

Centralizer of C^1 generic diffeomorphisms

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Abstract

In a joint work with S. Crovisier and A. Wilkinson, we recently proved that C^1 -generic conservative (i.e. volume preserving or symplectic) diffeomorphisms of compact manifolds have trivial centralizers (i.e. the unique diffeomorphisms commuting with them are their powers). We have also partial results in that direction for non-conservative case. In contrast, we describe an open set of diffeomorphisms of the circle or the sphere containing a C^1 -dense subfamily of smooth diffeomorphisms with a large centralizers.