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Propriétés dynamiques des régions d'instabilité. (Dynamical properties of regions of instability). (French) [Zbl 0653.58014](#)

Ann. Sci. Éc. Norm. Supér. (4) 20, No. 3, 443-464 (1987).

Let f be a C^1 -diffeomorphism of the annulus $A = T^1 \times R$ which is homotopic to the identity such that f preserves a measure on A and admits a region of instability in the sense that there exist two continuous maps $\psi_+, \psi_-: T^1 \rightarrow R$ satisfying the following properties: (i) $\psi_- < \psi_+$, (ii) the graphs $G^\pm = \{(t, \psi^\pm(t)) \mid t \in T^1\}$ of ψ^\pm are f -invariant (iii) the region $D = \{(t, r) \in A \mid \psi_-(t) \leq r \leq \psi_+(t)\}$ contains no other graph of a continuous map of T^1 into R , which is f -invariant. The author studies the behavior of the f -orbits in a neighborhood of G^\pm and shows, among other things, that in each neighbourhood of G_+ (resp. G_-) there exists a point whose α and ω -limit sets are contained in G_- (resp. G_+).

Reviewer: [A.Morimoto](#)

MSC:

[37C75](#) Stability theory for smooth dynamical systems

Cited in **1** Review
Cited in **7** Documents

Keywords:

region of instability; limit sets

Full Text: [DOI](#) [Numdam](#) [EuDML](#)

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