CARPATHIAN J. MATH. 33 (2017), No. 1, 01 - 08
Online version available at http://carpathian.ubm.ro
Print Edition: ISSN 1584 - 2851 Online Edition: ISSN 1843 - 4401

Stability in non-autonomous periodic systems with grazing stationary impacts

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ABSTRACT.

This paper examines impulsive non-autonomous periodic systems whose surfaces of discontinuity and impact functions are not depending on the time variable. The $W-$map which alters the system with variable moments of impulses to that with fixed moments and facilitates the investigations, is presented. A particular linearizion system with two compartments is utilized to analyze stability of a grazing periodic solution. A significant way to keep down a singularity in linearizion is demonstrated. A concise review on sufficient conditions for the linearizion and stability is presented. An example is given to actualize the theoretical results.

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Received: 05.02.2016; In revised form: 29.06.2016; Accepted: 20.07.2016
2010 *Mathematics Subject Classification*. 34A37, 37C75.
Key words and phrases. *Grazing impulse, stationary impact, linearization of a non-autonomous system with grazing impacts.*
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