A CLASS OF ABSTRACT VOLTERRA EQUATIONS, VIA WEAKLY PICARD OPERATORS TECHNIQUE

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Abstract. In this paper we consider the following abstract Volterra equations:

$$x(t) = G(t, g(x)(t), x(t), x(0)) + \int_{-t}^{t} K(t, s, x(s), x(h(s))), \ t \in \mathbb{R}$$

and

$$x(t) = G(t, g(x)(t), x(t), x(0)) + \int_{-|t|}^{|t|} K(t, s, x(s), x(h(s))) \, ds, \ t \in \mathbb{R}.$$

Using the weakly Picard operator technique we establish existence, data dependence and comparison results for the solution. The derivability of the solutions with respect to a parameter is also studied.

Mathematics subject classification (2010): 47H10, 47N20, 45N05, 45D05, 45M10, 45M99.

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