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The group of homeomorphisms of the Cantor set has ample generics. (English)

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We say a topological group $G$ has ample generics if, for every $m$, the diagonal conjugacy action of $G$ on $G^m$,

$$g \cdot (h_1, h_2, \ldots, h_m) = (gh_1g^{-1}, gh_2g^{-1}, \ldots, gh_mg^{-1}),$$

has a comeager orbit. In this paper, the author shows that the group of homeomorphisms of the Cantor set $H(2^\mathbb{N})$ has ample generics. The main tool used in the proof of this paper is the projective Fraïssé theory developed by Irwin and Solecki. It is proved that the comeager orbits can be taken to be the limits of certain projective Fraïssé families.

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