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$L$-fuzzy convexity induced by $L$-convex fuzzy sublattice degree. (English) Zbl 1398.06017

Summary: In this paper, the notion of $L$-convex fuzzy sublattices is introduced and their characterizations are given. Furthermore, the notion of the degree to which an $L$-subset is an $L$-convex fuzzy sublattice is proposed and its some characterizations are given. Besides, the $L$-convex fuzzy sublattice degrees of the homomorphic image and pre-image of an $L$-subset are studied. Finally, we obtain an $L$-fuzzy convexity, which is induced by the $L$-convex fuzzy sublattice degrees, in the sense of Shi and Xiu.

MSC:

06D72 Fuzzy lattices (soft algebras) and related topics
06D05 Structure and representation theory of distributive lattices

Keywords:
$L$-convex fuzzy sublattice; implication operator; $L$-convex fuzzy sublattice degree; $L$-fuzzy convexity

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References:


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