

Dynamical Systems Seminar

Date. March 14th, 14h30 (Friday)

Place. Room FC1.031

Speaker. Dylan Bansard-Tresse (CPHT, Ecole Polytechnique & CMUP)

Title. Rare event point processes in infinite ergodic theory

Abstract.

In this talk, we will investigate the question of quantitative recurrence for ergodic dynamical systems. By fixing a set of small measure in phase space, we study the law of successive return times to this target as the measure tends to zero. When the invariant measure is finite and the system is sufficiently mixing, it is known that the limit law obtained for natural targets (typically balls or cylinders) is the Poisson process. In this presentation, we will focus on the case where the invariant measure is infinite. We will then see that the natural limit law is the fractional Poisson process and that other limit laws can emerge.