

# Physical measures of $C^1$ generic diffeomorphisms: what see the discretizations

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## Resumo/Abstract:

A classical conjecture of A. Katok states that a generic conservative  $C^1$  diffeomorphism is ergodic; in other words one should observe Lebesgue measure by making Birkhoff averages starting from a typical point. In this talk, I will explain in what sense this does not hold from the point of view of discretizations.

For example on the torus, the discretization  $f_N$  of a diffeomorphism  $f$  is the finite map obtained by making computations with  $N$  digits fixed precision. The theorem I will present states that for a generic starting point  $x$ , a generic  $C^1$  conservative diffeomorphism  $f$  and any  $f$ -invariant measure  $\mu$ , there exists a subsequence  $f_{N_k}$  of the discretizations such that the Birkhoff averages of  $x$  under  $f_{N_k}$  only “see” the measure  $\mu$ .