

**Gebhardt, Albrecht**

**On types of fuzzy numbers and extension principles.** (English) Zbl 0864.26010  
*Fuzzy Sets Syst.* 75, No. 3, 311-318 (1995).

A real function  $f$  often is fuzzified into a fuzzy function  $F$  in such a way that the arguments of  $F$  become fuzzy numbers and its values are determined from  $f$  via the extension principle  $EP$ . In general,  $EP$  depends on a  $t$ -norm  $T$ . Restricting furthermore the input fuzzy numbers to symmetric  $LR$ -fuzzy numbers with  $L = R$ , the fuzzification of  $f$  depends of the pair  $(L, T)$ .

The author discusses the problem whether different such fuzzifications may yield the same fuzzy function  $F$ .

Reviewer: [S.Gottwald \(Leipzig\)](#)

**MSC:**

**26E50** Fuzzy real analysis

**94D05** Fuzzy sets and logic (in connection with information, communication, or circuits theory)

Cited in **3** Documents

**Keywords:**

fuzzy functions;  $t$ -norm; extension principle; fuzzy numbers

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**References:**

- [1] Bandemer, H.; Näther, W., Fuzzy data analysis, (1992), Kluwer Academic Publishers Dordrecht · [Zbl 0758.62003](#)
- [2] Dubois, D.; Prade, H., Fuzzy sets and systems: theory and applications, (1980), Academic Press New York · [Zbl 0444.94049](#)
- [3] Otto, K.N.; Lewis, A.D.; Antonsson, E.K., Approximating  $\alpha$ -cuts with the vertex method, *Fuzzy sets and systems*, 55, 43-50, (1993) · [Zbl 0931.26010](#)

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