Koopmanism for dynamical systems on completely regular spaces

H. Kreidler[1]

Keywords: Koopman semigroup; jointly continuous flow; completely regular space.

MSC2010 codes: 37B02, 46A70, 47D06

The Koopman linearization of semiflows has proven to be an effective instrument to study dynamical systems with the tools of linear functional analysis and operator theory. Classically, this global linearization is considered for continuous semiflows on compact spaces. In this talk we will present an approach allowing to extend this "Koopmanism" to dynamical systems on locally compact, metric and even more general spaces, which makes it applicable to solutions of many ordinary and partial differential equations. This is a joint work with Balint Farkas (Wuppertal).

References

[1] T. Eisner, B. Farkas, M. Haase, R. Nagel. Operator Theoretic Aspects of Ergodic Theory. — Springer, 2015.

[2] B. Farkas, H. Kreidler. Towards a Koopman theory for dynamical systems on completely regular spaces. // Phil. Trans. R. Soc. A. 378:20190617.

[1]University of Wuppertal, Fakultät für Mathematik und Naturwissenschaften, Wuppertal, Germany. Email: kreidler@uni-wuppertal.de