On the C^r-typicality of coexistence of infinitely many sinks

Enrique Pujals [1]

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Resumo/Abstract:
In the seventies, Newhouse proved that nearby a smooth surfaces diffeomorphism exhibiting an homoclinic tangency there exist open set of diffeos such that the coexistence of infinitely many attractors (from now on property P) is generic. In an other words, property P is typical from a topological point of view.

It is natural to wonder if such property is typical whenever is considered parametric families (meaning that P is satisfied for a parameter set of positive Lebesgue measure and sometimes called Kolmogorov Arnold Cr-typicality).

Recently, P. Berger shown that there are open set of smooth parametric families of surfaces endomorphisms such that generically such families exhibit the property P for all parameter.

In a joint work with P. Berger and S. Crovisier we extend that results showing that nearby a smooth surfaces endomorphisms exhibiting a bicycle (a coexistence of a tangency and a heterodimensional cycle) there open set of maps such that any generic family has an open and dense set of parameter displaying property P.

In the talk, we will focus on the new tools developed (for instances, recasting parametric hyperbolic sets as hyperbolic dynamics on the space of jets) and we will discuss the C^∞ case.