

**(FUZZY) ISOMORPHISM THEOREMS OF SOFT  
 $\Gamma$ -HYPERRINGS**

**BY**

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**Abstract.** Soft set theory, introduced by Molodtsov, has been considered as an effective mathematical tool for modeling uncertainties. In this paper, we apply soft sets to  $\Gamma$ -hyperrings. The concept of soft  $\Gamma$ -hyperrings is first introduced. Then three isomorphism theorems of soft  $\Gamma$ -hyperrings are established. Finally, we derive three fuzzy isomorphism theorems of soft  $\Gamma$ -hyperrings.

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**Key words:** soft set, (fuzzy) isomorphism theorem,  $\Gamma$ -hyperideal, soft  $\Gamma$ -hyperring.