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EXPONENTIAL PRACTICAL STABILITY OF NONLINEAR IMPULSIVE SYSTEMS: CONVERSE THEOREM AND APPLICATIONS

M. Dlala[a] B. Ghanmi[b] and M.A.Hammami[b]

[a]Department of Mathematics
College of Sciences, Qassim university, Saudi Arabia

[b]Department of mathematics
University of Sfax
Faculty of Sciences of Sfax, BP 1171, Tunisia
E.mail:MohamedAli.Hammami@fss.rnu.tn

Abstract. This paper investigates the practical exponential stability of equilibrium for impulsive systems. Stability theorem and converse stability theorem are established by employing the second Lyapunov method. These theorems are used to analyze the practical exponential stability of the zero solution of perturbed impulsive systems and cascaded impulsive systems.

Keywords. Practical exponential stability, cascaded impulsive systems, second Lyapunov methods.

AMS (MOS) subject classification: 34K20, 39A11, 49K40, 37C28.

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