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**Genericity of ergodicity for Sobolev homeomorphisms**

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**Abstract**

We obtain a weak version of Lusin's theorem in the Sobolev- $(1,p)$  ( $0 < p < 1$ ) closure of volume preserving Lipschitz homeomorphisms on closed and connected  $d$ -dimensional manifolds,  $d \geq 2$ . With this result at hand we will be able to prove that such conservative homeomorphisms are ergodic from a generic viewpoint. This establishes a version of Oxtoby and Ulam theorem for this Sobolev class. We also prove that within the Sobolev- $(1,p)$  class (now considering  $0 < p < d-1$ ) the topological transitive maps are generic.

Join work with Assis Azevedo, Mário Bessa (CMUP) and Maria Joana Torres.