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	authors	• A. Ardjouni • A. Djoudi	**authors**	• A. Ardjouni • A. Djoudi	NOT DUPLICATES	531
	title	The existence of periodic solutions for a second order nonlinear neutral differential equation with functional delay	**title**	EXISTENCE OF PERIODIC SOLUTIONS FOR A SECOND ORDER NONLINEAR NEUTRAL FUNCTIONAL DIFFERENTIAL EQUATION		
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	id	id-1832595271075805063	**id**	id-7486091728476523865		
	abstract	In this article we study the existence of periodic solutions of the second order nonlinear neutral differential equation with functional delay d dt x (t) + p (t) d dt x (t) + q (t) x (t) = d dt g (t, x (tâˆ’ Ï„ (t))) + f ` t, x (t) , x (tâˆ’ Ï„ (t)) Ì . The main tool employed here is the Burton-Krasnoselskiiâ€™s hybrid fixed point theorem dealing with a sum of two mappings, one is a large contraction and the other is compact.	**abstract**	We study the existence of periodic solutions of the second order nonlinear neutral differential equation with variable delay xâ€²â€² (t) + p (t)xâ€² (t) + q (t)h (x (t)) = c (t)xâ€² (tâˆ’ Ï„ (t)) + f (t, x (tâˆ’ Ï„ (t))) . We invert the given equation to obtain an integral, but equivalent, equation from which we define a fixed point mapping written as a sum of a large contraction and a compact map. We show that such maps fit very nicely into the framework of Krasnoselskii-Burtonâ€™s fixed point theorem so that the existence of periodic solutions is conclued.		
	versions		**versions**			