Continuity of Solution with Respect to Initial Data for One Class of Controlled Functional Differential Equation with Distributed Delay Uniformly with Control Function

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For the differential equation

$$\dot{x}(t) = f(t, x(t), \int_{t-\tau}^{t} x(s)ds, u(t))$$

with the initial condition

$$x(t) = \varphi_0(t) \quad , t < t_{00}\,,\ x(t_0) = x_{00}\,.$$

is proved theorem about continuous dependence of solution on initial data uniformly with respect to control functions $u(t) \in \Omega$, where Ω is the set of measurable control functions $u(t)$ with values in compact U . Under the initial data we mean the collection of the initial moment, delay parameter, initial function and initial vector. The theorem is proved by the scheme given in [1-3] .

References

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