The estimation of solution of Fredholm integral equation in three variables

MONICA LAURAN

ABSTRACT.

The aim of the present paper is to establish an existence result (Theorem 2.1) as well as an estimation result (Theorem 2.2) for a functional equation in three variables.

References

- [1] Berinde, V., Existence and approximation of solutions of some first order iterative differential equations, Miskolc Math. Notes, **11** (2010), No. 1, pp. 1326
- [2] Berinde, V. and Lauran, M., Nonexpansive fixed point technique used for solve boundary value problem for fractional differential equations, Analele St. ale Univ. Al. I. Cuza Iasi, Seria Matematica, Tomul LVII, Supliment, DOI:10.2478/v10157-011-0009-0
- [3] Goebel, K. and Kirk, W. A., Topics in Metric Fixed Point Theory, Cambridge University Press, Cambridge, 1990
- [4] Lauran, M., On a functional Fredholm integral equation, via nonexpansive operators, Creative Math. and Informatics, 22 (2013), No. 2, 193–198
- [5] Lauran, M., Existence results for some nonlinear integral equations, Miskolc Math. Notes, 13 (2012), No. 1, 67–74
- [6] Pachpatte, B. G., New integral and finite difference inequalities in three variables, Demonstratio Math., vol. XLII (2009), No. 2, 341–351
- [7] Pachpatte, B. G., On Fredholm type integral equation in two variables, Diff. Eq. and Appl., 1 (2009), No. 1, 27-39
- [8] Rus, I. A. and Petrusel, A. and Petrusel, G., Fixed point theory, Cluj University Press, 2008

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE FACULTY OF SCIENCES NORTH UNIVERSITY CENTER AT BAIA MARE TECHNICAL UNIVERSITY OF CLUJ-NAPOCA VICTORIEI 76, 430122 BAIA MARE, ROMANIA *E-mail address*: lauranmonica@yahoo.com

Key words and phrases. Functional integral equations, Fredholm equation, existence of solutions, nonexpansive mapping, three variables, estimates.

Received: 05.09.2014; In revised form: 17.10.2014; Accepted: 20.11.2014

²⁰¹⁰ Mathematics Subject Classification. 45B05, 45D05, 47H10.