

Vagueness measure

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ABSTRACT

The basic idea of fuzzy set was the introduction of membership function. This function approximates the classical characteristic function. It is interesting question how close are we from the characteristic function, when we use a certain membership function. The measure called fuzziness measure.

In our article we give an operator dependent fuzziness measure called vagueness measure.

Our opinion is one of the most important terms, because on this basis we can prove “convergence theorems” in the sense “if less fuzziness the input variables then less fuzziness in the result”.

In the fuzzy literature we do not find such theorems, because membership function, operators and fuzziness measures not interrelated and so it is hopeless to prove such convergence theorem.

In the pliant concept we have distending function instead of membership function based on the operator δ , and now we will establish vagueness measure also on the generator function of operators. The basis on this consistent concept we can prove such convergence theorem.

First we make a closer look to the fuzziness measure: Let $\mu(x)$ the membership function and $d(\mu)$ the fuzziness measure.

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