

SEMINÁRIO DE SISTEMAS DINÂMICOS

Dia 5 de Dezembro (terça-feira), às 11h30, sala 6.2.33

Openness of positive Lyapunov exponents for Linear cocycles over partially hyperbolic maps

Mauricio Poletti
(Université Paris 13)

Abstract: Continuity and positiveness of Lyapunov exponents were widely studied in the recent years. A classical result of Bochi-Mañé proves that in the C^0 topology cocycles that don't exhibit a uniform hyperbolic behavior can be approximated by zero exponents, also Avila proves that there exists a dense set of cocycles with non-vanishing Lyapunov exponents, these 2 results imply that the Lyapunov exponent is not a continuous function of the cocycle in C^0 topology. For cocycles with more regularity, results of continuity were proved with different hypothesis, for C^r cocycles with hyperbolic base by Bocker-Viana, Backes-Butler-Brown, for analytic cocycles over rotations by Avila-Krikorian, Duarte-Klein. Here we will prove that if the map is volume preserving partially hyperbolic accessible then the Bochi-Mañé phenomena can not happen (non-vanishing exponents are open), we will also give examples showing that without accessibility this phenomena can happen.