On some existence and uniqueness theorems for Fredholm and Volterra equations with modified argument

MONICA LAURAN

Abstract.

In this paper some existence and uniqueness theorems for a Fredholm, respectively, a Volterra integral equation, are given by using the contraction mapping principle and the generalized contraction principle, respectively. These integral equations arise in several concrete applications such as theory of optimal control, economics and etc.

REFERENCES

- [1] Bana's, J. and Rzepka, B., On existence and asymptotic stability of solutions of a nonlinear integral equation, J. Math. Anal. 2003, 284:165-241
- [2] Berinde, V., Iterative approximation of fixed points, Efemeride, 2002
- [3] Corduneanu, C., Integral equation and applications, New York Cambridge Univ Press, 1973
- [4] Dobritoiu, M., An integral equation with modified argument, Studia Babes-Bolyai Cluj, Mathematica, Vol. XLIX, No. 3/2004, 27-33
- [5] Dobritoiu, M., On an integral equation with modified argument, Proceedings of the International Conference of Theory and Application of Mathematics and Informatics ICTAMI 2005, Alba Iulia
- [6] Maleknejad, K., Mollapoursi, R. and Nouri, K., Study on existence of solution for some nonlinear functional-integral equations, Nonlin. Anal. 2008, 69: 2582-2588
- [7] Maleknejad, K., Mollapoursi, R. and Nouri, K., *Existence of solution for some nonlinear integral equations*, Commum Nonlin. Sci. Numer Simulat 14 (2009), 2559-2564

NORTH UNIVERSITY OF BAIA MARE DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE VICTORIEI 76 430122 BAIA MARE, ROMANIA *E-mail address*: lauranmonica@yahoo.com

Received: 12.10.2008; In revised form: 13.03.2009; Accepted: 11.05.2009. 2000 *Mathematics Subject Classification*. 45B05, 45D05, 47H10. Key words and phrases. *Integral equation*, *φ*-contraction.