

Metric Versus Topological Receptive Entropy of Semigroup Actions

ANDRZEJ BIŚ

Department of Mathematics and Computer Science, University of Lodz, Poland

E-mail: andrzej.bis@wmii.uni.lodz.pl

We study the receptive metric entropy for semigroup actions on probability spaces, inspired by a similar notion of topological entropy introduced by Hofmann and Stoyanov (Adv Math 115:54–98, 1995). We analyze its basic properties and its relation with the classical metric entropy. In the case of semigroup actions on compact metric spaces we compare the receptive metric entropy with the receptive topological entropy looking for a Variational Principle. With this aim we propose several characterizations of the receptive topological entropy. Finally we introduce a receptive local metric entropy inspired by a notion by Bowen generalized in the classical setting of amenable group actions by Zheng and Chen, and we prove partial versions of the Brin–Katok Formula and the local Variational Principle. The talk is based on a joint paper [1] with Dikran Dikranjan, Anna Giordano Bruno, and Luchezar Stoyanov.

References

- [1] A. Biś, D. Dikranjan, A. Giordano Bruno, and L. Stoyanov, *Metric Versus Topological Receptive Entropy of Semigroup Actions*, Qualitative Theory of Dynamical Systems **20**, Article number:50 (2021).