
MESURABLE SEMIFLOWS

Marek Kryspin

In our research, we focused on measurable semiflows generated by systems of ordinary differential equations with delay and parabolic differential equations with changing delay. Such systems are important for mathematical ecology to study dependence between species. Our results concern dynamical behavior like Lyapunov exponents, Floquet subspaces, exponential separation in such semiflows and its continuous dependence on coefficients (see [1, 2, 3, 4, 5] for more details).

Based on a joint work with Janusz Mierczyński, Sylvia Novo and Rafael Obaya.

Literatura

- [1] J. Mierczyński, S. Novo and R. Obaya, Principal Floquet subspaces and exponential separations of type II with applications to random delay differential equations, *Discrete Contin. Dyn. Syst.* **38** (2018), no. 12, 6163–6193.
- [2] J. Mierczyński, S. Novo and R. Obaya, Lyapunov exponents and Oseledets decomposition in random dynamical systems generated by systems of delay differential equations, *Commun. Pure Appl. Anal.* **19**, no. 4, 2235–2255.
- [3] J. Mierczyński and W. Shen, Principal Lyapunov exponents and principal Floquet spaces of positive random dynamical systems. I. General theory, *Trans. Amer. Math. Soc.* **365** (2013), no. 10, 5329–5365.
- [4] J. Mierczyński and W. Shen, Principal Lyapunov exponents and principal Floquet spaces of positive random dynamical systems. III. Parabolic equations and delay systems, *J. Dynam. Differential Equations* **28** (2016), no. 3–4, 1039–1079.
- [5] M. Kryspin, J. Mierczyński, Parabolic differential equations with bounded delay. *Journal of Evolution Equations* (2023), 1-37.

Marek Kryspin, Wrocław University of Science and Technology
e-mail : marek.kryspin@pwr.edu.pl
