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On families of invariant lines of a Brouwer homeomorphism. (English) Zbl 1427.37034
J. Difference Equ. Appl. 25, No. 9-10, 1363-1371 (2019).

Summary: We present properties of equivalence classes of the codivergency relation defined for a Brouwer homeomorphism for which there exists a family of invariant pairwise disjoint lines covering the plane. In particular, using the codivergency relation we describe the sets of regular and irregular points for such Brouwer homeomorphisms. Moreover, we show that under this assumption the interior of each equivalence class of this relation is invariant and simply connected.

MSC:

37E30 Dynamical systems involving homeomorphisms and diffeomorphisms of planes and surfaces

39B12 Iteration theory, iterative and composite equations

Keywords:

[Brouwer homeomorphism](#); [discrete dynamical system](#); [codivergency relation](#); [regular point](#); [invariant line](#)

Full Text: [DOI](#)

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