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FIXED POINTS OF OPERATORS SATISFYING VARIOUS CONTRACTIVE CONDITIONS IN COMPLETE PARTIAL METRIC SPACES

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Abstract. In this paper, we give a generalized definition of diameter of a set in a partial metric space and as a consequence, a Cantor's Intersection like Theorem for partial metric spaces follows. We apply this theorem to study some fixed point results for generalized contractive type mappings over a complete partial metric space and also give some results on continuity of fixed points and simultaneous fixed point.

Key Words and Phrases: Partial metric spaces, fixed points, p-diameter of a set, upper/ lower semi-continuous functions.

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References

- [1] I. Altun, A. Erduran, Fixed point theorems for monotone mappings on partial metric spaces, Fixed Point Theory Appl. (2011), 2011:508730.
- [2] I. Altun, S. Romaguera, Characterizations of partial metric completeness in terms of weakly contractive mappings having fixed point, Appl. Anal. Discrete Math., 6(2011), 247-256.
- [3] I. Altun, F. Sola, H. Simsel, Generalized contractions on partial metric spaces, Topology Appl., 157(2010), no. 18, 2778-2785.
- [4] H. Aydi, E. Karapinar, C. Vetro, On Ekeland's variational principle in partial metric spaces, Appl. Math. Inf. Sci., 9(2015), no. 1, 257-262.
- [5] M. Gangopadhyay, M. Saha, A.P. Baisnab, Some fixed point theorems in partial metric spaces, TWMS J. App. Eng. Math., 3(2013), no. 2, 206-213.
- [6] R.H. Haghi, Sh. Rezapour, N. Shahzad, Be careful on partial metric fixed point results, Topology Appl., 160(2013), no. 3, 450-454.
- [7] R. Kannan, Some results on fixed points, Bull. Calcutta Math. Soc., 60(1968), 71-76.

- $[8] \ \ R. \ \ Kannan, \ Some \ results \ on \ fixed \ points II, \ Amer. \ Math. \ Monthly, \ \textbf{76} (1969), \ no. \ 4, \ 405-408.$
- [9] R. Kannan, Some results on fixed points III, Fund. Math., 70(1971), 169-177.
- [10] R. Kannan, Some results on fixed points IV, Fund. Math., 74(1972), 181-187.
- [11] E. Karapinar, A.-F. Roldán-López-de-Hierro, A note on (G, F)-closed set and tripled point of coincidence theorems for generalized compatibility in partially metric spaces, J. Inequal. Appl. (2014), 2014:522, 12 pp.
- [12] E. Karapinar, B. Samet, A note on recent fixed point results involving g-quasicontractive type mappings in partially ordered metric spaces, Fixed Point Theory Appl., (2014), 2014:126, 4 pp.
- [13] S.G. Matthews, Partial metric topology, Proc. 8th Summer Conference on General Topology and Applications, Ann. New York Acad. Sci., 728(1994), 183-197.
- [14] Z. Mustafa, E. Karapinar, H. Aydi, A discussion on generalized almost contractions via rational expressions in partially ordered metric spaces, J. Inequal. Appl., (2014), 2014:219, 12 pp.
- [15] S. Oltra, O. Valero, Banach's fixed point theorem for partial metric spaces, Rend. Istit. Mat. Univ. Trieste, 36(2004), 17-26.
- [16] B. Ray, On a paper of Kannan, Bull. Calcutta Math. Soc., 63(1971), no. 1, 7-10.

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