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GENERALIZED ODES: AN OVERVIEW AND NEW TRENDS

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Resumen.

In 1957, Jaroslav Kurzweil introduced in the literature a class of integral equations called generalized ordinary differential equations (GODEs, for short). His initial motivation was to use them to investigate results concerning continuous dependence of solutions with respect to parameters (see [4]). However, these equations have been shown to be a powerful tool to investigate other types of equations, such as impulsive equations, dynamic equations on time scales, measure differential equations, functional differential equations, neutral functional differential equations, among others. See [1, 2, 3] and the references therein.

In this talk, we provide a basic overview of generalized differential equations and summarize some recent results in this area. Also, we present the new trends in the study of these equations.

Referencias

[1] M. Federson; M. Frasson; J. Mesquita, P. Tacuri, Neutral measure functional differential equations as generalized ODEs, submitted.
[2] M. Federson; J. G. Mesquita; A. Slavík, Measure functional differential equations and functional dynamic equations on time scales, J. Diff. Eq. 252 (2012), 3816–3847.
[3] M. Federson; J. G. Mesquita; A. Slavík, Basic results for functional differential and dynamic equations involving impulses, Math. Nachr. 286(2-3) (2013), 181–204.
[4] J. Kurzweil, Generalized ordinary differential equations and continuous dependence on a parameter, Czech. Math. J. 7(82) (1957), 418–448.
[5] Š. Schwabik, Generalized Ordinary Differential Equations, World Scientific, Series in Real Anal., vol. 5, 1992.

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