
SHAPE-ALGEBRAIC PROPERTIES OF INVARIANT CONTINUA IN DYNAMICS

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In 1974, P. A. Schweitzer constructed an aperiodic C^1 vector field (dynamical system) on the sphere S^3 , the first counterexample to the Seifert Conjecture. The minimal sets in his constructions are quite simple: they are movable compacta imbedded in a surface. Other counterexamples to the Seifert Conjecture were constructed years later in two important classes, C^∞ and PL. The minimal sets in these constructions have complicated shape-algebraic properties. Steve Hurder and Ana Rechtman proved that for a large class of C^∞ aperiodic smooth flows on S^3 , the minimal sets are not of polyhedral shape, but they do satisfy the Mittag-Leffler condition for homology. It is not known whether they are movable. We will look further at these minimal sets, in particular the one-dimensional minimal sets appearing in PL flows.

References

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