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67º EDAÍ 2 de Dezembro de 2016

Auditório do bloco G, Campus do Gragoatá, UFF

Palestra 1: 14h30 – 15h30

On equilibrium states for impulsive semiflows

Jaqueline Siqueira (PUC-Rio)

Impulsive dynamical systems may be interpreted as suitable mathematical models of real world phenomena. They display abrupt changes in their behaviour, and are described by three objects: a continuous semiflow on a metric space X; a set D contained in X where the flow experiments sudden perturbations; and an impulsive function I : D -> X which determines the change on a trajectory each time it collides with the impulsive set D. We consider impulsive semiflows which are defined on compact metric spaces and we give sufficient conditions, both on the semiflows and on the potentials, for the existence and the uniqueness of equilibrium states. We also generalize the classical notion of topological pressure to our setting of discontinuous semiflows and prove a variational principle. This is a joint work with José Ferreira Alves and Maria de Fátima de Carvalho.

Palestra 2: 15h45 – 16h45

On the regular representation of measures

Christian S. Rodrigues (Unicamp)

Consider a family of probability measures $\{\mu_x\}_{x\in X}$ on a topological space M parametrised by a given set X. Representing $\{\mu_x\}_{x\in X}$ consists in finding a map $F : X\times\Omega \to M$ such that, for each $x \in X$, we have, $\mu_x = F(x,\cdot)_*\mathbb{P}$, where $(\Omega,\mathbb{P})$ is an auxiliary probability space. Such questions arise in Probability, Geometry and several other areas. In Dynamical Systems, for example, it appears in the context of disintegration of measures, and in random perturbation of dynamics, where one is interested in finding a probability on the spaces of maps which mimics a given Markov chain. In this talk, we provide sufficient conditions such that family of probabilities on manifolds can be represented by regular maps. This is a joint work with Jost, Matveev, and Portegies.

Café: 16h45 – 17h15

Palestra 3: 17h15 – 18h15

A criterion for the continuity of the Oseledets decomposition

Silvius Klein (IMPA)

Consider a space of linear cocycles over a fixed base dynamics and assume the availability in this space of some appropriate large deviation type estimates. We establish continuity properties of the Oseledets decomposition regarded as a function of the cocycle. In the process, we stumble upon a new proof of the multiplicative ergodic theorem. The purpose of this talk is to give an informal description of these results and of some bits of the argument involving the regular advent of "avalanche times". It will also be noted that this general continuity result is applicable to a large class of random and quasi-periodic cocycles spaces (joint work with Pedro Duarte from University of Lisbon).

Confraternização: 19h00 – ∞ - Chopp na Cantareira

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