

The classical Borel Cantelli Lemma provides necessary and sufficient conditions for infinitely many rare events to occur. However, when the infinite sequence of events does occur, the Borel Cantelli Lemma does not tell us how well separated in time whose occurrences are. In this talk we discuss the question when a fixed number r of rare events happen at the same scale for chaotic systems. This problem is intermediate between the standard Borel Cantelli regime and Poisson regime. The talk is based on the joint work with Bassam Fayad and Sixu Liu.