

VOLTERRA INTEGRAL EQUATIONS

JĀNIS BERZIŅŠ¹, PĒTERIS LIEPIŅŠ²

¹*Institute of Mathematics and Computer Science, University of Latvia*

Raina blvd. 29, Riga LV-1459, Latvia

²*Department of Engineering Mathematics, Riga Technical University*

Zunda embankment 10, Riga LV-1048, Latvia

E-mail: name1@latnet.lv, name2@rtu.lv

We define a new Volterra integral equation

$$z(t) = F(t) + \int_a^t k_1(t, s, z(s)) \Delta s, \quad a, t \in I_{\mathbb{T}} = [a, +\infty) \cap \mathbb{T}, \quad (1)$$

where $z: I_{\mathbb{T}} \rightarrow \mathbb{R}^{2n}$ is the unknown function, and $k_1: I_{\mathbb{T}} \times I_{\mathbb{T}} \times \mathbb{R}^{2n} \rightarrow \mathbb{R}^{2n}$ be rd-continuous in its first and second variable. Equation (1) is known as a Volterra integral equation on time scales [3]. Let $F: I_{\mathbb{T}} \rightarrow \mathbb{R}^{2n}$, $L: I_{\mathbb{T}} \rightarrow \mathbb{R}$ be rd-continuous, $\gamma > 1$ and $\beta = L(s)\gamma$.

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