

SEHGAL CONTRACTIONS ON Menger SPACES

VIOREL RADU

Dedicated to Professor Ioan A. Rus on the occasion of his 70th birthday

Department of Mathematics
West University of Timișoara
Vasile Pârvan 4, 300223, Timișoara
E-mail: radu@math.uvt.ro

Abstract. We present some remarks and comments on four proofs of Sehgal & Bharucha-Reid fixed point principle for probabilistic B-contractions.

Key Words and Phrases: probabilistic metric, Luxemburg metric, probabilistic contraction, fixed point.

2000 Mathematics Subject Classification: 54E70, 47H10.

REFERENCES

- [1] G. L. Cain and R. H. Kasriel, *Fixed and periodic points of local contraction mappings on PM-spaces*, Math. Syst. Theory, **9**(1976), 289-297.
- [2] Gh. Constantin and I. Istrățescu, *Elemente de analiză probabilistă și aplicații*, Ed. Acad. RSR, București, 1981.
- [3] R. DeMarr, *Partially ordered spaces and metric spaces*, Amer. Math. Monthly, **72**(1965), 628-631.
- [4] O. Hadžić, and E. Pap, *Fixed Point Theory in Probabilistic Metric Spaces*, Kluwer Academic Pub., 2001.
- [5] J. R. Jachymski, *Fixed point theorems in metric and uniform spaces via the Knaster-Tarski principle*, Nonlinear Anal., **32**(1998), 225-233.
- [6] B. Margolis, *On some fixed points theorems in generalized complete metric spaces*, Bull. AMS, **74**(1968), 275-282.
- [7] A. F. Monna, *Sur un théorème de M. Luxemburg concernant les points fixes d'une classe d'applications d'un espace métrique dans lui-même*, Nederl. Akad. Wet., Proc., Ser. A, **64**(1961), 89-96.
- [8] E. Nishiura, *Constructive methods in probabilistic metric spaces*, Fundam. Math., **67**(1970), 115-124.

- [9] A. Petruşel and I. A. Rus, *Fixed point theorems in ordered L-spaces*, Proc. Amer. Math. Soc., **134**(2005), 411-418.
- [10] V. Radu, *Lectures on Probabilistic Analysis*, University of Timișoara, Surveys Lectures Notes and Monographs Series on Probability Statistics and Applied Mathematics, 2 (1994).
- [11] V. Radu, *Equicontinuous iterates of t -norms and applications to random normed and fuzzy Menger spaces*, Iteration Theory (ECIT 02), J. Sousa Ramos, D. Gronau, C. Mira, L. Reich, A.N. Sharkovsky (Eds.) Grazer Math. Ber., ISSN 1016-7692 Bericht Nr. **346**(2004), 323-350.
- [12] V. Radu, *Some suitable metrics on fuzzy metric spaces*, Fixed Point Theory, **5**(2004), 323-347.
- [13] I. A. Rus, *Principii și aplicații ale teoriei punctului fix*, Ed. Dacia, Cluj-Napoca, 1979.
- [14] I. A. Rus, *Generalized Contractions and Applications*, Cluj University Press, Cluj-Napoca, 2001.
- [15] I. A. Rus, A. Petruşel and G. Petruşel, *Fixed Point Theory 1950-2000: Romanian Contributions*, House of the Book of Science, Cluj-Napoca, 2002.
- [16] I. A. Rus, *Picard operators and applications*, Scientia Mathematicae Japonicae, **58**(2003), 191-219.
- [17] B. Schweizer and A. Sklar, *Statistical metric spaces*, Pacific J. Math., **10**(1960), 133-334.
- [18] B. Schweizer and A. Sklar, *Probabilistic Metric Spaces*, Dover, N. Y., 2005.
- [19] V. M. Sehgal and A. T. Bharucha-Reid, *Fixed points of contraction mappings on PM-spaces*, Math. Syst. Theory, **6**(1972), 97-100.
- [20] H. Sherwood, *Complete probabilistic metric spaces*, Z. Wahr. Verw. Geb., **20**(1971), 117-128.
- [21] A. Szaz, *A Galois connection between distance functions and inequality relations*, Mathematica Bohemica, **127**(2002), 437-448.

Received: August 14, 2006; Accepted: August 28, 2006.