

Robustly Chain Transitive Attractor with Singularities of Different Indices

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Abstract

There exists a robustly chain transitive attractor with singularities of different indices in dimension 4 (joint work with C. Bonatti and D. Yang).

In this talk, we will introduce the construction of the new example, and give the main idea to proof the transitivity. We will also present some more properties for the general vector fields. Specifically, we proved that every robustly chain transitive attractor which contains singularities of two different indices can be accumulated by vector fields with a homoclinic tangency, and generical robustly chain transitive attractor which contains a singularity of index 2 is partially hyperbolic.