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On the uniqueness of possibilistic measure of uncertainty and information. (English)

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Fuzzy Sets Syst. 24, 197-219 (1987).

Under a set of axioms, which, except one, are all counterparts of the probabilistic axioms used in defining entropy, the authors prove that the (previously) derived possibilistic measure of uncertainty is unique. The axioms are discussed and some lemmas are derived. However, the necessity of all the axioms is not proved and some of them (U3 plus U4, or U7) seem to be too strong. On the other hand, the proof of uniqueness is done only for finite sets on which the possibilistic measures are defined. It would be interesting to derive a measure of uncertainty with axiom U5 referring to fuzzy topological spaces.

Reviewer: H.N.Teodorescu

MSC:

94D05 Fuzzy sets and logic (in connection with information, communication, or circuits theory)
94A17 Measures of information, entropy

Keywords:

fuzzy measures; possibility distribution function; axiomatic development; possibilistic measure of uncertainty

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