

Handel, Michael

There are no minimal homeomorphisms of the multipunctured plane. (English)

Zbl 0769.58037

Ergodic Theory Dyn. Syst. 12, No. 1, 75-83 (1992).

The author proves the following theorem and its corollary.

Theorem. Suppose that $f : S^2 \rightarrow S^2$ is an orientation-preserving homeomorphism of the two-dimensional sphere and that $\text{Fix}(f)$ is a finite set containing at least three points. If f has a dense orbit then the number of periodic points of period n for some iterate of f grows exponentially in n .

Corollary. There are no minimal homeomorphisms of the multipunctured plane $\mathbb{R}^2 \setminus K$ where K is a finite set with at least two points.

Reviewer: Y.Kozai (Tokyo)

MSC:

37A99 Ergodic theory

58D05 Groups of diffeomorphisms and homeomorphisms as manifolds

Cited in **1** Review
Cited in **6** Documents

Keywords:

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References:

- [1] DOI: 10.1090/S0273-0979-1988-15685-6 · Zbl 0674.57008 · doi:10.1090/S0273-0979-1988-15685-6
- [2] Katok, Publ. Math. IHES 51 pp 137– (1980) · Zbl 0445.58015 · doi:10.1007/BF02684777
- [3] Besicovitch, Proc. Cambridge Philos. Soc. 47 pp 38– (1951)
- [4] DOI: 10.2307/2047259 · Zbl 0644.58016 · doi:10.2307/2047259
- [5] Franks, Erg. Th. & Dynam. Sys. none pp none– (none)
- [6] DOI: 10.1016/0001-8708(85)90028-3 · Zbl 0584.57007 · doi:10.1016/0001-8708(85)90028-3

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