FIXED POINT THEORY IN GENERALIZED APPROXIMATE NEIGHBORHOOD EXTENSION SPACES

DONAL O'REGAN

Department of Mathematics, National University of Ireland
Galway, Ireland
E-mail: donal.oregan@nuigalway.ie

Abstract. Several new fixed point results for compact self maps in new classes of spaces are presented in this paper.

Key Words and Phrases: Extension spaces, fixed point theory.

2010 Mathematics Subject Classification: 47H10, 54H25.

References

[1] R. P. Agarwal, D. O'Regan, *A Lefschetz fixed point theorem for admissible maps in Fréchet spaces*, Dynamic Systems and Applications, **16**(2007), 1-12.

[2] R.P. Agarwal, D. O'Regan, *Fixed point theory for compact absorbing contractive admissible type maps,* Applicable Anal., **87**(2008), 497-508.

[3] R.P. Agarwal, D. O'Regan, S. Park, *Fixed point theory for multimaps in extension type spaces*, J. Korean Math. Soc., **39**(2002), 579-591.

[4] H. Ben-El-Mechaiekh, *The coincidence problem for compositions of set valued maps*, Bull. Austral. Math. Soc., **41**(1990), 421-434.

[5] H. Ben-El-Mechaiekh, *Spaces and maps approximation and fixed points*, J. Comput. Appl. Math., **113**(2000), 283-308.

[6] H. Ben-El-Mechaiekh, P. Deguire, *General fixed point theorems for non-convex set valued maps,* C.R. Acad. Sci. Paris, **312**(1991), 433-438.

[7] R. Engelking, *General Topology,* Heldermann Verlag, Berlin, 1989.

[8] G. Fournier, L. Gorniewicz, *The Lefschetz fixed point theorem for multi-valued maps of non-metrizable spaces*, Fund. Math., **92**(1976), 213-222.

[9] L. Gorniewicz, *Topological Fixed Point Theory of Multivalued Mappings*, Kluwer Acad. Publishers, Dordrecht, 1999.

[10] L. Górniewicz, A. Granas, *Some general theorems in coincidence theory*, J. Math. Pures et Appl., **60**(1981), 361-373.

[11] A. Granas, *Fixed point theorems for approximative ANR's*, Bull. Acad. Polon. Sc., **16**(1968), 15-19.

[12] A. Granas, J. Dugundji, *Fixed Point Theory*, Springer, New York, 2003.

[13] J.L. Kelley, *General Topology*, D. Van Nostrand Reinhold Co., New York, 1955.

[14] D. O'Regan, *Fixed point theory on extension type spaces and essential maps on topological spaces,* Fixed Point Theory and Applications, **2004**(2004), 13-20.

[15] D. O'Regan, *Fixed point theory for compact absorbing contractions in extension type spaces*, CUBO, **12**(2010), no. 2, 199-215.

[16] R. Skiba, M. Slosarski, *On a generalization of absolute neighborhood retracts*, Topology and its Applications, **156**(2009), 697-709.