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A new view of fuzzy hypermodules

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摘要

关键词 hypermodule interval-valued (α,β)-fuzzy sub-hypermodule interval-valued $(\in,\in\vee q)$-fuzzy sub-hypermodule fuzzy logic implication operator

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A New View on Fuzzy Hypermodules

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Abstract This paper concerns a relationship between fuzzy sets and algebraic hyperstructures. It is a continuation of ideas presented by Davvaz(Fuzzy Sets Syst. 117: 477-484 2001) and Bhakat and Das(Fuzzy Sets Syst. 80: 359-368 1996). In this paper, the concept of quasi-coincidence of a fuzzy interval value with an interval valued fuzzy set, which is a generalization of quasi-coincidence of a fuzzy point with a fuzzy set, is introduced. Using this new idea, the notion of interval valued (α,β)-fuzzy sub-hypermodules in a hypermodule, which is a generalization of a fuzzy sub-hypermodule, is defined, and related properties are investigated. In particular, the study of interval valued $(\in,\in\vee q)$-fuzzy sub-hypermodules in a hypermodule is dealt with. Finally, we consider the concept of implication-based interval valued fuzzy sub-hypermodules in a hypermodule.

Key words hypermodule interval-valued $(\alpha \beta)$-fuzzy sub-hypermodule interval-valued $(\in \in\vee q)$-fuzzy sub-hypermodule fuzzy logic implication operator

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