

Seminário de sistemas dinâmicos e estocásticos

IMECC - UNICAMP

Título: Minimal distance between random orbits. .

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Resumo:

It is known for expanding dynamical systems and finite state Markov chains that the asymptotic behaviour of the minimal distance between two orbits up to time n is given by its correlation dimension.

In this talk, we will discuss this problem in a randomized setting with not necessarily expanding fibres. If the fibres and the basis of the random system under consideration are sufficiently mixing, then a similar but more complex result holds: there are two relevant dimensions and, depending on the stochastic process in the basis, either one or the other is dominant. In particular, there is a phase transition, which is unknown in the framework of a classical dynamical system.

Joint work with Jerome Rousseau and Sebastien Gouezel, accepted for publication in Probability Theory Related Fields. For the preprint, see <https://hal.science/hal-03788538v1>