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Parametric operations between 3-dimensional triangular fuzzy number and trapezoidal fuzzy set^{*}

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Abstract. The parametric operations on \mathbb{R}^2 are the generalization of Zadeh's extended algebraic operations on \mathbb{R} . We calculated the parametric operations for two 2-dimensional generalized triangular fuzzy sets, for two 2-dimensional quadratic fuzzy numbers, and for two 2-dimensional trapezoidal fuzzy sets. We also calculated the parametric operations between 2-dimensional triangular fuzzy number and 2-dimensional trapezoidal fuzzy sets.

The parametric operations on \mathbb{R}^3 are the generalization of Zadeh's extended algebraic operations on \mathbb{R}^2 , and thus become the generalization of Zadeh's extended algebraic operations on \mathbb{R} .

In this paper, we calculate the parametric operations between 3-dimensional triangular fuzzy number and trapezoidal fuzzy set.

AMS Subject Classification (2020): 47N99

Keywords: parametric operation, 3-dimensional triangular fuzzy number, 3-dimensional trapezoidal fuzzy set

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