Hong, Dug Hun; **Hwang, Seok Yoon**
On the compositional rule of inference under triangular norms. (English) Zbl 1018.03511
Fuzzy Sets Syst. 66, No. 1, 25-38 (1994).

Summary: The aim of this paper is to provide a close upper bound of the membership function for the compositional rule of inference under an Archimedean t-norm, where both the observation and the relation parts are given by Hellendoorn's ϕ-function [*H. Hellendoorn*, Fuzzy Sets Syst. 35, No. 2, 163-183 (1990; Zbl 0704.03006)]. In particular, if the left and right spreads of the observation part are the same as those of the relation part, then this upper bound is the exact membership function, which generalizes the earlier result of *R. Fullér* and *H.-J. Zimmermann* [Fuzzy Sets Syst. 51, No. 3, 267-275 (1992; Zbl 0782.68110)] in that the assumption of twice differentiability is deleted.

MSC:

03B52	Fuzzy logic; logic of vagueness
03E72	Theory of fuzzy sets, etc.

Cited in **13** Documents

Keywords:

compositional rule of inference; Archimedean t-norm; membership function

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