

**LEFT REGULAR AND INTRA-REGULAR ORDERED
HYPERSEMIGROUPS IN TERMS OF SEMIPRIME AND
FUZZY SEMIPRIME SUBSETS**

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Received November 22, 2016 ; revised January 26, 2017

To the memory of Professor Kiyoshi Iséki

Abstract

We prove that an ordered hypersemigroup H is left (resp. right) regular if and only if every left (resp. right) ideal of H is semiprime and it is intra-regular if and only if every ideal of H is semiprime. Then we prove that an ordered hypersemigroup H is left (resp. right) regular if and only if every fuzzy left (resp. right) ideal of H is fuzzy semiprime and it is intra-regular if and only if every fuzzy ideal of H is fuzzy semiprime.

Key words and Phrases. Hypergroupoid, ordered hypersemigroup, left (right) regular, intra-regular, left (right) ideal, fuzzy left (right) ideal, semiprime, fuzzy semiprime.