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Linear Stieltjes integral equations in Banach spaces II; Operator valued solutions. (English) [Zbl 0974.34057]

Math. Bohem. 125, No. 4, 431-454 (2000).

Summary: This paper is a continuation of part I [Math. Bohem. 124, No. 4, 433-457 (1999; Zbl 0937.34047)], where results concerning equations of the form

$$x(t) = x(a) + \int_{a}^{t} d[A(s)]x(s) + f(t) - f(a)$$

were presented. The Kurzweil-type Stieltjes integration for Banach space valued functions was used. Here, the author considers operator-valued solutions to the homogeneous problem

$$\Phi(t) = I + \int_d^t d[A(s)]\Phi(s)$$

as well as the variation-of-constants formula for the former equation.

MSC:

34G10 Linear differential equations in abstract spaces45N05 Abstract integral equations, integral equations in abstract spaces

Cited in **1** Review Cited in **4** Documents

Keywords:

linear Stieltjes integral equations; generalized linear differential equation; equation in Banach space

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