

9. Zvi Artstein, **Continuous dependence of solutions of Volterra integral equations**. SIAM J. Mathematical Analysis 6 (1975), 446-456.

Abstract. The nonlinear Volterra integral equation

$$x(t) = f(t) + \int_0^1 g(t, s, x(s))ds$$

is considered. We discuss topologies on the collection of functions g such that the solution of the equation varies continuously with the data g and f , where the topology on f is the uniform convergence on compact intervals. We give a necessary and sufficient condition (on such a topology) for the continuous dependence to hold. In particular cases where a Lipschitz condition is added we show that there exists a smallest topology which satisfies the condition, and characterize it.

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