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FUZZY SOFT RELATION : A NEW APPROACH

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Abstract

In 1965 Zadehian theory of fuzzy set was introduced. Molodtsov introduced the theory of soft sets, which can be seen as a new mathematical approach to vagueness. Maji have introduced the concept of fuzzy soft set, a more generalized concept, which is a combination of fuzzy set and soft set. H. K. Baruah proposed that in the current definition of complement of a fuzzy set, fuzzy membership function and fuzzy membership value had been taken to be the same, which led to the conclusion that the fuzzy sets do not follow the set theoretic axioms of exclusion and contradiction. For the complement of a normal fuzzy set, fuzzy membership function and fuzzy membership value are two different things and the complement of a normal fuzzy set has to be defined accordingly Baruah has put forward an extended definition of fuzzy set and redefined the complement of a fuzzy set. Based on this new axiom Neog and Sut has given the definition of complement of fuzzy soft set to meet the above requirements. In this paper, we are using this extended definition of fuzzy set and newly defined complement in the fuzzy set and also complement of fuzzy soft set to define the fuzzy soft relation and complement of fuzzy soft relation.

Key Words : *Fuzzy set, Fuzzy soft set, Complement of a fuzzy set, Fuzzy soft relation, Fuzzy membership function, Fuzzy reference function, Fuzzy membership value.*

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