
Maximal isotopies, transverse foliations and orbit forcing theory for surface homeomorphisms

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Abstract

If f is a homeomorphism of a surface that is isotopic to the identity, we can define the notion of maximal isotopies, transverse foliations and transverse trajectories. Recently we developed with Fabio Tal (Universidade de São Paulo) a *forcing theory* on the set of transverse trajectories of such a homeomorphism. In particular we obtain a simple criterium of existence of a topological horseshoe. Different applications can be deduced, in particular results related to rotation vectors and also structural results about homeomorphisms on the 2-sphere with no entropy.

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