

# Weak almost periodic motions, minimality and stability in impulsive semidynamical systems

Manuel Z. Jimenez

Universidade de São Paulo, São Carlo-SP, Brazil

manzulji@icmc.usp.br

This is a joint work with Prof. Dr. Everaldo de Mello Bonotto.

In this work we study topological properties of semidynamical systems whose continuous dynamics are interrupted by abrupt changes of state. First, we establish results which relate the concepts of stability of Lyapunov, weakly almost periodic motions, recurrence and minimality. In the sequel, we study the stability of Zhukovskij for impulsive systems and we obtain some results about uniform attractors.

## *References*

- [1] *N. P. Bhatia, G. P. Szegö*: Stability theory of dynamical systems. Grundlehren Math. Wiss., Band 161, Springer-Verlag, New York, 1970; reprint of the 1970 original in: Classics Math., Springer-Verlag, Berlin, 2002.
- [2] *E. M. Bonotto, M. Z. Jimenez*: On impulsive semidynamical systems: minimal, recurrent and almost periodic motions. Topol. Methods Nonlinear Anal. Accepted.
- [3] *Changming Ding*: Lyapunov quasi-stable trajectories. Fundam. Math. 220 (2013), 139–154.
- [4] *S. K. Kaul*: On impulsive semidynamical systems. II: Recursive properties. Nonlinear Anal., Theory Methods Appl. 16 (1991), 635–645.
- [5] *S. K. Kaul*: On impulsive semidynamical systems. III: Lyapunov Stability. World Scientific Publishing. World Sci. Ser. Appl. Anal. 1 (1992), 335–345.