

Continuous dependence of solutions of generalized linear differential equations on a parameter

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Generalized differential equations were introduced in 1957 by J. Kurzweil. In particular, it was a problem on continuous dependence that inspired him to extend the notion of classical ODE's.

In this work, we discuss continuous dependence results for generalized differential equations with a particular interest in the linear case. More precisely, we analyse the conditions which ensure that the sequence $\{x_n\}$ of the solutions of generalized linear differential equations

$$(1) \quad x_n(t) = \tilde{x}_n + \int_a^t d[A_n] x_n + f_n(t) - f_n(a), \quad t \in [a, b],$$

tends to the solution x_0 of (1) for $n = 0$. Our aim is to clarify a relation between our results and those available in the literature.

This is a joint work with Milan Tvrdý and Antonín Slavík.

References

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