

## CHARACTERIZATION ON INTUITIONISTIC FUZZY SUB $L$ -RING

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**Abstract:** The relation between a non-empty subset of an  $L$ -ring and the Intuitionistic fuzzy sub  $L$ -ring is discussed.

**Keywords and Phrases:** Fuzzy, Intuitionistic fuzzy set, Fuzzy sub  $L$ -ring, Intuitionistic fuzzy sub  $L$ -ring.

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### 1. Introduction and Preliminaries

Intuitionistic fuzzy set is an extension of fuzzy sets done by Prof. K. T. Atanassov [2] introduced a new component which determines the degree of non-membership. R. Natarajan and S. Mohanavali [3] applied the concept of fuzzy sets to Lattice ordered ring. N. Ajmal and K. V. Thomas [1] discussed the lattice of fuzzy ideals of a ring. In this paper, characterization on intuitionistic fuzzy sub  $L$ -ring is established. Also proved the converse relation is true.

**Definition 1.1.** A fuzzy set  $A$  is defined as  $A = \{ (x, \mu_A(x)) / x \in A, \mu_A(x) \in [0, 1] \}$  where  $\mu_A(x)$  is a membership function belongs to the interval  $[0, 1]$ .

**Definition 1.2.** Let  $X$  be a non-empty. An intuitionistic fuzzy set  $A$  of  $X$  is an object of the following form  $A = \{ \langle X, \mu_A(x), \nu_A(x) \rangle / x \in X \}$ , where  $\mu_A : X \rightarrow [0, 1]$  and  $\nu_A : X \rightarrow [0, 1]$ , define the degree of membership and the degree of non-membership of the element  $x \in X$ , respectively and  $\forall x \in X, 0 \leq \mu_A(x) + \nu_A(x) \leq 1$ .