EXTENSIONS OF PONTRYAGIN HYPERGROUPS

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Abstract: The purpose of this paper is to investigate the extension problem for the category of commutative hypergroups. In fact, by applying the new notion of a field of compact subhypergroups, sufficiently many extensions can be established, and among them splitting extensions can be characterized. Moreover, the duality of extensions will be studied via duality of fields of hypergroups. The method of extension via fields of hypergroups yields the construction of Pontryagin hypergroups which do not arise from group-theoretic objects.

2000 AMS Mathematics Subject Classification: 43A62.

Key words and phrases: Hypergroups, extensions, duality.