ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

2. Algebra

1991 MS Classification: 20N99,20N20

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Hyperrings and hypernear-rings of the multivalied mappings

We consider hyperrings of the multivalied endomorphisms and hypernear-rings of the multivalied mappings of a given hypergroup. Analogously to the theory of rings and near-rings we prove some theorems related to the embedings of hyperings and hypernear-rings in the hyperrings of multivalied endomorphisms, respectively in the hypernear-rings of multivalied mappings of the corresponding hypergroups. In connection with partitions of the given hypergroup, multivalied mappings and multivalied endomorphisms are defined. In this sense we obtain some results related to the connection between isomorphisms of given hypergroups and isomorphisms of the corresponding hyperstructures of multivalied mappings.