

Limit of u-states

Karina Daniela Marin¹

¹ UFMG

Given a continuous linear cocycle A , it is possible to obtain its Lyapunov exponents from the invariant measures of its projectivization, $\mathbb{P}(A)$. In particular, in order to conclude some properties of the Lyapunov exponents, we need to study some special measures called u-states. It is known that the limit of u-states is also a u-state. That is, if m_k are u-states associated to continuous linear cocycles A_k , $A_k \rightarrow A$ and $m_k \rightarrow m$, then m is a u-state for A .

In this talk, we are interested in the case where the linear cocycle that we are considering is the derivative cocycle associated to a partially hyperbolic diffeomorphism. In this context, the dynamics in the base is perturbed together with the cocycle and we are not able to apply the result above. We are going to prove that the limit of u-state is also a u-state for derivative cocycles using a new criterion for u-states introduced recently by Tahzibi and Yang.

This property of u-states allow us to obtain open sets of non-uniform hyperbolic diffeomorphisms and open sets where the center Lyapunov exponents vary continuously.

This is a joint work with Chao Liang (CUFE) and Jiagang Yang (UFF).