

Fixed point theory for multivalued contractions on a set with two b -metrics

MONICA BORICEANU

ABSTRACT.

The purpose of this paper is to present some fixed point results for multivalued contractions on a set with two b -metrics. The data dependence and the well-posedness of the fixed point problem are also discussed.

REFERENCES

- [1] Bakhtin, I.A., *The contraction mapping principle in almost metric spaces*, Funct. Anal., No. 30 (1989), Unianowsk, Gos. Ped. Inst., 26-37
- [2] Berinde, V., *Generalized contractions in quasimetric spaces*, Seminar on Fixed Point Theory, Preprint No. 3 (1993), 3-9
- [3] Czerwik, S., *Nonlinear set-valued contraction mappings in B-metric spaces*, Atti Sem. Mat. Univ. Modena, 46 (1998), 263-276
- [4] Petruşel, A. and Rus, I. A., *Fixed point theory for multivalued operators on a set with two metrics*, Fixed Point Theory, 8 (2007), 97-104
- [5] Petruşel, A., Moţ, G. and Petruşel, G., *Topics in Nonlinear Analysis and Applications to Mathematical Economics*, Casa Cărţii de Ştiinţă, Cluj-Napoca, 2007
- [6] Rus, I.A., Petruşel, A. and Sintămărian, A., *Data dependence of the fixed points set of multivalued weakly Picard operators*, Studia. Univ. "Babeş-Bolyai", Mathematica, 46 (2001), 111-121
- [7] Rus, I. A., *Generalized Contractions and Applications*, Cluj University Press, Cluj-Napoca, 2001
- [8] Singh, S. L., Bhatnagar, C. and Mishra, S. N., *Stability of iterative procedures for multivalued maps in metric spaces*, Demonstratio Math. 37 (2005), 905-916

BABEŞ-BOLYAI UNIVERSITY
FACULTY OF MATHEMATICS AND
COMPUTER SCIENCE,
DEPARTMENT OF APPLIED MATHEMATICS
KOGALNICEANU STREET NO 1
400084 CLUJ-NAPOCA, ROMANIA.
E-mail address: bmonica@math.ubbcluj.ro

Received: 31.10.2008; In revised form: 22.02.2009; Accepted: 21.05.2009.

2000 *Mathematics Subject Classification.* 47H10, 54H25.

Key words and phrases. *Multivalued operator, fixed point, b-metric space, data dependence.*