

Periodic solutions for systems of differential equations with delays and impulses

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Talk Abstract

For a family of periodic systems of differential equations with (possibly infinite) delay and nonlinear impulses, sufficient conditions for the existence of at least one positive periodic solution are established. The main technique used here is the Krasnoselskii fixed point theorem on cones. Although fixed points methods have been extensively employed to show the existence of positive periodic solutions to scalar delay differential equations (DDEs), the literature on n -dimensional impulsive DDEs is very scarce. Our criteria are applied to some classes of mathematical biology models, such as Nicholson-type systems with patch structure. See [1].

Keywords: Delay differential equations, impulses, positive periodic solutions, Krasnoselskii's fixed point theorem, Nicholson systems.

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References

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