



Seminário de Sistemas Dinâmicos da UFF

AN EXOTIC NON-LEAF WITH INFINITELY MANY ENDS

Carlos Meniño

UFF

Data: 26 de Maio - Sexta-feira

Hora: 14h.

Local: Sala 407, Bloco H, Campus do Gragoatá.

Resumo

We present a 4-dimensional manifold which is homeomorphic (but non-diffeomorphic) to the 4-sphere punctured along a Cantor set. It is shown that this manifold is not diffeomorphic to any leaf of any C^2 codimension 1 foliation on a compact manifold. The proof involves a mixing of topological and dynamical tools: Reeb stability, Novikov's theorem, Duminy's Theorem or Kopell's Lemma. The core of this manifold is a family of exotic 4-dimensional pairs of pants which are cut apart from an exotic \mathbb{R}^4 with infinite complexity.

Slight modifications can be performed in this manifold to produce examples with any prescribed end set which are homeomorphic to some leaf but non-diffeomorphic to any leaf ($C^2 + \text{codim } 1$).

This is a joint work with P.A. Schweitzer (PUC-Rio) and can be considered as a natural continuation of our previous work: <https://arxiv.org/abs/1410.8182>. The main goal is to get similar results in regularity C^1 .