A NONLINEAR INTEGRAL EQUATION VIA PICARD OPERATORS

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Abstract. In this paper we study the following mixed type Volterra-Fredholm functional integral equation

\[ x(t) = F(t, x(t), \int_{a_1}^{t} \ldots \int_{a_m}^{t} K(t, s, x(s))ds, \int_{b_1}^{t} \ldots \int_{b_m}^{t} H(t, s, x(s))ds) \].

Using the Picard operator technique we establish existence, uniqueness, data dependence and Gronwall results for the solutions. Also, it is studied the Ulam-Hyers stability of this equation.

Key Words and Phrases: Picard operators, mixed type Volterra-Fredholm functional integral equation, data dependence, comparison theorem, Ulam-Hyers stability, Gronwall lemma, operatorial inequalities.

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REFERENCES


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