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Continua with unique symmetric product

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Abstract: Let X be a metric continuum. Let $F_n(X)$ denote the hyperspace of nonempty subsets of X with at most n elements. We say that the continuum X has *unique hyperspace* $F_n(X)$ provided that the following implication holds: if Y is a continuum and $F_n(X)$ is homeomorphic to $F_n(Y)$, then X is homeomorphic to Y . In this paper we prove the following results: (1) if X is an indecomposable continuum such that each nondegenerate proper subcontinuum of X is an arc, then X has unique hyperspace $F_2(X)$, and (2) let X be an arcwise connected continuum for which there exists a unique point $v \in X$ such that v is the vertex of a simple triod. Then X has unique hyperspace $F_2(X)$.

Keywords: arc continuum; continuum; indecomposable; symmetric product; unique hyperspace

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