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Whitney blocks in the hyperspace of a finite graph

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Abstract: Let X be a finite graph. Let $C(X)$ be the hyperspace of all nonempty subcontinua of X and let $\mu : C(X) \to \mathbb{R}$ be a Whitney map. We prove that there exist numbers $0 < T_0 < T_1 < T_2 < ... < T_M = \mu(X)$ such that if $T \in (T_{i-1}, T_i)$, then the Whitney block $\mu^{-1}(T_{i-1}, T_i)$ is homeomorphic to the product $\mu^{-1}(T) \times (T_{i-1}, T_i)$. We also show that there exists only a finite number of topologically different Whitney levels for $C(X)$.

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