

A RELATED FIXED POINT THEOREM FOR m MAPPINGS ON
 m COMPLETE QUASI-METRIC SPACES

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Abstract. We prove a related fixed point theorem for m mappings in m quasi-metric spaces. This result unifies, generalizes and extends several of well-known fixed point theorems for metric spaces to quasi-metric spaces.

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Key words. Cauchy sequence, fixed point, quasi-metric space.

REFERENCES

- [1] BANACH, S., *Theorie des operations lineaires Manografie*, Matematyeczne (Warsaw, Poland), 1932.
- [2] BIANCHINI, R. M. T., *Su un problema di S.Reich riguardante la teoria dei punti fissi*, Boll. Un. Mat. Ital., **5** (1972), 103–108.
- [3] BRAMANTI, M. and BRANDOLINI, L., *Schauder estimatet for parabolic nondivergence operators of Hormander type*, J. Differential Equations, **234** (2007), 177–245.
- [4] FISHER, B., *Related fixed points on two metric spaces*, Math. Sem. Notes, Kobe Univ., **10** (1982), 17–26.
- [5] JAIN, R. K., SAHU, H. K. and FISHER, B., *Related fixed points theorems for three metric spaces*, Novi Sad. J. Math., **26(1)** (1996), 11–17.
- [6] KANNAN, R., *Somme results on fixed points II*, Amer. Math. Monthly, **76** (1969), 405–408.
- [7] KIKINA, L. and KIKINA, K., *Generalized fixed point theorem for three mappings on three quasi-metric spaces*, Journal of Computational Analysis and Applications, to appear.
- [8] PEPO, B., *Fixed point for contractive mapping of third order in pseudo-quasi-metric spaces*, Indag. Math. (NS), **1** (1990) 473–482
- [9] PEPO, C., *Fixed point theorems for (φ, k, i, j) -mappings*, Nonlinear Anal., **72** (2010), 562–570.
- [10] REICH, S., *Some remarks concerning contraction mappings*, Canad. Math. Bull., **14** (1971), 121–124.
- [11] RHOADES, B. E., *A comparison of various definitions of contractive mappings*, Trans. Amer. Math. Soc., **226** (1977), 256–290.
- [12] TELITI, C., *Funkcionet gjysme-kuazidistance dhe hapësirat topologjike te fituara prej tyre*, Bul. Shk. Nat., **1** (1980), 11–21.
- [13] TOLEDANO, R., *A note on the Lebesgue differentiation theorem in spaces of homogeneous type*, Real Analysis Exchange, **29(1)** (2003/2004), 335–340.
- [14] VULPE, M. I., OSTRAIH, D. and HOIMAN, F., *The topological structure of a quasimetric space*. (Russian) Investigations in functional analysis and differential equations, **137** (1981), “Shtiintsa”, Kishinev, 14–19.

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