

## Seminário

## Lusin Theorem for measure preserving Sobolev functions

Prof. Davide Azevedo

Universidade Federal da Bahia, Brasil

### Resumo

The Volume Preserving Lusin Theorem states that, given a bimeasurable volume preserving bijection near the identity, we can find another volume preserving function with more regularity, near the identity and arbitrarily close to the original function for the weak metric. Alpern and Prasad proved a version of this result obtaining <sup>0</sup>- regularity. We can see that the result is not true for <sup>1</sup>- regularity. I will present a version of this result for some intermediate Sobolev spaces.

Joint work with Assis Azevedo, Mário Bessa and Joana Torres.

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### Palavras chave:

Lusin Theorem, volume preserving functions, Sobolev functions.

### Referências:

[1] S. Alpern and V. S. Prasad, Typical Dynamics of Volume Preserving Homeomorphisms, Cambridge Tracts in Mathematics, (2000).

[2] D. Azevedo, A. Azevedo, M. Bessa, J. Torres, Lusin theorem for Sobolev volume preserving homeomorphisms, in preparation.

[3] Edson de Faria, Peter Hazard, Charles Tresser, Genericity of Infinite Entropy for Maps with Low Regularity, Preprint ArXiv 2017.

