
Solenoidal minimal sets for smooth dynamics

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Abstract

The Smale solenoid can be realized as the minimal set for a smooth flow on a compact manifold. In fact, all 1-dimensional solenoids can be so realized up to homeomorphism. In this talk, we consider the analogous question for higher dimensional solenoids, which are defined as the inverse limits of sequences of proper coverings of closed manifolds. In this case, we ask for conditions on the fundamental group of the base manifold and the monodromy action on its fiber, which suffice to imply that a given solenoid is homeomorphic to the minimal set for a foliation of a compact manifold with regularity class C^r , for $r > 0$.

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