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Connectedness in Isotonic Spaces

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Abstract: An isotonic space (X,cl) is a set X with isotonic operator cl:P(X) \to P(X) which satisfies cl (\emptyset) = \emptyset and cl(A)\subseteq cl(B) whenever A\subseteq B\subseteq X. Many properties which hold in topological spaces hold in isotonic spaces as well. The notion of connectedness that is familiar from topological spaces generalizes to isotonic spaces. We further extend the notions of Z-connectedness and strong connectedness to isotonic spaces, and we indicate the intimate relationship between these notions.

Key Words: generalized closure spaces, isotonic spaces, neighborhood spaces, connectedness, Z-connectedness, strong connectedness

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