t-implication-based fuzzy interior hyperideals of semihypergroups

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Abstract

The purpose of this paper is to introduce and study a new sort of fuzzy hyperideal of a semihypergroup called $(\in, \in \lor q)$ -fuzzy hyperideals. These fuzzy hyperideals are characterized by their level hyperideals. Also the concept of fuzzy hyperideal with thresholds is introduced and the relationship between implication operators and fuzzy hyperideals with thresholds are investigated.

Keywords and phrases : Semihypergroup, belong to, quasicoincident with, implication operator, fuzzy interior hyperideal.

1. Introduction

It is well known that semigroups appear in the classical relevant logics, some non-classical logics, and multi-modal arrow logics. The motivation to study finite semigroups appeared in the 1950s as a result of work on linguistics and models of computation and reasoning. From such works emerged the notion of a finite automaton of which several variants can be found in the literature. A rational subset of a semigroup S is a member of the smallest set of subsets of S which contains the empty set and the singleton subsets, and is closed under union, subset product, and taking the generated subsemigroup. By observing that the empty language and one letter languages are obviously recognizable, the above shows that every rational language over a finite alphabet is recognizable. Since the inception of the notion of a fuzzy set in 1965 [22]

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