SET STABILITY BY SWITCHED LYAPUNOV FUNCTION

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Abstract. By the second Lyapunov method, the stability of sets on the impulsive perturbed systems is studied based on its corresponding impulsive unperturbed systems. We give the method to construct the second Lyapunov function for the perturbed systems. The sufficient conditions of the stability of sets are obtained. As an application, we consider an impulsive perturbed systems to illustrate the uniformly asymptotic stability.

Keywords. impulsive systems, perturbed systems, stability of sets, Lyapunov function, switched Lyapunov function

AMS (MOS) subject classification: 37B25; 33E30

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