



Minimal hyperspace actions of homeomorphism groups of h-homogeneous spaces

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Let X be a h -homogeneous zero-dimensional compact Hausdorff space, i.e. X is a Stone dual of a homogeneous Boolean algebra. Using the dual Ramsey theorem and a detailed combinatorial analysis of what we call stable collections of subsets of a finite set, we obtain a complete list of the minimal sub-systems of the compact dynamical system $(\text{Exp}(\text{Exp}(X)), \text{Homeo}(X))$, where $\text{Exp}(X)$ stands for the hyperspace comprising the closed subsets of X equipped with the Vietoris topology. The importance of this dynamical system stems from Uspenskij's characterization of the universal ambit of $G = \text{Homeo}(X)$. The results apply to $X = \mathbb{C}$ the Cantor set, the generalized Cantor sets $X = \{0,1\}^\kappa$ for non-countable cardinals κ , and to several other spaces. A particular interesting case is $X = \beta(\omega) \setminus \omega$, where $\beta(\omega)$ denotes the Stone-Cech compactification of the natural numbers. This space, called the corona or the remainder of ω , has been extensively studied in the fields of set theory and topology.

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