

Periodicity of Solutions of a Nonlinear Impulsive Differential Equation with Piecewise Constant Arguments

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Abstract : In recent years, oscillation, periodicity and convergence of solutions of linear differential equations with piecewise constant arguments have been significantly considered but there are only a few papers for impulsive differential equations with piecewise constant arguments. In this paper, a first order nonlinear impulsive differential equation with piecewise constant arguments is studied and the existence of solutions and periodic solutions of this equation are investigated by using Carvalho's method. Finally, an example is given to illustrate these results.

Keywords : Carvalho's method, impulsive differential equation, periodic solution, piecewise constant arguments

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