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On the set of points with a dense orbit. (English) Zbl 0947.37005

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Summary: Under certain conditions on the topological space X we prove that for every continuous map $f : X \rightarrow X$ the set of all points with a dense orbit has empty interior in X . This result implies a negative answer to two problems proposed by M. Barge and J. Kennedy.

MSC:

37B20 Notions of recurrence and recurrent behavior in topological dynamical systems Cited in 8 Documents

37C35 Orbit growth in dynamical systems

54H20 Topological dynamics (MSC2010)

Keywords:

dense orbit

Full Text: [DOI](#)

References:

- [1] M. Barge and J. Kennedy, Continuum theory and topological dynamics. In Open Problems in Topology, J. van Mill and G. M. Reed, editors, pages 633-644. Elsevier Science Publishers B. V. (North-Holland), 1990. CMP 91:03
- [2] C. J. Read, The invariant subspace problem for a class of Banach spaces. II. Hypercyclic operators, Israel J. Math. 63 (1988), no. 1, 1 – 40. · [Zbl 0782.47002](#) · [doi:10.1007/BF02765019](#)

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