

## The general case

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### Abstract:

Let  $M$  be a closed manifold endowed with a volume form. I will discuss two related results about the volume-preserving diffeomorphisms of  $M$ , which are recent work with Artur Avila and Sylvain Crovisier. Theorem A: Consider the set of all  $C^1$ , volume-preserving diffeomorphisms of  $M$  endowed with the  $C^1$  topology. Then there is a residual subset  $R$  so that for every  $f \in R$ , if  $f$  has positive metric entropy, then  $f$  is ergodic and nonuniformly Anosov. Theorem B: Among the set of all  $C^r$ , partially hyperbolic diffeomorphisms of  $M$ , with  $r \geq 2$ , stable ergodicity is  $C^1$  dense.