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Sufficiently near L-fuzzy sets

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ABSTRACT.

In this paper, we introduce the category $\boldsymbol{L_\varepsilon AMer}$ having objects that are L_ε-approach merotopic spaces, where $\varepsilon \in (0, \infty]$. In addition, we consider an L_ε-approach merotopy that provides a means of measuring the almost nearness of pairs of collections of L-fuzzy sets. The order structure of a family of L_ε-approach merotopies on a nonempty set is also taken into consideration. Examples are given to support the existence of such structures.

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