10; 47H05.

Key words and phrases. *common fixed point, coincidence point, Geraghty, JS-metric spaces, generalized metric.*

DEPARTMENT OF MATHEMATICS
FACULTY OF SCIENCE
CENTER OF EXCELLENCE IN MATHEMATICS AND APPLIED MATHEMATICS
CHIANG MAI UNIVERSITY, CHIANG MAI 50200, THAILAND
E-mail address: phakdi@hotmail.com