Domoshnitsky, Alexander; **Drakhlin, Michael**; **Litsyn, Elena**

On boundary value problems for n-th order functional differential equations with impulses.

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Mem. Differ. Equ. Math. Phys. 12, 50-56 (1997).

Boundary value problems are studied for functional-differential equations with impulses

$$x^{(n)}(t) + \sum_{j=1}^{k} (\tau_j x)(t) = f(t),$$

with $t \in [0, b]$, $x(t_i) = \beta_i x(t_i - 0)$, $i = 1, 2, \ldots, m$, and $\beta_i > 0$, $i = 1, 2, \ldots, m$, $0 = t_0 < t_1 < \cdots < t_m < t_{m+1} = b$, $\tau_j : C(0, t_1, \ldots, t_m, b) \to L(0, b)$ are linear bounded Volterra operators acting from the space of piecewise continuous functions into the space of summable functions. It is shown that for some classes of boundary conditions the Green function of the corresponding boundary value problem is nonpositive.

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MSC:

34K10 Boundary value problems for functional-differential equations

34B27 Green's functions for ordinary differential equations

Keywords:

isomorphism; Green operator; boundary value problems; functional-differential equations with impulses; linear bounded Volterra operators

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