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AN L-FUZZY α- SUPRACONTINUOUS IN α-SUPRATOPOLOGICAL TM- SYSTEM

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ABSTRACT

In 2010, Tamilarasi and Megalai introduced a new class of algebras called as TM-algebras. In this paper, we discuss the notion of An L-Fuzzy α-Supracontinuous in α- Supratopological TM-system.

AMS Classification: *54A40, 03E72, 06F35.*

Key words: *BCK/BCI Algebra, TM-Algebra, Fuzzy set, Fuzzy Topology.*

1. INTRODUTION

Recently in 2010, Tamilarasi and Megalai introduced a new class of algebras, called TM-algebras [12]. In their paper they investigated the relationship between TM-algebras and other algebras.They claimed that the TM-algebra is a generalization of BCH /BCK/BCI and Q algebras.

In 1965, L.A.Zadeh [14] introduced the notion of fuzzy sets, to evaluate the modern concept of uncertainty in real physical world. In the notion of fuzzy sets, the boundaries are not crisp or sharp but flexible. In 1967, J.A.Goguen [8] introduced the concept of L- fuzzy sets.

The theory of fuzzy topological spaces is developed by Chang [6], Wong [13], Lowen [9] and others. Mashhour *et al* [10] introduced the concepts of supratopological spaces. In 1987 M.E.Abd El-Monsef and A.E.Ramadan [11] introduced fuzzy supratopological spaces. R.Devi, S.Sampathkumar and M.Caldas [7] introduced supra α- open sets and S α- continuous functions.

In [1], we studied Fuzzy Topological subsystem on a TM-algebra. In [2], we studied L- Fuzzy Topological TM-system. In [3], we studied L- Fuzzy Topological TM-subsystem. In [4], [5] we studied Fuzzy Supratopological TM-system, Fuzzy α-supracontinuous functions. In this paper, we discuss the notion of An L-fuzzy α-supracontinuous in α-supratopological TM-system and investigate some simple properties.

2. PRELIMINARIES

In this section we recall some basic definitions that are required in the sequel.

Definition 2.1: Let X be a non-empty set. A mapping $\mu: X \to L$ is called an L-fuzzy set of X, where L is a complete lattice, with sup 1 and inf 0.

Definition 2.2: Let A and B be any two fuzzy sets in a non-empty set X.

(1) The union of A and B denoted by, AUB is defined to be the L-Fuzzy set $(AUB)(x)=\mu_A(x)V\mu_B(x)$ for all $x\in X$.
(2) The intersection of A and B, denoted by, $A\cap B$ is defined to be the L- fuzzy set $(A\cap B)(x)=\mu_A(x)\Lambda\mu_B(x)$ for all $x\in X$.
(3) $A\subset B \Rightarrow A(x)\leq(B)x$ for all $x\in X$.
(4) The Complement of A is defined to be A' (x) =1- A(x) for all $x\in X$

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